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## Models for Quality Improvement in CAHs: The Role of State Flex Programs (Briefing Paper #25)

Andrew F. Coburn PhD

*University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center*

John A. Gale MS

*University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center*

Mark Richards BA

*University of Southern Maine, Muskie School of Public Service*

Anush Yousefian Hansen MS, MA

*University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center*

Melanie Race MS

*University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center*

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*Flex Monitoring Team Briefing Paper No. 25*

# **Models For Quality Improvement In Critical Access Hospitals: The Role Of State Flex Programs**

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With funding from the federal Office of Rural Health Policy (PHS Grant No. U27RH01080), the Rural Health Research Centers at the Universities of Minnesota, North Carolina, and Southern Maine are cooperatively conducting a performance monitoring project for the Medicare Rural Hospital Flexibility Program (Flex Program).

The monitoring project is assessing the impact of the Flex Program on rural hospitals and communities and the role of states in achieving overall program objectives, including improving access to and the quality of health care services; improving the financial performance of CAHs; and engaging rural communities in health care system development.

This report was prepared by Andrew Coburn, John Gale, Melanie Race, Mark Richards, and Anush Hansen from the University of Southern Maine Muskie School of Public Service

Questions regarding the report should be addressed to: Andrew Coburn, 207-780-4435  
[andyc@usm.maine.edu](mailto:andyc@usm.maine.edu).

<http://www.flexmonitoring.org>

University of Minnesota  
Division of Health Services Research & Policy  
420 Delaware Street, SE, Mayo Mail Code 729  
Minneapolis, MN 55455-0392  
612.624.8618

University of North Carolina at Chapel Hill  
Cecil B. Sheps Center for Health Services Research  
725 Martin Luther King Jr. Boulevard, CB #7590  
Chapel Hill, NC 27599-7590  
919.966.5541

University of Southern Maine  
Muskie School of Public Service  
PO Box 9300  
Portland, ME 04104-9300  
207.780.4435

## **The Medicare Rural Hospital Flexibility Program**

The Medicare Rural Hospital Flexibility Program (Flex Program), created by Congress in 1997, allows small hospitals to be licensed as Critical Access Hospitals (CAHs) and offers grants to States to help implement initiatives to strengthen the rural health care infrastructure. To participate in the Flex Grant Program, States are required to develop a rural health care plan that provides for the creation of one or more rural health networks; promotes regionalization of rural health services in the State; and improves the quality of and access to hospital and other health services for rural residents of the State. Consistent with their rural health care plans, states may designate eligible rural hospitals as CAHs.

CAHs must be located in a rural area (or an area treated as rural); be more than 35 miles (or 15 miles in areas with mountainous terrain or only secondary roads available) from another hospital or be certified before January 1, 2006 by the State as being a necessary provider of health care services. CAHs are required to make available 24-hour emergency care services that a State determines are necessary. CAHs may have a maximum of 25 acute care and swing beds, and must maintain an annual average length of stay of 96 hours or less for their acute care patients. CAHs are reimbursed by Medicare on a cost basis (i.e., for the reasonable costs of providing inpatient, outpatient and swing bed services).

The legislative authority for the Flex Program and cost-based reimbursement for CAHs are described in the Social Security Act, Title XVIII, Sections 1814 and 1820, available at [http://www.ssa.gov/OP\\_Home/ssact/title18/1800.htm](http://www.ssa.gov/OP_Home/ssact/title18/1800.htm)

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## **EXECUTIVE SUMMARY**

This study examined the range of multi-Critical Access Hospital (CAH) quality improvement and performance measurement reporting (QI) initiatives (e.g., QI initiatives involving two or more CAHs) supported by the Medicare Rural Hospital Flexibility Program (Flex Program) in nine states; assessed the role of State Flex Programs in developing and supporting these initiatives; and explored their impact on the QI programs of CAHs. A central goal of the Flex Program, as defined in the original and reauthorizing legislation, is to help CAHs develop and sustain effective quality improvement programs. The federal guidance for the Flex Program requires states to undertake programs and activities that support the quality performance measurement and reporting and QI activities of CAHs. Many states and CAHs have used Flex grant funding and other resources for statewide or regional multi-CAH quality improvement initiatives that promote the sharing of knowledge, expertise, and resources.

### **Methodology**

This study was based on a review of Flex Program–supported QI initiatives in Alaska, Arizona, Georgia, Idaho, Kansas, Montana, Nebraska, Nevada, and Washington. They were chosen to ensure a diversity of states representing different Flex Program sizes, stages of QI program development, and scope of participation in multi-CAH QI initiatives. The study is based on a review of the states’ 2008 Flex Grant applications, semi-structured interviews with Flex Program Coordinators, hospital QI staff, and other stakeholders, and documents and materials that were shared with us describing in more detail aspects of the QI initiatives.

### **Overview of Quality Improvement Initiatives in the Nine States**

Our review of QI programs revealed that the Flex Program has been an important source of funding, expertise, and support for initiatives to improve the quality of care provided by

CAHs in the nine states. Moreover, we found considerable consistency in state strategies for supporting hospital quality improvement. In these nine states, State Flex Program QI activities fell into two main categories: (1) support for CAH participation in quality measurement, reporting, and benchmarking initiatives; and (2) programs building quality and patient safety improvement systems and capacity. The first category includes support for CAH participation in *Hospital Compare* and in other multi-CAH quality reporting and benchmarking initiatives. The second category includes support for multi-hospital QI programs and for QI education and training programs. We used examples from the nine states to describe their strategies in each of these areas to improve the quality of care provided by CAHs.

To encourage participation in *Hospital Compare*, **Washington** and **Georgia** funded the development of tools to assist CAHs to improve performances on relevant *Hospital Compare* measures (**Washington**) and data entry and export tools to minimize the reporting burden for CAHs (**Georgia**). **Alaska** and **Kansas** support CAH participation in the multi-state *Healthcare Quality for Rural America* (HQRA) benchmarking initiatives while **Idaho** and **Nevada** developed their own state-specific QI initiatives,

The nine states engaged in a variety of initiatives specific to the needs of their hospitals to support the development of quality and patient safety programs for CAHs and enhance the capacity of CAHs to undertake these activities. **Idaho** and **Nebraska** have supported the implementation of TeamSTEPPS, an evidence-based teamwork training system to improve communication and teamwork skills at the hospital level. **Arizona** and **Washington** have concentrated on improving EMS systems of care by helping CAHs achieve Level IV Trauma Center designation (**Arizona**) and developing a Level 1 AMI Protocol to ensure the rapid transfer of patients with chest pain (**Washington**). **Georgia** has developed a QI program using inpatient

and outpatient CMS-based measures and a statewide QI collaborative. *Montana* funds a statewide performance improvement network to address the QI knowledge and resources needs of its CAHs. Other QI system and capacity building efforts included the development of peer review services in *Washington* and *Georgia*, a program to conduct mock facility surveys in *Kansas*, the development of patient and employee satisfaction survey tools in *Nevada*, network-based QI education and training programs in *Alaska*, *Arizona*, and *Montana*, and an executive fellowship program in *Nebraska*.

## Key Findings

This study indicates that State Flex Programs are supporting similar CAH quality reporting improvement and capacity building initiatives. The study also revealed the following key observations:

- State Flex Program funding was frequently the primary, if not sole, source of funding to support these efforts.
- Collaboration and shared learning are common Flex Program strategies underlying state QI initiatives.
- Quality measurement and reporting is a challenge due to a lack of agreement on common measures across state QI and benchmarking systems and a common belief that *Hospital Compare* measures are not “rurally relevant” (i.e., specific to the needs of CAHs).
- Administrative, clinical, and board leadership and buy-in were consistently identified as crucial to the success and sustainability of CAH-level QI initiatives.
- State reported that the scope of their QI has to be scaled to the available resources and capacity of CAHs to avoid QI fatigue among CAH staff.
- There is limited hard evidence on the impact of the QI initiatives adopted by State Flex Programs; much of the “evidence” supporting these initiatives is anecdotal or based on post-conference or webinar evaluations.



## Conclusions

The breadth of Flex Program QI activities combined with the limited evidence on “what works” make it difficult for states to know how to deploy limited Flex Program resources to achieve the most value in terms of program impact. The Flex Program needs outcome data on the impact of State Flex Program initiatives on CAH safety and quality and a process to collect and disseminate these data to appropriate stakeholders. This study also suggests that a consistent core set of quality measures is needed for all CAHs along with a system to collect and report on these measures. A preliminary comparison of the measures used by Flex Program-supported quality reporting systems with measures in *Hospital Compare* shows considerably more overlap than many stakeholders with whom we spoke believed and suggests that identifying a core set of CAH quality measures is an achievable goal. Finally, incentives are needed to encourage those CAHs that are not publicly reporting their quality data to do so. Consideration of these opportunities is appropriate given the Flex Program’s significant support for QI activities in CAHs and recent changes in the Flex Grant Guidance and development of program outcome measures.

## BACKGROUND

This study examined the range of multi-Critical Access Hospital (CAH) quality reporting and quality improvement (QI) initiatives supported by the Medicare Rural Hospital Flexibility Program (Flex Program); assessed the role of State Flex Programs in developing and supporting these initiatives; and explored their impact on the QI programs of CAHs. The study built on previous Flex Monitoring Team work examining CAH quality and patient safety initiatives and State Medicare Rural Hospital Flexibility Program (Flex Program) QI activities.<sup>1-3</sup>

As defined in the original and reauthorizing legislation, a central goal of the Flex Program is to help CAHs develop and sustain effective quality improvement programs. The federal guidance for the Flex Program requires states to undertake programs and activities that support the quality performance measurement and reporting and QI activities of CAHs.\*

Concerns about hospital quality and patient safety and the advent of national and state-level public reporting on hospital quality performance have galvanized attention and resources aimed at promoting quality measurement and benchmarking in CAHs and improving the quality improvement capacity of CAHs. Because of their small size and limited resources, however, CAHs face significant challenges to building and maintaining QI programs.

Many states have used their Flex grant funding and other resources to develop statewide or regional multi-CAH quality improvement initiatives. Through these initiatives, CAHs have

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\* Under the Program Guidance for Fiscal Year 2010 (ORHP 2010), work plans submitted by State Flex programs must include at least one of the following QI objectives: 1) encourage CAHs to publicly report data to Hospital Compare on relevant process of care quality measures for inpatient and outpatient care, and HCAHPS patient experience of care survey results; 2) support participation of CAHs in a multi-hospital QI project that addresses a priority QI need identified using state-specific CAH quality data; 3) support CAH participation in quality reporting and benchmarking initiatives other than Hospital Compare (e.g., state and multi-state CAH quality networks; and/or 4) support CAHs in implementing a multi-hospital quality/patient safety project focused on leadership and organizational culture (e.g., Team STEPPS, AHRQ patient safety culture surveys).

accessed QI expertise and systems, identified common issues and support needs, collaborated on the development of quality indicators and measures to benchmark performance and guide their quality improvement activities, and pursued common quality improvement initiatives and programs (e.g., medication safety programs or patient safety culture). These initiatives have served as a vehicle for sharing knowledge, expertise, and resources.

With the explicit priority on quality improvement and multi-CAH benchmarking in the Flex Program, it is important to understand more about current strategies and programs and their impact. This Flex Monitoring Team (FMT) project surveyed regional, state, and multi-state CAH QI projects involving multiple CAHs, including those that involve benchmarking activities. The survey of the states focused on QI initiatives that receive Flex grant funds and other support from state Flex Programs.

## **Methods**

The goal of this project was to describe those multi-CAH QI initiatives that state Flex Programs have developed and implemented, assess the impact of these initiatives from the perspective of the participants, and highlight aspects of the initiatives that can serve as “best practice” models for other states. For purposes of this study, we defined multi-CAH QI initiatives as those initiatives supported by State Flex Programs that include the participation of two or more CAHs in activities focused on improving patient safety and quality. These initiatives may be operated by State Flex Programs, their partner organizations (e.g., hospital associations or quality improvement organizations), or health care networks and typically involve shared resources and collaborative activities that address common QI issues identified by the participating CAHs. The project focused on the following sets of questions:

- What multi-CAH QI initiatives are currently underway in State Flex Programs? How did these initiatives develop? What roles have Flex Programs played in the development and support of these initiatives? What other organizations, if any, have been involved?
- For older multi-CAH QI initiatives, what factors have influenced (positively or negatively) their developmental success? For newer multi-CAH QI initiatives, what challenges are they facing and what strategies are they and the State Flex Program using to address them?
- How successful have the initiatives been in engaging CAHs? To what extent have these initiatives contributed to strengthening CAHs' QI programs?
- How could the Flex Program support the further development and improvement of current initiatives?

**Selection of States:** We identified a diverse set of states where, based on interviews with the State Flex Program and with partnering hospitals and stakeholders, we could learn about their QI activities and initiatives. To identify these states, we reviewed the 45 Fiscal Year 2008 State Flex grant applications to obtain basic information about the state's QI activities, including the history, purposes of the projects, the scope of CAH involvement, and the stages of development of the states' activities. As expected, this review identified a continuum of state QI initiatives ranging from newly developed or emerging to more mature projects. There were also significant variations between smaller and larger states in the scope and scale of their QI initiatives. Finally, we observed that a number of states are engaged in multi-state QI initiatives.

To learn more about current activities, we sent a brief e-mail survey to the Coordinators for the 45 State Flex Programs. Twenty-six Flex Coordinators completed and returned the survey.<sup>†</sup> To ensure an appropriate distribution of states, we arrayed the states by Flex Program size, stage of QI program development (developing/emerging or mature), and whether the state was part of

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<sup>†</sup> Arkansas, Colorado, Florida, Georgia, Hawaii, Idaho, Illinois, Kentucky, Maine, Michigan, Missouri, Montana, Nebraska, Nevada, New York, North Dakota, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, and West Virginia.

a multi-state QI initiative. We supplemented the results of the e-mail surveys with information from the Flex Grant applications, program materials, and conversations with Flex Coordinators using the same criteria. We selected nine states to participate in this study: Alaska, Arizona, Georgia, Idaho, Kansas, Montana, Nebraska, Nevada, and Washington.

**Data:** Information from the 2008 Flex Grant applications and the survey of Flex Coordinators was supplemented by semi-structured interviews with Flex Program Coordinators, hospital QI staff, and other stakeholders. This allowed us to explore specific programs and initiatives in greater detail. Interviewees also shared documents and other materials that informed our understanding of their states' QI initiatives. As most states have multiple initiatives related to QI, we asked the Flex Coordinators to identify and focus on the three quality improvement initiatives that were most important in terms of overall impact, scope, and/or the number of CAHs participating (these programs are summarized in the Appendix). We developed a semi-structured protocol to guide the interviews that included questions designed to obtain detailed information on each QI initiative, the roles of relevant organizations in these initiatives, the level of support from the Flex Program and other sources of funding, the extent to which the effort uses QI data to benchmark the performances of participating CAHs, the impact of the initiative as perceived by the CAHs and other key players, and the sustainability of the initiative.

We also asked Flex Program Coordinators to identify additional individuals who played key roles in developing, operating, and/or sustaining these initiatives for follow-up interviews to obtain additional perspectives. We interviewed these stakeholders using a second semi-structured interview protocol to obtain information on the role of these individuals and their organizations in developing and/or operating these QI initiatives, their perceptions of the effectiveness and impact of the initiatives, and any lessons learned from them. Respondents for these follow-up

interviews included representatives from Quality Improvement Organizations (QIOs); rural health networks; administrators, risk managers and directors of quality improvement from participating CAHs; QI consultants; State Offices of Rural Health; and state rural health associations. We completed 34 interviews in the nine states.

## **Findings**

Our e-mail survey of Flex Coordinators revealed that states are engaged in a broad range of QI initiatives in two main categories of activity: (1) *Support for CAH Participation in Quality Measurement, Reporting, and Benchmarking*, and (2) *Building Quality and Patient Safety Improvement Systems and Capacity*. Within each of these two broad categories of activity, we grouped the initiatives into sub-categories to illustrate the different strategies that State Flex Programs have employed. In the following synthesis of our interviews, we include descriptions of the state initiatives, their purposes and strategies, participants, the roles of the Flex Programs, and the impacts or lessons learned.

Figure 1 (below) summarizes the states' activities in each of the categories and sub-categories:

**Figure 1. Summary of Flex Program Quality Improvement Activity in the Study States**

<b>SUPPORT FOR CAH PARTICIPATION IN QUALITY MEASUREMENT, REPORTING, AND BENCHMARKING</b>	<i>States</i>
Support for CAH participation in <i>Hospital Compare</i> Support for CAH participation in other individual or multi-state performance and quality reporting and benchmarking initiatives	<i>Georgia, Washington</i>  <i>Alaska, Nevada, Kansas, Idaho &amp; Nebraska</i>
<b>BUILDING QUALITY AND PATIENT SAFETY IMPROVEMENT SYSTEMS AND CAPACITY</b>	<i>States</i>
<b>Multi-Hospital Patient Safety And Quality Improvement Programs</b>	
Support for Patient Safety Initiatives Inpatient and Outpatient Quality Improvement EMS Quality Improvement Performance Improvement Networks Peer Review Programs Hospital Surveys	<i>Idaho, Nebraska</i> <i>Georgia</i> <i>Arizona, Washington</i> <i>Montana</i> <i>Washington, Georgia</i> <i>Kansas, Nevada</i>
<b>Quality Improvement Education and Training Programs</b>	
Quality Improvement Training Executive Fellowship Program	<i>Alaska, Arizona, Montana</i> <i>Nebraska</i>

## **SUPPORT FOR CAH PARTICIPATION IN QUALITY MEASUREMENT, REPORTING, AND BENCHMARKING**

State funded activities in this category include support for CAH participation in the Centers for Medicare and Medicaid Services (CMS) *Hospital Compare* quality reporting program and/or other quality reporting and benchmarking initiatives and support for using quality improvement and benchmarking data to identify address QI needs and priorities. The federal Office of Rural Health Policy requires states to encourage and support CAH participation

in *Hospital Compare*; the percentage of CAHs that report on at least one measure to *Hospital Compare* serves as one measure of Flex Program performance.

All nine study states are engaged in initiatives to support CAH participation in *Hospital Compare* and/or other quality measurement, reporting, and benchmarking systems. Several are involved in multi-state benchmarking initiatives. The number of measures benchmarked varies, from seven measures in *Nevada* to 24 measures in *Idaho*. In some of these benchmarking systems, hospitals can choose which measures to report. Several states have worked with consultants to implement their benchmarking initiatives. In addition to State Flex Programs and CAHs, partners in these initiatives may include hospital associations, rural healthcare networks, and Quality Improvement Organizations (QIOs). Most initiatives are fully funded by the Flex Program. Two study states have experimented with the Balanced Scorecard as a way to identify needs and priorities; however, these efforts have focused primarily on financial performance improvement rather than quality improvement.

### **Support for CAH Participation in *Hospital Compare* - Georgia and Washington**

*Hospital Compare* is a quality reporting program developed by CMS to collect and publicly report on how well hospitals care for patients using a set of evidence-based quality measures. The quality measures were developed by the Hospital Quality Alliance, a public-private partnership that includes CMS, the Joint Commission, the National Quality Forum (NQF), and hospital and business organizations, and later endorsed by NQF. CMS has selected a subset of these measures as its core for public reporting on its *Hospital Compare* website, including process of care and outcomes measures for acute myocardial infarction (AMI), pneumonia and heart failure, among others. Hospitals report on the measures via QIOs using the CMS Abstraction and Reporting Tool (CART) or through CMS-approved vendors.



Although CAHs do not have financial incentives to report as other hospitals do, 70% of CAHs reported on at least one measure for 2008 discharges.<sup>4</sup> Participation varies widely by state, however, ranging from 11% to 100%. Of the 45 states with CAHs, three states had rates of participation of less than 25%; four states between 25 and 50%; 14 between 51 and 75%; and 24 states over 75% .<sup>4</sup> This last group included eight states with 100% participation among their CAHs.

Respondents noted that some CAHs are reluctant to participate in *Hospital Compare*, citing the low volume of patients for many of the measures. They also noted the perception among some CAHs that *Hospital Compare* lacks “rural-relevant” measures that would more accurately reflect the services and care rendered in CAHs.

Despite CAH concerns with *Hospital Compare*, many states, including **Georgia** and **Washington**, encourage CAH participation in *Hospital Compare* and assist CAHs in complying with related reporting requirements. According to the FMT’s analysis of the 2008 *Hospital Compare* data, 62% of **Georgia**’s 34 CAHs are publicly reporting on one or more measure(s), while 53% of **Washington**’s 39 CAHs are doing so.<sup>4</sup> **Washington**’s Flex Program provides funding for the Rural Healthcare Quality Network (RHQN), an independent network of 34 CAHs in Washington, to conduct activities related to *Hospital Compare* such as educating CAHs about the measures and providing CAHs with materials to address those measures (e.g., smoking cessation and discharge planning). **Georgia**’s Flex Program also funds efforts to encourage participation in *Hospital Compare* supplemented by in-kind support from the Georgia Hospital Association, the Center for Rural Health, and the QIO.

Both **Washington** and **Georgia** have prioritized increasing the number of CAHs reporting to *Hospital Compare*. In **Georgia**, the focus on *Hospital Compare* was spurred by the **Georgia**

Flex Program's adoption of a focus on quality improvement in 2002 as well as the Georgia Hospital Association's campaign to bring Georgia from 43<sup>rd</sup> among the 50 states in hospital quality into the top ten states by 2010. In addition to encouraging CAHs to participate in *Hospital Compare*, **Georgia** has implemented a Quality Improvement Collaborative to bring quality improvement professionals together to share experiences, information, tools, forms, policies, and best practices. It also supports CAH participation in the Institute for Health Improvement's initiatives to improve the reliability of health care processes.

Both **Georgia** and **Washington** report some success with their efforts to encourage reporting and to improve CAH performance on the reported measures. Using the *Hospital Compare* data, **Washington's** RHQN identified smoking cessation and discharge planning as challenges for CAHs. RHQN is currently working with CAHs to improve their performance by focusing on smoking cessation materials and has plans to undertake activities related to discharge planning. **Georgia's** Flex Coordinator noted that the improvement on some *Hospital Compare* measures by **Georgia's** CAHs has outstripped national trends.

**Lessons Learned:** Efforts to increase participation in *Hospital Compare* benefit from the influence of stakeholder organizations (the Georgia Hospital Association's focus on the state's hospital quality rankings) and the development materials for use by CAHs (Washington's RHQN smoking cessation materials) in improving their performance on the measures.

### **Support for CAH participation in other quality reporting and benchmarking initiatives - Alaska, Nevada, Kansas, and Idaho**

A number of states encourage CAHs to participate in other state and multi-state hospital quality reporting and benchmarking initiatives. **Nevada** and **Idaho**, for example, have implemented their own statewide quality reporting program. **Alaska** and **Kansas** are among

eleven states<sup>‡</sup> participating in a broad-based multi-state quality improvement initiative, *Health Quality for Rural America (HQRA)*, which uses the Quality Health Indicators (QHi) web-based tool for quality reporting and benchmarking. The QHi tool includes 16 clinical quality measures and five measures related to patient satisfaction. It also includes measures on employment (e.g., turnover) and financial and operational performance. QHi was developed and is managed by the Kansas Hospital Education and Research Foundation, part of the Kansas Hospital Association, and the Kansas Department of Health and Environment's Office of Local and Rural Health.

*Alaska* uses QHi as a quality reporting and benchmarking alternative to *Hospital Compare*. Flex Program officials report that all of *Alaska's* CAHs are submitting data to *Hospital Compare*; however, the majority do not publicly report their data due to concerns over the small number of cases involved. According to the FMT's analysis of 2008 *Hospital Compare* data, 23% of *Alaska's* CAHs are publicly reporting at least one measure to *Hospital Compare*.<sup>4</sup> QHi data are not publicly reported; participating rural hospitals use the QHi data and reports to compare themselves to other participating rural hospitals by size, network, and state on eight core clinical quality measures. Comparison hospitals are blinded, but the program allows a CAH to contact a comparison hospital, which may choose to reveal its identity and respond. The QHi network was initially funded in *Kansas* by the Flex Program; currently all states that participate in QHi contribute financially through fees and maintain an on-going dialogue around program management.

Although there is overlap between the eight QHi core measures and those in *Hospital Compare*, QHi officials believe that QHi's quality and patient safety measures are more relevant

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<sup>‡</sup> Kansas, Alaska, Arizona, New Mexico, Oklahoma, Virginia, and Wyoming participate in HQRA. CAHs in Michigan, Missouri, Nebraska and South Dakota are involved only in the quality reporting and benchmarking project.

to CAHs (e.g., patient falls and medication errors). In *Alaska*, the Flex Program works with its QIO to help hospitals use QHi data to identify opportunities for improvement. The Flex Coordinator noted that it is too early to determine whether there has been improvement on any of the measures. According to respondents, implementing new QI strategies has been a challenge for CAHs due to the increased workload related to implementing the reporting system and related activities. Once implemented, however, maintaining the system has become more manageable. The *Alaska* Flex Program has supported CAHs in this initiative with technical assistance from the Alaska Small Hospital Performance Improvement Network, consultants, and the Flex Program itself.

All ten of *Nevada's* CAHs are reporting on the seven “rural sensitive” quality measures in the quality component of its Rural Hospital Benchmarking Initiative, a web-based financial, operational, and quality performance monitoring system available to all CAHs and Small Hospital Improvement Program (SHIP) Consortium hospitals in *Nevada*. According to respondents from *Nevada's* Flex Program, these seven “rural sensitive” measures are: 1) administration of aspirin for patients presenting with chest pain; 2) provision of discharge instructions to congestive heart failure (CHF) patients; 3) provision of smoking cessation advice or counseling to CHF patients ; 4) assessment for and administration of pneumonia vaccine to pneumonia patients; 5) provision of smoking cessation advice or counseling to pneumonia patients; 6) assessment for and administration of influenza vaccine for pneumonia patients; and 7) documentation of age-appropriate vital signs taken within 20 minutes prior to discharge from the emergency department. Participants in the benchmarking initiative are also working on some transfer measures. Like QHi, the quality data in *Nevada's* system are not publicly reported, but can be used by rural hospitals to compare themselves to other rural hospitals in the state. More

importantly, participating hospitals are using benchmarking data to inform quality improvement and patient safety activities coordinated by the *Nevada* Flex Program. The system is supported by Flex and SHIP funds, with additional in-kind support from the Liability Cooperative of Nevada and Nevada Rural Health Partners.

In January 2003 (pre-dating the implementation of *Hospital Compare*), the *Idaho Flex Program* and the Idaho Hospital Association (IHA) developed and implemented a Flex-funded secure web-based hospital quality reporting database. CAHs can report on up to 22 clinical performance measures aligned with CMS measures, choosing the measures that are most meaningful to them. *Idaho's* CAHs can compare themselves to other CAHs in the state, but the data are not publicly reported. Over 80% (21) of *Idaho's* 26 CAHs are reporting to the system, compared to only 15% (4) CAHs reporting to *Hospital Compare*. *Idaho's* Flex Coordinator acknowledges that having the state quality reporting system has meant that CAHs are less motivated to report to *Hospital Compare*. CAH informants in *Idaho* support the state's initiative and feel it has helped them identify areas for improvement and track their success in improving their quality of care.

The *Nevada* and *Nebraska* Flex Programs have supported CAHs in using balanced scorecard strategic planning, management, and reporting tools to track and improve hospital performance. *Nebraska's* Flex Program has helped 33 CAHs develop and use the balanced scorecard for performance tracking; five facilities in *Nevada* have been similarly supported by the *Nevada* Flex Program in adopting the balanced scorecard. Although the quality metrics in the balanced scorecard are limited, a hospital administrator in *Nevada* noted that the balanced scorecard had served to reinforce for all staff in the hospital that every department and staff member has a role in quality improvement.

**Lessons Learned:** 1) Although respondents often believe that the indicators/measures used in their QI and benchmarking systems are more “rurally relevant” than those in Hospital Compare, there is more overlap between the systems than generally recognized (see Table 1). 2) Flex-supported QI and benchmarking systems provide CAHs with an opportunity to monitor and manage their quality performance without the concerns related to public reporting.

## **BUILDING QUALITY AND PATIENT SAFETY IMPROVEMENT SYSTEMS AND CAPACITY**

Developing quality improvement knowledge, skills, and capacity are among the core challenges for CAHs in undertaking and sustaining effective quality improvement programs. It has been difficult for many CAHs to develop and implement QI programs and systems due to a lack of dedicated, trained staff with the knowledge and time necessary to do so. In response, State Flex Programs have invested significant resources in assisting CAHs to enhance their QI capacity and systems through the provision of training and technical assistance and through the development of QI-focused collaboratives and networks. In addition to training and capacity building, Flex Programs have supported specific quality improvement projects such as teamwork training to improve patient safety (e.g., TeamSTEPPS) and implementation of evidence-based protocols to improve treatment for heart attacks. In most cases, these initiatives are carried out by individual CAHs with the support of a QI collaborative or network and with funding from the state Flex Program. In some cases, additional funding is provided by partnering organizations such as hospital associations, QIOs, State Offices of Rural Health, and/or local foundations.

## Multi-hospital Patient Safety and Quality Improvement Programs

### ***Patient Safety Initiatives – TeamSTEPPS: Idaho & Nebraska***

TeamSTEPPS is a patient safety initiative developed by the Department of Defense's Patient Safety Program in collaboration with the Agency for Healthcare Research and Quality (AHRQ). TeamSTEPPS is an evidence-based teamwork training system aimed at optimizing patient outcomes by improving communication and teamwork skills among clinicians, hospital leadership, and other hospital staff.<sup>5</sup> The program offers a structured training curriculum and ready-to-use materials and tools that emphasize teamwork and patient safety culture at all levels of the healthcare provider organization. The program employs a train-the-trainer model in which CAH staff members participate in intensive patient safety, communications, and teamwork building trainings and bring the information back to their facilities to train other staff. TeamSTEPPS is designed to optimize performance and enable healthcare teams to respond quickly and effectively to situations they encounter.

The Flex Programs in *Nebraska* and *Idaho* have adopted TeamSTEPPS as a central strategy for addressing patient safety in their CAHs. Because of the intensive nature of the program, both states have pursued a phased implementation of TeamSTEPPS training among the CAHs. To date, 34 *Nebraska* and nine *Idaho* CAHs have participated in the program.

Participation is voluntary in both states.

*Nebraska* initiated the TeamSTEPPS program in 2006 as a collaborative initiative of the State's Flex Program and the University of Nebraska Medical Center. The Medical Center designed and delivers the training. As part of the assessment phase of TeamSTEPPS, participating hospitals conduct a patient safety culture survey using the AHRQ Hospital Survey on Patient Safety Culture instrument. Following the survey, hospitals participate in a two- to

three-day training, after which they participate in conference calls and bimonthly meetings to discuss what they have learned and the initiatives they have undertaken to further enhance teamwork or communications. After a year and a half, participating hospitals re-administer the patient safety culture survey to assess any changes in their patient safety culture.

The *Nebraska* Flex Coordinator reported that two hospital networks are involved in TeamSTEPPS with nearly all network hospitals participating. Other hospitals that are not members of these two networks have elected to participate individually. Over 200 hospital staff members have been trained through TeamSTEPPS with some having been trained as “master trainers.” Funding for the TeamSTEPPS program has come from *Nebraska*’s Flex Program and an AHRQ grant to the University of Nebraska Medical Center.

The *Idaho* Flex Program initiated Team STEPPS in March 2009 with nine CAHs participating in the initial training cohort. The Flex Program has designed and is carrying out the TeamSTEPPS program in collaboration with the state’s QIO. The Flex Program funds the QIO to deliver the training. To reduce the distances that hospital staff members have to travel to participate in the program, train-the-trainer meetings are offered at two locations within the state.

State and hospital respondents from these two states described several factors that have affected the implementation and success of their TeamSTEPPS programs. First, the program requires a significant commitment of time and effort. There are some hospitals that would like to participate, but staff members have been unable to engage in the training due to time constraints and work commitments. Second, states note that it is important to prioritize the issues and problems that each CAH chooses to focus on, since it is impossible to tackle all patient safety issues at once. If hospitals prioritize and focus their efforts, they are more likely to be successful in making necessary changes. Because hospitals have different patient safety concerns and



priorities, developing consensus among hospitals participating in multi-hospital networks can be challenging. These two programs have used hospital patient safety assessment tools such as the AHRQ patient safety culture survey to identify common areas of need. Third, respondents state that early buy-in at all levels within the hospital, including the hospital Board, CEO, physicians, and nurses, is critical to success. It is also necessary to identify staff members within the hospital who are thinking about and committed to making needed patient safety changes as changing a hospital's internal culture can be very difficult. To make the changes, hospitals need to identify and cultivate internal champions who are committed to the change process. Respondents noted that there will always be physicians and other staff members who simply will not participate or be open to change. However, with the right champions, programs like TeamSTEPPS can support an internal culture shift that values patient safety.

Although the full impact of the TeamSTEPPS program in these two states has not been formally evaluated, the Flex Coordinators report that hospitals have been enthusiastic in their participation in and support for the program. The Flex Coordinators have observed a shift in awareness of patient safety among staff at the participating hospitals. Respondents indicated that the program has heightened awareness of the importance of communication and teamwork in improving the patient safety culture among clinical and administrative staff at the participating hospitals. TeamSTEPPS has provided hospital staff with specific strategies, tools, and practical skills for improving communication and teamwork. Respondents further noted that the program is useful in all hospital departments but that it is especially effective in emergency departments. Although the TeamSTEPPS infrastructure is still under development in **Idaho**, Flex Program officials state that participating CAHs are already adopting some of the program's tools.

### ***Core Program and Outpatient Quality Improvement (QI) Program: Georgia***

The Flex Program in ***Georgia*** has developed and implemented the Core Program, a continuous, structured QI initiative focused on the CMS Core Measures that track hospital inpatient and outpatient quality and patient safety outcomes. Although the data collected in the Core Program are not publicly reported, the consistency between the two indicator sets, according to the State Flex officials, provides CAHs with the option to report to *Hospital Compare* without the need to collect additional data. Although hospitals are encouraged, but not required, to report to *Hospital Compare* as a condition of participation in the Core Program, 63% of ***Georgia's*** CAHs have chosen to do so by publicly reporting their data.<sup>4</sup> The data collected through the Core Program are used for benchmarking performance against aggregate hospital data.

***Georgia's*** Outpatient QI Program is an expansion of the Core Program that addresses an important and growing area of CAH clinical and service activity. It also recognizes that CAHs usually have a very small number inpatient cases/records to measure when reporting the CMS Core Measures. The addition of seven outpatient measures, which align with the outpatient measures in *Hospital Compare*, to the Core Program enables participating CAHs to report data on a greater number of measures appropriate to their service mix.

To support the Core Program, ***Georgia*** developed accompanying technology including tools to support data entry and to export data to *Hospital Compare* and the Georgia Hospital Association quality reporting website. Data are collected through a program that CAHs use for credentialing and QI. The program has been evolving since 2002 when the Flex Program began to support QI. All 34 CAHs are involved in the Core Program, with five CAHs involved in a related statewide Quality Improvement Collaborative developed with Flex Program funding. The

Collaborative, which continues to evolve, brings hospital professionals together to talk about issues, share best practices, and access technical assistance and consultative resources through webinars, email consultations, and onsite visits. Both the Core Program and the CAH QI Collaborative projects are funded by the **Georgia** Flex Program with in-kind support from the State Hospital Association, the QIO, and the Georgia Hospital Association Research and Education Foundation's Center for Rural Health.

Respondents noted that a lack of professional commitment, low staff engagement, and high rates of staff turnover are challenges to CAH participation in these programs. As with TeamSTEPPS in *Nebraska* and *Idaho*, **Georgia** respondents described the importance of engaging the hospital leadership to ensure that quality improvement becomes a sustainable priority and ultimately improves outcomes. Additionally, they noted that it is helpful to develop a core staff team to meet regularly and review QI activities. A physician leader/advocate for quality is important for engaging physicians in changing their behaviors and clinical practice.

In discussing the impetus and importance of these programs, the **Georgia** Flex Coordinator and CAH respondents noted that the programs were developed with the expectation that value-based purchasing and/or other performance initiatives will likely link quality performance to hospital payment. **Georgia** is trying to stay on the forefront of this development with the implementation of the Core and Outpatient QI Programs. **Georgia** has also sponsored a program on the Institute for Healthcare Improvement's tools to design reliable healthcare processes that gave CAHs access to presentations and personal coaching to assist them in this effort. Respondents stated that it has rekindled interest in quality improvement and increased physician involvement in QI activities. **Georgia** awards CME credits for participation in training and educational activities, which respondents feel is helpful in securing participation.

Additionally, the Georgia Hospital Association has adopted a “top ten” initiative to bring Georgia from 43<sup>rd</sup> into the top ten in hospital quality by 2010. This has renewed interest in and commitment to QI in all hospitals across the state. Together, these initiatives have helped bring QI professionals together to share their experiences, information, tools, forms, policies, and best practices. They allow for quality performance benchmarking with other *Georgia* hospitals of the same size. Respondents also note that the benefit and impact of the Core Program will grow with the expansion of the outpatient reporting program.

### ***EMS Systems: Arizona and Washington***

The *Arizona* Flex Program has been concerned about CAHs that were being bypassed in certain emergency situations and wanted better information on why patients were not taken to local CAHs by EMS providers. To address this issue, the Flex Program developed an online EMS reporting system to collect data on this issue as well as improve the revenue systems and services of ambulance systems in southern Arizona. When an ambulance transports a patient to a CAH or other hospital, EMS providers can access a computer in the hospital to record the transport and related billing data into an online centralized system. The Flex Program receives a copy of the transport data (annually) detailing the number of transports, where patients went and why, and if any medications were administered. With these data, Flex Program staff can identify CAHs that may have been bypassed and assess why this might have been the case.

The *Arizona* Flex Program is also working closely with the state EMS agency to better understand the process of helping rural hospitals to achieve a Level IV Trauma Center designation, which Flex Program staff members believe is an appropriate designation given their size and resources. Level IV Trauma Centers have the capacity to perform initial evaluation of trauma cases, stabilize appropriate cases, provide diagnostic services, and transfer patients to

higher levels of care as appropriate. They may also provide surgery and critical care services as defined in the scope of trauma care services. To date, three CAHs have been designated as Level IV Trauma Centers as a result of this initiative, with three more in the application process.

In *Washington*, the Flex and EMS programs have worked with area physicians to develop a Level 1 acute myocardial infarction (AMI) protocol to streamline and improve transfer of patients with chest pain from rural areas in eastern Washington to Spokane. This effort is largely supported by the state's Rural Healthcare Quality Network (RHQN), which receives funding from the Flex Program to support quality improvement programs in CAHs throughout the state. According to Flex Program and hospital respondents, the time needed to transfer chest pain patients has been reduced from several hours to 90 minutes door-to-door and has greatly improved patient outcomes. Modeled after a similar project in Minnesota, this rapid patient transport program requires cardiologists to agree to be on-call for such situations and be willing to "bump" cardiac procedures as necessary.

Both *Arizona* and *Washington* report that their EMS programs are ongoing activities. *Arizona* partners with the State Bureau of EMS on its EMS initiative. Through 2009, the Bureau of EMS matched Flex Funding to support this project (in 2009, the Bureau of EMS provided \$12,000 in matching funds.) Since the completion of our interviews, we were notified that the State of Arizona and the Bureau of EMS recently defunded this project due to the State's budget crisis. Despite the loss of EMS and Flex funding, the participating EMS units value the online reporting system and have elected to continue the service using their own funds. The *Washington* project partners with the State Hospital Association on the AMI initiative; the original funding for the project came from Lincoln Hospital, where the project originated. The Flex Program and the state EMS agency are now funding RHQN to support the initiative.

State and hospital interviewees described the impact of these EMS programs as substantial. Officials in *Arizona* noted that ambulances in southern Arizona are more likely to take patients to the CAHs with Level IV Trauma Center designations rather than bypassing them. They also believe that achieving Level IV designation boosts the reputations of those CAHs. Flex officials also noted that the billing and collection components of this online EMS reporting project have helped stabilize the finances of participating EMS units.

In *Washington*, transfer times for chest pain patients have been reduced significantly. In addition to tracking transfer times, RHQN has used regional hospital discharge data to demonstrate decreased mortality for AMI. The urgency of this issue encouraged people on both ends of the transport issue (e.g., the CAHs and larger referral hospitals) to work together to address the problem. It has helped to build trust between the physicians at these very small and very large hospitals. Respondents noted that some larger hospitals had protocols that bypassed CAHs (causing financial hardship at those facilities), which can now be changed. They also felt that the program can serve as a model for CAHs to engage with larger hospitals to eliminate redundancies and improve care. For example, CAH physicians concerned with managing stroke patients are working with neurologists at Sacred Heart Hospital in Spokane to develop a similar protocol for stroke patients. Other physicians have expressed interest in how this model could be applied to non-emergency situations, including the management of chronic disease, to encourage community-wide, system-based improvements.

### ***Performance Improvement Network: Montana***

*Montana's* Rural Hospital Performance Improvement Network (PIN) is coordinated by its Flex Program and operated by the Health Research and Education Foundation of the Montana

Hospital Association. The PIN helps *Montana's* CAHs achieve compliance with Medicare Conditions of Participation (COP) related to quality assurance and performance improvement.

The PIN was established nine years ago to address the fact that quality improvement staff in *Montana's* CAHs lacked the knowledge and resources to implement appropriate quality improvement initiatives, and were the “weak links” in the state’s QI system. The PIN was specifically designed to address the knowledge and resource needs of those responsible for quality improvement in *Montana's* CAHs. All 47 CAHs in *Montana* belong to this voluntary network, which coordinates QI activities and creates a network of otherwise isolated hospitals. The PIN offers CAHs an important vehicle for communication, information sharing, and problem solving. The Flex Coordinator described the PIN and its activities as “member-driven”.

The PIN has developed multiple education and dissemination vehicles including the annual Quality Improvement Showcase meeting, a quarterly newsletter, a website, and a listserv. The network members also collaborate to conduct clinical quality improvement studies to help CAHs meet Medicare COPs. The Quality Improvement Showcase is an annual forum for hospital QI coordinators to discuss quality issues. The planning committee, which is made up of CAH staff members, identifies relevant quality improvement topics. The PIN provides scholarships and/or waives registration fees for network members to encourage attendance. It also pays for speakers for the meeting. The Showcase links CAH staff members to staff and resources at other hospitals, thereby opening lines of communication among members and reducing feelings of professional isolation. CAHs share their quality improvement successes and challenges and identify strategies and programs that have worked.

The PIN also designs and runs Clinical Improvement Studies to assist CAHs in meeting Medicare COP requirements that require CAHs to demonstrate that they have undertaken a

clinical improvement project. Studies are often coordinated with the state's QIO. The Rural Hospital Quality Coordinator, who is employed by the Flex Program, coordinates the studies and ensures that they are relevant to both large and small CAHs. A committee of frontline CAH staff identifies topics to be studied. The most recent study focused on trauma, falls, and pediatric emergencies. Data are submitted to the Coordinator, who prepares a hospital-specific report comparing each hospital to its peer group aggregate. For the next six months, CAHs are asked to identify and work on a QI project to address issues identified in the report. The PIN also coordinates a quarterly newsletter, website, and listserv - tools that are regularly used by members to share questions and ideas and access quality improvement tools.

According to the Flex Coordinator, all CAHs in the state benefit from the PIN, with nearly 75% of *Montana's* CAHs participating in the Quality Improvement Showcase and/or Clinical Improvement Studies. The PIN's activities have connected frontier hospitals to a larger network of hospitals that assists them with specific initiatives and resources designed to meet quality improvement standards and requirements.

The Flex Program partners with the Montana Hospital Association (MHA) and Mountain Pacific Quality Health, the state's QIO, in supporting and managing the PIN. The program is funded by the Flex Program and its development was further supported by grants from the Rural Health Network Development Grant Program and AHRQ. MHA and Pacific Quality Health also support the PIN and Showcase by providing speakers and assisting with staffing.

When asked about the value of the PIN and Showcase initiatives, respondents noted that they have encouraged collaborative learning and expanded technical assistance resources for CAHs. These initiatives have provided CAH staff members with a peer group with which they can consult. Respondents also stated that the Clinical Improvement Studies are important



because they allow CAHs to undertake quality improvement projects to comply with Medicare COPs. Since the establishment of the PIN, the state has observed a drop in hospital survey deficiencies. Respondents believe this is directly attributable to the knowledge gained from the Clinical Improvement Studies and the Showcase.

Respondents said that it has been a challenge to balance the needs of both the large and small CAHs in *Montana*. The small facilities occasionally need more on-site support than large hospitals, which may require the study coordinator to visit the smaller hospitals two to three times per year to provide needed support and to help them collect meaningful data. Respondents also attributed reductions in participation to the downturn in the economy as hospitals have found it more difficult to grant staff members time away from the hospital to participate in the PIN's activities.

### ***Peer Review: Washington and Georgia***

Respondents from *Washington* and *Georgia* stated that clinical peer review is often a challenge for their CAHs, as these hospitals typically have small medical staffs and that the close relationships between physicians make it difficult to obtain objective opinions on physician performance. The Flex Program Coordinators in these two states identified clinical peer review as a priority need in their quality improvement programs and have developed programs to help CAHs access needed peer review services. Both programs involve physician peers reviewing patient records but differ in their approaches. *Washington's* program, known as the Circuit Rider Program, was developed through the Rural Healthcare Quality Network (RHQN). The Circuit Rider Program is staffed by two physicians, a family practice physician and an emergency department physician. For cases involving specialty services, RHQN contracts with an appropriate specialist from their specialty panel to conduct the review. Under a contract with

RHQN, the two physicians travel to CAHs to conduct peer review assessments of physician performance. The circuit riding physicians visit each participating hospital quarterly to meet with staff, review charts, and share observations/feedback. They also submit a report annually to the hospital administrator. Originally, the Circuit Rider Program was set up with each physician covering a different section of the state. It was later modified to allow hospitals to choose which physician best suits their needs. Originally, all 38 of *Washington's* CAHs participated in the peer review program. In the last year, however, several hospitals have discontinued membership in RHQN due to financial constraints but have chosen to contract directly with one of the two circuit rider physicians to conduct peer reviews.

Partners in *Washington's* Circuit Rider Peer Review Program include the consulting physicians, the Flex Program, CAHs, and the Washington Hospital Association. Funding comes from RHQN (which was developed with funding from the Flex Program) and participating CAHs which pay \$8,000 to \$16,000 annually for peer review services. Smaller hospitals pay less than larger hospitals for the service. The peer review program is the network's largest expenditure. Participating hospitals receive four peer review visits per year. RHQN charges \$1,500 per visit for any additional visits (above the four) requested by the hospitals.

Respondents described the Circuit Rider peer review initiative as "the biggest, brightest star in the state". The consulting physicians review approximately 9,000 charts per year to identify opportunities for quality improvement. They review charts selected by the hospitals and their medical staffs as well as charts selected by RHQN. If RHQN identifies an evolving trend in physician performance or service delivery at specific hospitals or in geographic areas of the state, it will request a peer review of those cases. For example, detection of an increase of the rates of Caesarean sections in a particular section of the state would generate a request for review. As the

consulting physicians visit all 38 CAHs, they bring a wealth of knowledge to the process along with a familiarity with the hospitals and their physicians. As a result, they can detect circumstances where physicians may be having quality problems and identify hospitals and physicians in the area to serve as quality improvement resources.

*Georgia's* External Peer Review Program recruits and pays physicians from CAHs to conduct peer reviews. The panel of participating clinicians includes general surgeons, orthopedists, family practitioners, pediatricians, obstetricians, gynecologists, ophthalmologists, and podiatrists. To participate as a reviewer, clinicians must be on staff at a CAH.

The External Peer Review Program is advertised through the Center for Rural Health, which is part of the Georgia Hospital Association, and word of mouth among CAHs. Nine of *Georgia's* 34 CAHs participate in the External Peer Review Program with three more expected to do so. According to *Georgia's* Flex Coordinator, there has been a lag in CAHs applying to the program, perhaps due to turnover of CEOs, CFOs, and QI professionals.

*Georgia's* External Peer Review Program was developed with funding from the Flex Program and was developed in response to needs identified by hospital administrators. Participating hospitals support the program through fees paid for each review. The Center for Rural Health provides in-kind support to the program.

Respondents stated that the External Peer Review Program has been successful in gaining the support and participation of physicians for external peer review. Physicians have learned best practice guidelines and benefit from the feedback received from other physicians. Respondents reported that state hospital survey teams have developed favorable views of the program. Flex officials described the program as important for the medical staffs of these very small hospitals

and stated that participation in the program has been eye-opening. Turnover among QI staff and CAH leaders has been the primary challenge to the growth of the program.

### ***Mock Facility Surveys: Kansas***

To help CAHs meet state and federal quality survey requirements, the ***Kansas*** Flex Program has developed a program in which CAH staff members conduct mock facility surveys for participating hospitals. The goals are to help participating hospitals stay current with state survey requirements (including Medicare Conditions of Participation), prepare for state surveys, and identify any potential quality-related deficiencies.

CAH staff who wished to be trained as mock surveyors were asked to submit applications to the Kansas Hospital Education and Research Foundation (KHERF). A registered nurse, who is also a retired state survey manager, provides a day of classroom instruction on survey issues and accompanies each class of trainees for four days as they conduct a mock state survey at a participating CAH. The training sites are chosen from a group of CAHs that volunteer to serve in this capacity. Trainees are obligated to train one additional person using a train-the-trainer model. The skills of the mock surveyors are evaluated by the survey consultant. Approximately 25 individuals have completed the mock surveyor training in three areas of the state. KHERF partners with the Flex Program and participating CAHs on this initiative with the Flex Program providing funding.

When asked about the impact of the mock survey program on CAHs, respondents reported that many of the hospitals are doing much better on their surveys with some having few to no deficiencies. They also stated that hospitals appreciate the mock survey process and noted that the trainers are able to deliver additional training as needed by individual hospitals.

## ***Patient and Employee Satisfaction and Quality Surveys: Nevada***

The *Nevada* Flex Program assists CAHs with conducting customized patient and employee satisfaction surveys to identify quality issues and identify needed improvements. To support these efforts, the Flex Program has developed separate one-page, scanable survey forms to assess inpatient, outpatient, and emergency department patient satisfaction that can be customized for any CAH or SHIP hospital. In addition, the Flex Program helps participating hospitals create processes to systematically administer these surveys. Completed survey forms are returned to the Flex Program for compilation and analysis. After analysis, the results are provided to the CAH.

*Nevada's* Employee Satisfaction Survey was developed in response to requests from two CAHs for assistance in assessing employee satisfaction and identifying areas for improvement. If hospitals make changes based on the results of the surveys, the appropriate survey is re-administered semi-annually or annually to measure the impact of the changes or improvements.

Five of *Nevada's* ten CAHs have used the Patient Satisfaction Survey and two have used the Employee Satisfaction Survey. *Nevada* employs a Flex-supported Research Analyst as a consultant to conduct the survey analyses and prepare hospital reports. The Flex Program provides funding for the survey initiative.

Respondents stated that the surveys provide CAHs with valuable information that can drive change. The usual pattern is that a problem is identified, a plan of action is developed, actions are taken, and progress/improvement is measured at the next survey. One hospital respondent reported that the Patient Satisfaction Survey process has improved communication with patients. Another stated that the survey results are shared with all departments (housekeeping, nursing, food service, etc.) on a quarterly basis. Although CAHs are provided

with a template and process to conduct the survey, they must address certain survey management issues such as patient selection and methods to control for patients that complete multiple surveys. According to Flex Program respondents, the Employee Satisfaction Surveys have improved employee/supervisor relationships in participating hospitals. In response to the need for improved internal communication identified by the survey, one CAH instituted a regular employee newsletter.

### **QI education and training programs for CAH staff**

#### ***Network-based Programs: Alaska, Arizona and Montana***

A number of State Flex Programs have developed quality improvement training and education programs through either single-state or multi-state CAH networks. *Alaska* and *Arizona* are members of the multi-state Healthcare Quality in Rural America (HQRA) network described earlier. HQRA uses consultants to support participating states and CAHs. These consultants coordinate monthly training webinars, conduct training days at hospitals and hospital site visits, and provide board training and phone consultations with participating hospitals. In addition, some states have developed their own consulting and technical assistance resources and materials to train CAH staff. For example, *Alaska* is developing internal technical assistance capacity to reduce the need for consultants. One Flex Coordinator noted that high turnover among administrative and clinical staff in CAHs requires that quality improvement training and technical assistance be ongoing activities.

In *Montana*, the Montana Association of Health Care Providers holds annual Champions for Quality meetings which are medical staff leadership conferences that bring together teams of three or more staff members from each hospital to learn about the latest quality improvement strategies. CAH networks also provide opportunities for informal education by encouraging the

development of relationships between staff of different CAHs and facilitating informal sharing of information on specific best practices.

According to respondents, these training initiatives provide CAHs with up-to-date information on quality improvement and clinical issues, risk management, leadership development, Medicare Conditions of Participation, utilization review, recruitment and retention, methods for identifying strengths and weaknesses, and QI tools. In addition, some training activities focus on specific medical conditions, therapies, or drugs. Topics are selected from evaluations of prior trainings, trends or deficiencies revealed through state surveys, data collection and benchmarking projects, and Flex Program guidance. Participants include CAH administrators, nursing directors, quality coordinators, and other members of the network such as staff from larger hospitals and QIOs.

Participation in network training activities varied across the three states. In *Alaska*, nine of the 13 CAHs are involved. In *Arizona*, five of the 14 CAHs participated in the training programs. (The Flex Coordinator noted that nine *Arizona* CAHs are Indian Health Service facilities or managed by large corporate structures that provide their own education and support systems.) In *Montana*, both large and small hospitals are involved in the Champions for Quality initiative. Approximately half of *Montana's* CAHs participate.

In all three states, the QI education and training programs involve a variety of organizations including the CAHs, other larger hospitals, QIOs, quality improvement consultants, and state hospital associations. In *Montana*, the Area Health Education Center is also a partner in QI education and training programs. The Flex Program is the primary source of funding for educational and training activities in *Alaska* and *Arizona*. In the past, some *Alaska* CAHs also used SHIP funds to support additional training but, due to a change in the SHIP

Program Guidance, this is no longer an option. The **Montana** Champions for Quality leadership conference is funded 90% from the Flex Program and 10% through support from partners such as the Association of Montana Health Care Providers, the QIO, and insurance companies.

According to participants, these QI education and training programs have improved the awareness, understanding, and importance of quality improvement while reinforcing the Flex Program as a source of quality improvement leadership and information. The **Montana** Champions for Quality conference has been an important venue to bring clinicians and staff together to learn about evidence-based practices. Respondents noted that training and education initiatives are most successful and interesting when they respond to network members' needs and when there is strong member buy-in.

#### ***Executive Fellowship Program: Nebraska***

The **Nebraska** Flex Program believes that leadership development with the goal of creating a culture that values quality is an important element of quality improvement. For the past two years, **Nebraska's** Executive Fellowship Program has focused on encouraging hospital CEOs to become champions for quality and performance improvement within their facilities and provide leadership in these two important areas of hospital performance. The program consists of four day-long educational sessions led by national experts in the fields of systems thinking and clinical quality improvement. Fellows also participate in a national conference to encourage networking with their peers from other states.

In the first year of the Executive Fellowship Program, participants attended a special program run by the Rural Health Resource Center in Duluth, Minnesota on the use of the balanced scorecard by hospitals. Participants are asked to undertake a project at their hospital



using the tools acquired through the Fellowship Program. Applicants must apply to participate in the program and each year eight CAH administrators are selected for the program.

The *Nebraska* Flex Program, the Nebraska Rural Health Association, and Nebraska's QIO participate in the Fellowship Program. Funding for the program comes primarily from the Flex Program with additional support from the Nebraska Office of Rural Health. The Flex Coordinator explained that the Fellowship Program is an ongoing effort, although it is not conducted every year. The goal is to have 40 administrators complete the program.

Respondents believe that this program complements their other quality improvement programs, such as the balanced scorecard and TeamSTEPPS, by enhancing the focus on leadership, culture and quality. The small number of fellows admitted to the program has allowed for the development of strong interpersonal relationships among participants and encouraged networking.

**Lessons Learned:** 1) Respondents consistently noted that initiatives must be scaled to the resources and capacity of hospitals to avoid quality overload and burnout; 2) administrative, clinical, and board leadership and buy-in are critical to the success of QI initiatives at the hospital level; 3) collaborative activities allow for shared learning, technical assistance, and other quality resources, the identification of common issues across hospitals, and the development of common solutions and tools; 4) state QI systems can be linked to *Hospital Compare* to allow for public reporting with minimal additional work for individual hospitals; 5) Flex funding provides an opportunity to engage EMS and other key players in a systems approach to quality improvement; 6) formal networks offer economies of scale in the delivery of shared technical assistance, training, and quality resources thereby reducing resource demands on individual hospitals; and 7) External stakeholders such as state hospital associations, rural health

associations, and QIOs are key resources in developing and supporting quality improvement initiatives.

## **SUMMARY AND IMPLICATIONS**

This study revealed considerable consistency in state strategies and programs for supporting hospital quality improvement. In particular, the Flex Programs we surveyed share the common goal of improving the quality performance of CAHs by supporting: (1) CAH participation in quality measurement, reporting, and benchmarking initiatives, and (2) programs and activities that build quality and patient safety improvement systems and capacity among CAHs. In this final section we discuss some of the common elements in these programs and factors affecting success. We conclude with a set of options for strengthening the role of the Flex Program in hospital quality improvement.

### **Collaboration and Shared Learning is a Common Flex Program Strategy**

Many states are using quality improvement networks and collaboratives to promote shared learning and resource exchange between CAHs as well as larger hospitals. Networking and collaboration are most important for CAHs that are not part of a hospital system. Quality improvement networks help build stakeholder buy-in by engaging CAHs and key stakeholders (such as the state hospital associations and QIOs) in developing common quality improvement goals, performance objectives, and metrics. In addition, the networks allow for a sharing of resources, expertise, and costs among CAHs and other participants.

There are multiple models for states to follow in the development of these initiatives. At the time of our study, CAHs from eleven states were following the roadmap of the Kansas Flex Program's Quality Health Indicators (QHi) project through participation in the Healthcare Quality in Rural America (HQRA) network. Through HQRA, these states and their CAHs have

gained access to an extensive body of collective knowledge and experience on hospital quality improvement and management. Other states have also developed their own multi-hospital quality improvement networks and collaboratives.

### **Quality Measurement and Reporting Remain a Challenge**

In each of the states in this study, hospitals are collecting and reporting on clinical and quality measures using *Hospital Compare*, the QHi tool used by the HQRA multi-state network, and/or other quality reporting and benchmarking systems. Although the quality indicators and measures used in these systems overlap, the overlap is not perfect and CAHs report that participating in more than one initiative entails a significant marginal cost. Moreover, anxiety about publicly reporting quality data continues to be an issue for many CAHs.

Respondents repeatedly stated that CAHs prefer to participate in quality reporting and benchmarking systems that have measures that are appropriate, in the opinion of CAHs, to the care they provide (i.e., are “rural relevant”) and that enable them to compare their performance with similar hospitals. According to a number of the respondents with whom we spoke, the fact that 30% of CAHs do not participate in *Hospital Compare* reflects this concern. At the same time, there is little discussion about identifying a core set of “rural relevant” quality measures that could be adopted across Flex-supported quality reporting and benchmarking systems. Further, the incentives to publicly report on measures that are particularly relevant to CAHs, such as inpatient measures for pneumonia and heart failure and outpatient measures for AMI, are limited.

### **Leadership in Support of Quality Improvement Critical**

As has been demonstrated through the quality improvement literature and confirmed by participants in this study, hospital leadership support for QI at the clinical, administrative, and

board levels is integral to the success of hospital QI programs. The experiences of these states indicate that state leadership and support are also essential for the development of successful quality improvement programs. In several states, the state Flex Coordinator has been the champion for quality improvement. In other states, leadership and support has come from the state hospital association or other partners with strong support from the state Flex Program.

### **States Have Had to Scale Quality Improvement Programs to Available Resources**

As noted in the discussion of *Nebraska's* adoption and implementation of the TeamSTEPPS program, developing and implementing quality improvement initiatives that are scaled to the capacity and resources of CAHs is critical to success. Respondents repeatedly noted that CAHs, like most hospitals, are easily overwhelmed by too many quality and patient safety initiatives and develop a sense of quality improvement “fatigue”. The potential for overwhelming CAH staff with multiple QI initiatives at any one time or with activities that exceed their capacity and resources is a common concern among Flex Programs. Efforts that prioritize quality issues and conduct a limited number of focused initiatives tend to be more successful. In addition, states recognize that limited Flex grant funding constrains their ability to mount multiple initiatives. Moreover, states noted that limited Flex Program resources can be best leveraged by sequencing implementation to begin with CAHs with in-place quality improvement “champions” and innovators. This strategy can build momentum for greater participation and success as the program evolves.

### **The Flex Program is the Primary Source of Funding for Quality Improvement Initiatives**

Funding from the Flex Program is a primary or, in some cases, sole source of funding for the quality improvement initiatives cited in this study. Many respondents stated they would not have been able to undertake these initiatives without Flex funding and support. They further

noted that Flex Programs are able to forge critical partnerships between key stakeholders such as state hospital associations, QIOs, and other organizations involved in rural healthcare delivery. Respondents also identified Flex Program leadership in building relationships among the CAHs and other participants as critical to success of these initiatives. Successful State Flex Programs seem to be those that have credibility and legitimacy in the eyes of CAHs, which is a function of the level of quality improvement knowledge and expertise their staff and partners bring to the table.

### **There is Limited Hard Evidence on What Works**

Evaluation of the quality improvement initiatives has primarily been limited to post-conference or post-webinar evaluations; there is very little hard evidence available on the impact of the QI programs and activities that states have adopted. With most states pursuing the development of quality improvement networks, the most critical element of such evaluations might be to understand what works in implementing QI programs and building sustainable QI capacity. In addition, many states are using various data sources to track quality outcomes, including patient satisfaction, and transfer times, among others. At a minimum, the development of a more coordinated quality data tracking and reporting system would be valuable to Flex Programs and participating hospitals and networks to help participants understand and document the impact of these quality improvement initiatives over time.

## **CONCLUSIONS**

The Flex Program has been an important source of funding, expertise, and support for quality improvement activities among CAHs. In the absence of the Flex Program, funding for quality improvement activities targeting the needs of these vulnerable rural facilities would likely be difficult to secure. In recognition of the resource and capacity limitations of CAHs related to

quality improvement, State Flex Programs have directed significant attention and resources to building and enhancing the capacity of CAHs to improve the quality of the services they provide through development of educational activities; QI networks and collaboratives; data collection and benchmarking tools; rural relevant quality measures; peer review programs; leadership development activities; and cultures of quality and patient safety at CAHs and among rural hospital advocates. The breadth of Flex Program quality improvement activities carries with it challenges in understanding and documenting the impact of these initiatives on the quality of care provided by CAHs. To address this problem, we have identified opportunities to enhance and refine the quality improvement activities sponsored by the Flex Program and better document the impact of their activities.

### **The Flex Program Needs a System for Documenting Quality Improvement Program Outcomes**

As discussed above, we currently lack evidence documenting the impact of State Flex Program quality initiatives on the quality of services provided by CAHs. State Flex Programs would be well served by the development of outcome measures for their quality improvement initiatives. The new Flex Grant Guidance seeks to move state Flex Programs in this direction.<sup>6</sup> The data provided by these outcome measures would enable them to better target their efforts and assist other states in adopting successful quality improvement models and/or modifying their existing programs. At the same time, the Flex Program in general would benefit from efforts to encourage the dissemination of information and data on the full range of quality improvement activities developed by State Flex Programs and allow states to focus on those activities proven to be successful.

## **A Core Set of Quality Measures and a System to Report on those Measures are Needed**

Despite the efforts of the Office of Rural Health Policy to encourage CAHs to publicly report data for at least one quality measure through *Hospital Compare*, 30% of CAHs do not do so.<sup>4</sup> Some Flex Coordinators report concerns expressed by CAHs about the lack of “rural relevance” for many of the *Hospital Compare* measures, the burden associated with using the CMS CART tool, the small numbers of cases/low patient volume of CAHs for many of the measures, and public reporting of quality data.

As described in this paper, a number of states have adopted their own sets of quality measures for their quality improvement and benchmarking initiatives. Many respondents believe their measures are more “rurally relevant” than those in *Hospital Compare*. While these initiative-specific measures have the advantage of being accepted by the participating CAHs, they limit comparability across benchmarking initiatives and do not allow the data to be used to report on the impact of the Flex Program or on the quality of services provided by CAHs in general. As mentioned earlier in the paper, there has been little agreement across these quality reporting and benchmarking efforts on the identification of a core set of QI measures that would be applicable to all CAHs. Despite respondents’ concerns over the “uniqueness” of CAHs and developing measures to meet the needs of hospitals participating in specific benchmarking initiatives, we believe CAHs and the Flex Program share a need for a common and consistent set of core measures focusing on diagnoses, conditions, and services across CAHs. These would likely include measures for pneumonia, heart failure, AMI, surgical services, patient transfers, and patient satisfaction in both inpatient and outpatient settings. Ideally, these core measures would be consistent with the core measures in *Hospital Compare* that are relevant to CAHs and reflect the primary conditions treated by CAHs and the mix of services they deliver.

A group of rural hospital quality experts convened by the National Rural Health Association in January 2010 as part of its Small, Rural Hospital Quality Metrics Project, funded by the Office of Rural Health Policy, supported the development of just such a set of measures. The *Report of Findings*<sup>7</sup> from that meeting recommended that small, rural hospitals (including CAHs and small, rural prospective payment system (PPS) hospitals) track measures for public reporting in the following core areas: pneumonia; heart failure; patient satisfaction using the Hospital Consumer Assessment of Healthcare Providers and System Survey; relevant AMI outpatient/ED measures; transfers (patient information); care coordination (measure endorsed by the National Quality Forum); a subset of the AHRQ patient safety indicators; and pressure ulcers. The report also identified the following additional areas for future consideration: pain management; deep vein thrombosis; and patient falls.

In light of this recognized need for a set of core quality measures relevant to CAHs, we compared the inpatient, ED, and outpatient quality indicators and measures developed by the quality reporting and benchmarking initiatives described in this study to those in *Hospital Compare* (See Table 1). In comparing these indicator sets, it is apparent that there are areas of consistent overlap in the measures developed by these quality reporting and benchmarking systems and a number of the measures and core areas in *Hospital Compare*. This finding suggests that efforts to develop a core set of measures specific to CAHs and other small, rural hospitals might be somewhat easier than some have suggested.

### **Incentives to Encourage CAHs to Publicly Report Quality Data are Needed**

As discussed earlier in this paper, study respondents identified concerns about public reporting as an impediment to participation in *Hospital Compare* by some CAHs. These concerns appear to be rooted in the perception that the *Hospital Compare* measures are not “rural



relevant,” although there is in fact considerable overlap between these measures and those in individual and multi-state CAH reporting systems as well as the potential for problems related to the public reporting of data based on the lower patient volumes experienced by most CAHs. Although these concerns are important, interest in public reporting of hospital quality data remains high and has been supported by key rural advocates including the National Rural Health Association.<sup>8</sup> Currently, CAHs do not have the same financial incentives as PPS hospitals to report quality data to *Hospital Compare*.<sup>§</sup> Although many state and national rural advocates believe that publicly reporting would have an inherent benefit for CAHs, a small percentage of CAHs (approximately 30%) seem reluctant to report publicly. These hospitals may need to be encouraged to report with more explicit, tangible incentives.

The American Recovery and Investment Act (ARRA) of 2009 may encourage additional CAHs to publicly report quality data by providing financial incentives to hospitals, including CAHs, to achieve standards of meaningful use of health information technology; one aspect of which is the reporting of quality measures to CMS.<sup>9\*\*</sup> It is important to note that, for the first time, CAHs will be required to publicly report quality data to CMS under the ARRA standards of meaningful use instead of being exempted as they were under *Hospital Compare*.

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<sup>§</sup> PPS hospitals are required to publicly report quality data through *Hospital Compare* or face a reduction in their annual payment update.<sup>10,11</sup> As CAHs are cost-based and do not receive an annual payment update, they have no financial incentive to submit their quality data to *Hospital Compare*.

<sup>\*\*</sup> ARRA provides for Medicare and Medicaid incentive payments to all hospitals, including CAHs, to attain standards of meaningful use of HIT. Under the Medicare incentive schedule, hospitals are eligible for incentive payments if they meet defined standards of meaningful use beginning in 2011. In subsequent years, these incentive payments decline by 25% per year until being phased out in 2015. In 2015, CAHs that do not meet standards of meaningful use will be subject to a reduction in Medicare reimbursement unless they can demonstrate significant hardship.<sup>12</sup> Under the Medicaid incentive schedule, all hospitals with at least 10% Medicaid patient volume that meet defined standards of meaningful use will be eligible for Medicaid incentive payments beginning in 2010. Medicaid incentive payment levels will decline in subsequent years with no payments allowed beyond 2016 unless the hospital received payment in the previous year. ARRA established a six year limit on Medicaid incentive payments.<sup>13</sup>

The extent to which the ARRA incentives will actually encourage additional CAHs to publicly report their quality measures to CMS is uncertain given that the reporting of quality data to CMS is only one aspect of meaningful use. In addition, rural advocates have raised concerns about the adequacy of the incentive payments available to CAHs compared to those available to PPS hospitals and the extent to which CAHs will be able to meet the standards established for meaningful use.<sup>14††</sup>. Given these issues, additional incentives and encouragement are likely to be needed to encourage the remaining CAHs to publicly report.

The Flex Program has been and remains an important source of funding and expertise supporting the quality improvement activities of CAHs. With the recent changes to the Flex Grant Guidance and the development of program outcome measures, it is an appropriate time to consider ways in which state Flex Programs can develop consistent measures that allow comparison across benchmarking systems and the production of data to describe the quality of services provided by CAHs and supported by the Flex Program.

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<sup>††</sup> In May 2009, the Congressional Budget Office estimated that only 45% of CAHs would be meaningful users of HIT by 2014 and only 50% by 2019.<sup>15</sup>

**Table 1. Hospital Reported Quality Measures: Comparison of Indicator Sets**

	<i>Hospital Compare</i>	<i>QHi</i>	<i>Idaho</i>	<i>Nevada</i>
<b><i>ACUTE MYOCARDIAL INFARCTION (AMI): Inpatient measures</i></b>				
AMI patients who received aspirin within 24 hours before or after hospital arrival	✓		✓	
Aspirin prescribed at discharge	✓			
Angiotensin converting enzyme inhibitor (ACEI) or angiotensin receptor blocking (ARB) for left ventricular systolic dysfunction (LVSD)	✓			
Adult smoking cessation advice/counseling	✓		✓	
Beta-blocker prescribed at discharge	✓			
Fibrinolytic therapy received within 30 minutes of hospital arrival	✓		✓	
Primary percutaneous coronary intervention (PCI) received within 90 minutes of hospital arrival	✓			
Knowledge transfer: # of patients where full medical records were provided to receiving facility			✓	
<b><i>ACUTE MYOCARDIAL INFARCTION (AMI): Outpatient (OP)/emergency department (ED) measures</i></b>				
Median time to fibrinolysis	✓			
Fibrinolytic therapy received within 30 minutes of ED arrival	✓			
% of eligible patients receiving thrombolytic therapy		✓		
Median time from ED arrival to transfer to another facility for acute coronary intervention	✓	✓		
Aspirin who received within 24 hours prior to ED arrival or prior to transfer from ED for chest pain	✓			✓
Acetylsalicylic acid (ASA/aspirin) administration for patients presenting to the ED with symptoms which initiate a course of action to rule out angina or myocardial infarction as the presenting diagnosis			✓	
Median time to from ED arrival to electrocardiogram (ECG) (performed in the ED prior to transfer)	✓			
% patients receiving electrocardiogram within 10 minutes of arrival (performed in ED prior to transfer)		✓	✓	
<b><i>HEART FAILURE: Inpatient measures</i></b>				
Discharge instructions	✓		✓	✓
Evaluation of left ventricular systolic (LVS) function	✓			
ACEI or ARB for LVSD	✓		✓	
Adult smoking cessation advice/counseling	✓		✓	✓
<b><i>PNEUMONIA: Inpatient Measures</i></b>				
Oxygenation assessment	Retired	✓		
65 and older patients screened for pneumococcal vaccine status and vaccinated prior to discharge, if	✓	✓	✓	✓

	<i>Hospital Compare</i>	<i>QHi</i>	<i>Idaho</i>	<i>Nevada</i>
indicated				
Blood cultures performed in the ED prior to initial antibiotic received in hospital	✓			
Adult smoking cessation advice/counseling	✓		✓	✓
Initial antibiotic received within 6 hours of hospital arrival	✓	✓	✓	
Initial antibiotic received within 4 hours of hospital arrival	Revised	✓		
Initial antibiotic selection for community acquired pneumonia in immunocompetent patients	✓		✓	
Influenza vaccination	✓			✓
Inpatients screened for pneumonia		✓		
<b><i>SURGICAL CARE IMPROVEMENT PROJECT: Inpatient Measures</i></b>				
Prophylactic antibiotic received within one hour prior to surgical incision	✓		✓	
Prophylactic antibiotic selection for surgical patients	✓		✓	
Prophylactic antibiotics discontinued within 24 hours after surgery end time	✓		✓	
Cardiac surgery patients with controlled 6 A.M. postoperative blood glucose	✓			
Number of surgical site infections			✓	
Surgery patients with appropriate hair removal	✓			
Patients with recommended venous thromboembolism prophylaxis ordered	✓			
Patients received appropriate venous thromboembolism prophylaxis within 24 hours prior/post surgery	✓		✓	
Patients on beta-blocker therapy prior to arrival receiving beta-blocker during perioperative period	✓			
<b><i>SURGICAL CARE IMPROVEMENT PROJECT: Outpatient Measures</i></b>				
Prophylactic antibiotic received within one hour prior to surgical incision	✓			
Prophylactic antibiotic selection for surgical patients	✓			
<b><i>HOSPITAL CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS AND SYSTEM SURVEY / PATIENT SATISFACTION</i></b>				
Nurse communication	✓			
Doctor communication	✓			
Responsiveness of hospital staff	✓			
The extent to which the patient felt ready for discharge (comparable to HCAHPS)	✓	✓		
How well pain was controlled (comparable to HCAHPS)	✓	✓		
How well staff worked together to care for the patient		✓		
Communication about medicines	✓			

	<i>Hospital Compare</i>	<i>QHi</i>	<i>Idaho</i>	<i>Nevada</i>
Cleanliness of hospital environment	✓			
Quietness of hospital environment	✓			
Likelihood of recommending this hospital to others (comparable to HCAHPS)	✓	✓		
Overall rating of care given to hospital (comparable to HCAHPS)	✓	✓		
<b><i>OTHER MEASURES: Inpatient measures</i></b>				
Medication omissions resulting in medication error as a percentage of hospital patient days		✓		
Medication errors resulting from transcription errors		✓		
Medication errors with severity index			✓	
Healthcare associated infection rate as a % of hospital inpatient days		✓		
Nosocomial infection rate (patients developing infection after 48 hours and up to 30 days after discharge (one year for implants); includes inpatient/swing bed admissions and outpatient procedures)			✓	
Utilization of insulin protocol (diabetes)			✓	
Readmits within 30 days with same or similar diagnosis <sup>vii</sup>		✓		
Unassisted patient falls		✓		
Congestive obstructive pulmonary disease (COPD)/asthma smoking cessation advice/counseling			✓	
<b><i>OTHER MEASURES: Outpatient (OP)/Emergency Department (ED) Measures</i></b>				
ER provider response times		✓		
Return ER visits within 72 hours with same/similar diagnosis		✓	✓	
# ED x-ray interpretations in which a discrepancy on over-read necessitated a change in the original treatment plan			✓	
Age Appropriate Vital Signs are Taken within 20 Minutes of Discharge from ED				✓

<sup>vii</sup> *Hospital Compare* includes indicators for readmission rates; however, these rates are calculated by CMS from claims data for readmissions for specific diagnoses (e.g., AMI, heart failure, pneumonia, etc.) to any hospital. This measure is self-reported by the CAHs for a patient readmitted to their facility for the same or similar diagnosis.

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## **APPENDIX. State by State Resource Guide**

This Resource Guide includes a brief summary of each quality improvement (QI) initiative identified by each state's Flex Coordinator. Also included is contact information for individuals involved in each state's QI initiatives.

### **ALASKA**

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#### **Contacts**

Contact Name: FAITH ALLARD

Telephone: 907-269-3456

Email: [faith.allard@alaska.gov](mailto:faith.allard@alaska.gov)

Organization: HEALTH PLANNING AND SYSTEMS DEVELOPMENT, DEPARTMENT OF  
HEALTH AND SOCIAL SERVICES

Position/Title: FLEX COORDINATOR

Contact Name: NOEL REA

Organization: WRANGELL MEDICAL CENTER

Position/Title: CEO

Contact Name: RANDALL BURNS

Organization: ALASKA SMALL HOSPITAL PERFORMANCE IMPROVEMENT NETWORK

Position/Title: DIRECTOR

Contact Name: DARLENE BAINBRIDGE

Organization: DD BAINBRIDGE ASSOCIATES

Position/Title: CONSULTANT

#### **Quality Improvement Initiatives**

##### **Frontiers in Healthcare Quality**

The program includes activities that focus around leadership development, risk management training, patient safety and satisfaction, strategic planning and board training. The program includes Quality Health Indicators (QHi) (led by DD Bainbridge Associates), a web-based program that was developed by a multi-state project, owned and managed by Kansas Hospital Association. Within QHi, there are approximately 114 measures that include clinical quality,



employee satisfaction, financial and operational measures, patient satisfaction, etc. There are eight core measures that are not publicly reported, but that can be used for benchmarking against other CAHs in the state. Although hospitals are blinded, they can contact the facility by email if they want more information about their activities and the hospital can reply if they choose, which will un-blind them. This allows for benchmarking with other small, rural hospitals.

CAHs are recruited into the program through the AK Small Hospital Performance Improvement Network (ASHPIN) during annual meetings. This initiative has been in place in AK for three years. After August of 2009, 9 out of 13 CAHs will be participating. This program is funded completely with Flex dollars.

### Contacts

Contact Name: ALLISON HUGHES

Telephone: 520-626-6253

Email: ahughes@U.Arizona.edu

Organization: RURAL HEALTH OFFICE - UNIVERSITY OF ARIZONA

Position/Title: STATE OFFICE DIRECTOR

Contact Name: PAM WENDALL

Organization: COBRE VALLEY COMMUNITY HOSPITAL

Position/Title: DIRECTOR OF QUALITY, EDUCATION, AND NURSING INFORMATICS

Contact Name: MICHAEL ZIMMERMAN

Organization: WHITE MOUNTAIN REGIONAL HOSPITAL

Position/Title: CEO

### Quality Improvement Initiatives

#### Contract with DD Bainbridge Associates

Arizona is now entering into their third year working with Darlene Bainbridge on their QI work. In the first year, they worked with her reviewing policies and swing bed manuals and doing inspections to see if they would pass state certification criteria. In year two, they introduced Quality Calendars for different departments in the hospitals (e.g., nursing, maintenance, etc.), which are done online and are very successful. In the upcoming third year with Bainbridge Associates, Arizona CAHs will start benchmarking with the Kansas multi-state initiative. Currently, there are five Arizona CAHs participating in this initiative.

#### EMS Online System Initiative

In an effort for all of the ambulance systems in Southern AZ to improve their revenue systems to improve service, they have developed an online reporting system that is in its fifth year of implementation. The State Bureau of EMS matches Flex funding on this joint project. All ambulances servicing the CAHs in southern AZ are involved (they also serve non-CAHs as well). When an ambulance picks up a patient and transfers to the CAH/tertiary, they get into the hospital, go to the computer and immediately enter data about transfer and billing process into the online centralized system. The Flex program gets a copy of the transfer data once a year so that they can see the number of transports, where they went, and reason and if any medications

were given. By seeing those data, they can indicate which CAHs were bypassed. They then think about why the connection was not made to the CAH - maybe they didn't have staff or capacity, or maybe it was the patient's preference. This provides Flex with valuable information - if patients don't trust a CAH, they want the CEO, medical officer and nursing officer to look at the data and see what is wrong with the quality of their hospital so that patients don't want to go there.

The Flex Program is also working tightly with the Bureau of EMS to better understand the process of getting rural hospitals in the state a Level 4 trauma designation (minimal designation) for dealing with trauma. Flex has offered small hospitals \$3,500 to explore and apply for designation. Ambulances are much more likely to take patients to a hospital with that designation. And the local community will be aware of the designation as it is often well publicized. So far there are six CAHs that have applied for the money – 3 have received it and 3 more are in the process of applying. Overall, it enhances quality and capacity to treat trauma patients better.

#### Ongoing Training Webinars

Flex coordinates ongoing training programs/webinars for CAHs and do their own evaluations. Results are included in the Flex grant report and results are used to design future trainings webinars based on what CAH staff want.

## GEORGIA

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### Contacts

Contact Name: PATSY WHALEY

Telephone: 229-401-3092

Organization: GEORGIA STATE OFFICE OF RURAL HEALTH

Position/Title: DIRECTOR OF HOSPITAL SERVICES

Email: pwhaley@dch.ga.gov

Contact Name: LEWIS KELLEY, DEXTER SHOOK

Organization: CHATUGE REGIONAL HOSPITAL

Position/Title: CEO, QA Nurse

Contact Name: JO PARKS

Organization: TANNER MEDICAL CENTER/HIGGINS GENERAL HOSPITAL

Position/Title: QUALITY COORDINATOR (RN)

Contact Name: NORMA JEAN MORGAN

Organization: EFFINGHAM HOSPITAL

Position/Title: CEO

### Quality Improvement Initiatives

#### External Peer Review Program

This initiative we started in 2007 because of an expressed need by CAH CEOs to sanction peer review. So far this year reviewers (all are CAH staff) have reviewed 13 critical records. They look at actual medical records of cases that have fallen out, review and make a determination about the level of care and make recommendations for improvement. This allows for a more objective evaluation of a physician's management of a case. These reviews are not publicly reported, but only shared with the specific CAH that had the case being reviewed. There are now 9 CAHs who have gone through the enrollment application process to be part of the peer review program, with 3 more CAHs currently in the process of completing applications for enrollment. Departments involved include: general surgery, orthopedics, family practice, pediatric, ob-gyn, ophthalmology, and podiatry, etc. involved.

#### CORE Program

This is a continuous QI initiative with the CMS Core measure program. It is a structured program focused on patient safety and quality of care and outcomes. Data are collected through a

program for CAHs used for privileging and QI. The public does have access to these data, though they are reportable to Hospital Compare. Benchmarking with other hospitals in the aggregate is possible. Over 80% of CAHs in the state are currently reporting.

Georgia has also developed a QI collaborative across the state with 5 CAHs involved, where QI professionals come together and talk about issues, share best practices, and also provide TA and consultation through webinars, email consultations and onsite visits. This collaboration has helped to get QI professionals together to share experiences, information, tools, forms, policies, and best practices.

#### *Outpatient QI Program*

This is an expansion of the CORE QI program. It was developed based on the knowledge that CAHs do not have to set their pay schedules, but that the outpatient measures that CMS has are more indicative of the services that CAHs provide than other measures. The problem with CMS core measures is that CAHs usually have a very small number of cases/records to measure. By putting outpatient measures into the QI program, the sample that could be measured in CAHs was significantly increased. CAHS adopted seven quality measures for outpatient quality reporting. With this, they developed accompanying technology – conversion tools for data entry, exporting data to hospital compare, CMS and the Hospital Association website. This program is still in the process of being developed and tested.

**Contacts**

Contact Name: MARY SHERIDAN

Telephone: 208-332-7212

Organization: STATE OFFICE OF RURAL HEALTH & PRIMARY CARE

Position/Title: SORH DIRECTOR/FLEX COORDINATOR

Email: Sheridam@dhw.idaho.gov

Contact Name: GERI GARTEN

Organization: BOUNDARY COMMUNITY HOSPITAL

Position/Title: DIRECTOR OF PATIENT SERVICES, RN

Contact Name: SUE KURRUK

Organization: SYRINGA HOSPITAL & CLINICS

Position/Title: DIRECTOR OF QUALITY & RISK MANAGEMENT

**Quality Improvement Initiatives**

*On-line clinical measures secure database*

This initiative, which began in 2003 before CART and CMS Hospital Compare, allows CAHs to report on 25 clinical measures. These measures align with CMS measures to avoid dual reporting. Hospitals can look back historically at their data and can benchmark with other Idaho hospitals (not nationally). The data are not publicly reported. Currently, approximately 21 of the 26 CAHs report to this system, although it varies by quarter.

*TeamSTEPPS*

TeamSTEPPS, a patient safety initiative, developed by the Department of Defense's Patient Safety Program in collaboration with the Agency for Healthcare Research and Quality, that was adopted in Idaho beginning in March 2009. The program is an evidence-based teamwork system designed to improve communication and teamwork skills within healthcare settings. The program uses a train-the-trainer system, where CAH staff take part in intensive patient safety, communications and teamwork building trainings, then bring the information back to their facility. Currently, nine Idaho CAHs are participating, with trainings being held at two locations in the state.

## KANSAS

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### Contacts

Contact Name: JANE FAUBION

Telephone: 785-291-3796

Organization: OFFICE OF LOCAL & RURAL HEALTH SYSTEMS, KANSAS  
DEPARTMENT OF HEALTH & ENVIRONMENT

Position/Title: SORH DIRECTOR/FLEX COORDINATOR

Email: [jfaubion@kdheks.gov](mailto:jfaubion@kdheks.gov)

Contact Name: CHRIS TILDEN

Organization: KANSAS BUREAU OF LOCAL & RURAL HEALTH

Position/Title: DIRECTOR

Contact Name: JODI SCHMDT

Organization: HAYS MEDICAL CENTER

Position/Title: VICE PRESIDENT

### Quality Improvement Initiatives

#### Quality Health Indicator (QHi) Project and the Health Quality in Rural America (HQRA) Initiative

Developed through the Kansas Hospital Association and the Kansas Office of Rural Health, the Quality Health Indicator Project (QHi) is a multi-state benchmarking project designed for small rural hospitals to compare selected measures with other similar hospitals. Participating facilities enter data monthly from four categories of measurement: clinical quality, employee contribution, financial operational, and patient satisfaction. There are about 50 measures in the library of indicators. All participants are asked to collect a subset of eight core measures, but facilities can select as many of the additional measures as they wish. Reporting options include customizable dashboards, which display the last three months' average of the hospital's performance on selected measures as compared to their state and all of QHi. In addition, reports may be run on individual measures where hospitals create a self-defined peer group for comparison.

Initially developed specifically for Critical Access Hospitals, the the Health Quality in Rural America (HQRA) Initiative has expanded to include rural hospitals with less than 50 beds. Sixty-three Kansas hospitals and 155 hospitals nationwide currently participate in the project. Nearly every CAH in Kansas (81 out of 83) participates in HQRA, the multi-state QI/PI program.

### Mock Surveys

These surveys are conducted in CAHs so that they can predict where their deficiencies are related to quality. The program was developed to assist Kansas CAHs in staying current with state survey requirements, including the Medicare Conditions of Participation. Hospital personnel interested in being trained as mock surveyors submitted applications and three groups of six trainees were chosen. Hospitals willing to serve as training sites also applied and three were chosen. CAHs that were chosen were not permitted to announce their upcoming role as a training site. At the end of these sessions, eighteen hospital employees from across the state will have been trained to conduct mock state surveys and will take valuable information back with them to their own CAH. All trained mock surveyors have also agreed to partner with a fellow trainee and conduct at least one other CAH survey. The CAHs should now be better prepared for their real state survey.



## MONTANA

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### Contacts

Contact Name: CAROL BISCHOFF  
Telephone: 406-457-8016  
Organization: MHA  
Position/Title: FLEX COORDINATOR  
Email: carol@mtha.org

Contact Name: KATHY WILCOX  
Organization: MHA  
Position/Title: RURAL HOSPITAL QUALITY COORDINATOR

Contact Name: LINDA MATRANGA  
Organization: PIONEER MEDICAL CENTER, BIG TIMBER, MT  
Position/Title: QUALITY COORDINATOR

Contact Name: MARIA KOSLOSKY  
Organization: BARRETT HOSPITAL AND HEALTHCARE, DILLON, MT  
Position/Title: QUALITY SERVICES DIRECTOR AND COMPLIANCE OFFICER

### Quality Improvement Initiatives

#### Performance Improvement Network (PIN)

All 47 CAHs in Montana are members of the PIN, but not all participate in all activities. This program is a subset of Flex Program, which helps coordinate the network activities. PIN members are invited to an annual Quality Improvement Showcase, where hospital QI coordinators gather to discuss quality issues. Meetings are evaluated annually to better serve the needs and current interests of PIN members related to quality. The PIN provides CAHs with resources at other hospitals, which has been a powerful exercise. It has created a comfort level and lines of communication among members, so that they do not feel they are working in isolation. There is also a PIN list-serve, which is widely and regularly used by members to share questions, ideas, and best practices.

#### Champions for Quality Meetings

The Champions for Quality meeting is an annual medical staff leadership conference held each summer for providers and other staff that has taken place for the past five years. Providers gather

to gain knowledge about current medical information, for which they can receive CMEs. Implementation of quality initiatives in CAHs is encouraged at the meetings. Agendas for meetings are largely determined by information the providers want. Teams from CAHs are encouraged to attend. Tertiary centers and larger hospitals have also been invited in an effort to build relationships between CAHs and tertiary hospitals.

### *Clinical Improvement Studies*

A key component of the Champions for Quality Meetings is around Clinical Improvement Studies – data and findings are discussed at each conference. For example, this year the study for QI was about wound care. Studies are coordinated by the Rural Hospital Coordinator, and involve input from frontline hospital staff regarding areas in which they need to work on clinical improvement. Once topics have been narrowed down, the committee gathers to discuss evidence based measures and guides on the final topic. Once the committee approves the study, it goes out to network. There are generally two studies occurring at any given time. CAHs are divided into 5 peer groups and are sorted by volume, ER visits, outpatient visits, and inpatient admits over the year. They need to be divided so the data makes sense and so that they have comparable data.

Approximately 30-32 facilities participate per study and the data collection period is usually about 4-6 weeks. Participants submit data on 20 or so questions, which is sent to the coordinator who prepares personalized reports for each CAH and as compared to their peer group aggregate. In the 6 months following, hospitals work on a QI project to address topic that was assessed in study.

## NEBRASKA

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### Contacts

Contact Name: DAVE PALM

Telephone: 402-471-0146

Organization: OFFICE OF RURAL HEALTH

Position/Title: FLEX COORDINATOR

Email: [david.palm@nebraska.gov](mailto:david.palm@nebraska.gov)

Contact Name: JOHN ROBERTS

Organization: NEBRASKA RURAL HEALTH ASSOCIATION

Position/Title: EXECUTIVE DIRECTOR

Contact Name: KATHERINE JONES

Organization: UNIVERSITY OF NEBRASKA MEDICAL CENTER (UNMC)

Position/Title: TEAMSTEPPS RESEARCHER/COORDINATOR

Contact Name: MONICA SEELAND

Organization: NEBRASKA HOSPITAL ASSOCIATION

Position/Title: VICE PRESIDENT OF QUALITY INITIATIVES

### Quality Improvement Initiatives

#### TeamSTEPPS

TeamSTEPPS, a patient safety initiative, developed by the Department of Defense's Patient Safety Program in collaboration with the Agency for Healthcare Research and Quality. The program is an evidence-based teamwork system designed to improve communication and teamwork skills within healthcare settings. The program involves a train-the-trainer system, where CAH staff take part in intensive patient safety, communications and teamwork building trainings, then bring the information back to their facility. Nebraska has 34 CAHs that are at some stage of TeamSTEPPS training. Every hospital takes part in a patient safety culture survey that AHRQ developed about 5 years ago. It helps to develop a blameless patient safety culture and gives hospitals and a sense of where they stand. Staff members go through the TeamSTEPPS training, which is followed up with conference calls and bimonthly meetings where people come together and share experiences. After approximately a year and a half, hospitals retake the patient safety survey and to see how things have changed.

### Balanced Scorecard

This is an internal tool for CAHs to use so that they can look at their own data over time. This scorecard does not include benchmarking with other facilities. The scorecard has four sectors – financial, customer satisfaction, staffing, and internal processes, with indicators in each area. Not all the balance scorecards look alike across hospitals, but they do cover the four sectors. CAHs are given an orientation, where they look at their strategic objectives and organize them into a scorecard – it is customized for each CAH. They get help collecting the data the first time when putting the scorecard into place and the process is discussed with the hospital board and staff. 33 CAHs have participated over the past five to six years, but approximately 20 CAHs are “really” using the scorecard. Scorecard results are not readily available to the public, although they are presented at hospital board meetings.

### Executive Fellowship Program

This program hinges on the theme of leadership and culture. The program is in its second year where eight CAH administrators per year are put through a fellowship program where the focus is on improving quality and performance. Potential fellows must apply to the program. Experts come in and talk to fellows about systems thinking – how you should get out of the current “box” and start thinking about systems. This is a four-day session. All eight fellows are required to attend all four days of training. Each fellow does a subsequent project within their hospital related to QI and PI.

## NEVADA

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### Contacts

Contact Name: JOHN PACKHAM

Telephone: 775-784-1235

Organization: UNIVERSITY OF NEVADA SCHOOL OF MEDICINE

Position/Title: FLEX COORDINATOR

Email: [jpackham@medicine.nevada.edu](mailto:jpackham@medicine.nevada.edu)

Contact Name: STEVE BOLINE

Organization: NEVADA RURAL HEALTH PARTNERS

Position/Title: REGIONAL CFO

Contact Name: LINDA GARRETT

Organization: LIABILITY COOPERATIVE OF NEVADA

Position/Title: LiCON RISK MANAGER

Contact Name: JUDI BENVENUTO/LISA ANDRE

Organization: BATTLE MOUNTAIN GENERAL HOSPITAL

Position/Title: RISK MANAGER & QUALITY ASSURANCE COORDINATOR

Contact Name: TONI INSERRA

Organization: SOUTH LYON MEDICAL CENTER

Position/Title: DIRECTOR OF QUALITY ASSURANCE & RISK MANAGEMENT

### Quality Improvement Initiatives

#### Rural hospital benchmarking initiative

For the past few years, the Flex program has been developing a web-based financial performance monitoring system to get facilities to adopt a network approach to related issues. This monitoring system has a quality component. There have been varying degrees of adoption among small hospitals, although all 10 CAHs in the state are submitting data on quality measures. This system is available to all CAHs and CAH eligible hospitals. For quality measures, there is a contract with CCD – a vendor that NRHP uses for quality measures ([www.ccdsystems.com](http://www.ccdsystems.com)). The initial focus was on incident reporting for those facilities. In the spirit of developing rural relevant measures, they developed measures that can be utilized for rural hospitals. Rural relevant measures include: aspirin for chest pain, congestive heart failure (CHF) patients given discharge instruction, CHF patients are given smoking cessation advice or counseling, pneumonia (PN)

patients are assessed and given PN vaccine, PN patients are given smoking cessation advice or counseling, PN patients are assessed and given influenza vaccine, and age-appropriate vital signs are taken within 20 minutes of discharge from the emergency department. They are also working on some transfer measures that are important for rural hospitals. All reporting is internal – there is no public reporting. Hospitals can compare themselves to others within the state.

### Balanced Scorecard

The Nevada Flex program has been trying to develop internal capacity and have developed a protocol to help small facilities implement balanced scorecards in part by using benchmarking data. Once hospitals develop strategic objectives they are encouraged to use the data they are already collecting as part of their balanced scorecard. The Flex office has worked closely with 2 facilities to develop them and plan to do one year assessments with their scorecards. There have been varying levels of interest across CAHs, but they hope to have a third hospital participate during the summer/fall of 2010.

### Patient & Employee Climate Surveys

The Flex program is developing in-house expertise to assess both customer satisfaction and employee satisfaction survey instruments to be used in CAHs. A Flex-supported Health Services Research Analyst is devoted to developing and administering the patient satisfaction instrument in patient unit and clinics. These surveys are available to any facility that requests them. The surveys are one page, scan-able forms that can be customized for any facility to help them create a methodology for systematically collected data. Once the data is collected, the analyst provides the facility with a summary and will present findings to the hospital board if requested. Those that have used it are pretty much on auto pilot.

Some facilities have expressed a need and requested employee satisfaction surveys to identify need for improvements. The Flex program has been able to provide this service, including follow-up surveys, to any requesting CAH or SHIP hospital in Nevada. Facilities that have utilized this tool have showed improvement.

## WASHINGTON

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### Contacts

Contact Name: MIKE LEE

Telephone: 360-236-2807

Organization: WASHINGTON DEPARTMENT OF HEALTH

Position/Title: FLEX COORDINATOR

Email: mike.lee@doh.wa.gov

Contact Name: BRENDA SUITER

Organization: WASHINGTON STATE HOSPITAL ASSOCIATION

Position/Title: VICE PRESIDENT – RURAL AND PUBLIC HEALTH

Contact Name: RANDY BENSON

Organization: RURAL HEALTH QUALITY NETWORK (RHQN)

Position/Title: EXECUTIVE DIRECTOR

Contact Name: TOM MARTIN

Organization: LINCOLN HOSPITAL, DAVENPORT

Position/Title: ADMINISTRATOR

### Quality Improvement Initiatives

#### Rural Healthcare Quality Network (RHQN)

The 38 CAHs that participate in the RHQN are required to contribute funds into the network in an amount that depends on the size of their hospital. This money is primarily used to support a physician peer review program that has had a large impact on quality in the state's CAHs. There is a plan for the Flex office to slowly reduce the funding so that CAHs can move toward self-funded model.

The peer review, or "Circuit Rider" program, employs two physicians who start out visiting each hospital quarterly, meeting with staff, reviewing charts and sharing observations/feedback and submit an annual report to the administrator. It is a rather expensive and invasive program, but it allows sharing knowledge and best practices and avoiding problems before they occur. The peer reviewers point out where physicians are drifting from best practices and point out facilities that are excelling in that particular area. Contact names and resources are offered to facilities to help them gain knowledge from other hospitals.

This process began in a smaller network of 6 CAHs and was then expanded to all 38. Facilities do drop out of the network sometimes due to funding, but some have arranged to contract with the physicians independently in order to continue with the process.

#### *Flex EMS Rapid Transport for Cardiac/Stroke Initiative*

This program involves collaboration between the Flex office and the state EMS division. The program streamlines the process for rapidly transferring chest pain patients from rural areas/CAHs to a larger facility in Spokane. The process, which used to take several hours, can now be completed in 90 minutes. According to the literature, this can help to improve clinical improvement and survival rate. This program has generated a similar initiative, which is working on the rapid transport of stroke patients and has sparked interest in developing similar protocols for the treatment of other diseases. The program has allowed rural facilities and EMS to engage with urban centers in new ways, to weed out redundancies and eliminate wasted time. This form of systems improvement increases quality in these communities.

#### *Hospital Compare Initiative*

Approximately half of the state's CAHs are participating in Hospital Compare to collect the four rural compare measures. Most that are participating are exceeding three of the four goals. Some hospitals not reporting were "shadow" participating – that is, they are collecting/sending the data, but not making it public at this time.