

Chapter 3B

The Maturation of CAH Quality Assurance (QA) and Quality Improvement (QI) Strategies¹

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Introduction

One of the five primary goals of the Rural Hospital Flexibility Program (Flex Program) is to improve the quality of care provided to rural residents in the service areas of critical access hospitals (CAHs). The implementation of the Flex Program coincided with increased hospital industry interest in enhancing QA/QI activities as well as two reports from the Institute of Medicine (IOM) that have served as catalysts for national attention to and proposed action on quality and patient safety (Institute of Medicine, 2000, 2001). All of the above created a unique window of opportunity for small rural hospitals across the United States to address quality of care challenges in rural settings. These challenges include (Coombs, 2001):

- Inadequate numbers and types of providers and staff;
- Incomplete services across the full continuum of care;
- Inadequate financial resources (partly due to differentials in rural/urban reimbursement from government programs);
- Lower volume which may make trending and learning from errors more difficult;
- The lack of a cooperative system for sharing of resources to address quality issues or benchmark outcomes;
- Distance and geographic barriers;
- Limited management information support for both clinical services and measurement/tracking of quality; and
- Perceived inappropriateness of accreditation standards for rural hospitals.

We anticipated that states and CAHs initially would target other components of the Flex Program (e.g., CAH designation, network development, emergency medical services [EMS] systems) before using their resources to address quality of care issues. Our first survey of, and initial site visits to, CAHs and states (in 2000) identified substantial interest in QA/QI activities despite the fact that only 16 percent of CAHs were Joint Commission on Accreditation of Healthcare Organizations (JCAHO) accredited. Significant CAH activities to improve quality of care

¹ Quality assurance is the activities and programs intended to provide adequate confidence that the quality of patient care will satisfy stated or implied requirements or needs. Quality improvement is the attainment, or process of attaining, a new level of performance or quality that is superior to any previous level of quality (see www.arhq.gov/qual).

included the development of relationships with an affiliated hospital, enhanced case management and discharge planning, expanded QA/QI staff, improved training and retention of staff, upgrades in equipment, and improved policies/procedures resulting from the survey process.

This chapter continues our analysis of the strategies used by CAHs to enhance their QA/QI activities and assesses whether the level of activity related to quality of care issues has increased as the CAHs have matured. The chapter also documents the best practices of two states and CAHs that have developed innovative QA/QI programs. The data sources for this chapter include:

- Telephone surveys of CAHs certified as of September 1, 2000 (n=217, survey fielded in late 2000 - early 2001) and May 1, 2001 (n=388, survey fielded in late 2001 - early 2002), and
- Site visits to Minnesota and Nebraska that included interviews with the key individuals involved with QA/QI activities from CAHs, state agencies, quality improvement organizations (QIOs), state hospital associations, affiliated hospitals, and network/system links.

CAH QA/QI Activities

The two phone surveys of CAHs collected detailed information on the range of quality-related activities, the characteristics of post-conversion QA/QI efforts, the involvement of external entities with QA/QI activities, and internal and external barriers to addressing the QA/QI needs of CAHs. Key findings from the surveys include:

1. *The vast majority of CAHs are involved in a broad range of QA/QI activities. These activities have been strengthened over time as the Flex Program and CAHs have matured.*

In the initial survey in late 2000, almost all (i.e., 99 or 100%) CAHs reported the use of continuing education (CE) programs for staff, medical error reporting policies, systems to avoid or prevent medical errors, and hospital QA/QI training initiatives. In addition, 87 percent of CAHs used data collection approaches for staff feedback.

All of these activities were reported to be stronger over time after CAH conversion, with statistically significant differences found for CE staff programs, systems to avoid/prevent errors, and data feedback to staff. Table 1 shows differences over time between all CAHs surveyed in late 2000 (n=217) and late 2001 (n=388), and those CAHs surveyed in late 2000 that also were surveyed in late 2001 (n=210). These findings are not surprising given the recent emphasis of the IOM reports on patient safety/medical errors and the emphasis on implementing a systems approach for QI.

Table 1. CAH Quality-Related Activities

	Post-CAH Status					
	11/00 (n=217)		11/01 (n=388)		11/01 (for 11/00 Group, n=210)	
	Stronger	Weaker	Stronger	Weaker	Stronger	Weaker
CE Programs for Staff	38%	2%	57%*	1%	60%*	1%
Medical Error Reporting Policies	46%	1%	53%	1%	57%	1%
Systems to Avoid/Prevent Errors	50%	1%	61%***	0%	65%**	0%
Hospital QA/QI Training Initiatives	52%	1%	58%	1%	61%	1%
Data Feedback to Staff	33%	1%	53%*	0%	53%*	0%

*p<.001

**p<.01

***p<.05

All comparisons are with 11/00 status.

Chief executive officers (CEOs) reported that the activities that changed the most since conversion were CE programs for staff (25%), data collection for staff feedback (25%), systems to avoid/prevent errors (17%), medical error reporting policies (17%), hospital QA/QI training initiatives (7%), and other activities (9%). Examples of these changes include:

- CE programs – cheaper and more available with tele-education and the support of an affiliate hospital
- Data collection for staff feedback – greater use of employee and patient surveys, more benchmarking with the affiliate and other small rural hospitals, and improved computer systems
- Systems to avoid/prevent errors – new oversight systems and dedicated staff, culture change that emphasizes QI rather than provider punishment
- Medical error reporting policies – blame-free reporting, tracking near misses

In a similar manner, CAH administrators reported that a range of hospital QA/QI characteristics improved or remained stable after conversion. Statistically significant differences were found over time in four of the six characteristics for those CAHs surveyed both in late 2000 and late 2001 (See Table 2). The largest increases over time were in the appropriateness of credentials and the use of transfer protocols. These results likely were stimulated by Flex Program and

industry efforts that support regional credentialing and recognize the importance of referral/transfer decisions in the quality of health care provided to rural residents.

Table 2. Post-Conversion QA/QI Characteristics

	11/00 (n=217)		11/01 (n=388)		11/01 (for 11/00 Group, n=210)	
	Increased	Decreased	Increased	Decreased	Increased	Decreased
Pooling/Coordinating Resources	52%	0%	57%	1%	61%***	1%
# Available QA/QI Staff	31%	5%	33%	4%	35%	5%
Appropriateness of Credentials	19%	1%	31%**	2%	36%*	3%
Use Critical Pathway Protocols	35%	1%	42%	21%	44%**	3%
Use Admission Protocols	38%	1%	43%	1%	47%	1%
Use Transfer Protocols	43%	1%	54%***	1%	57%***	1%

*p<.001

**p<.01

***p<.05

All comparisons are with 11/00 status.

2. The most significant post-CAH activities that contribute to improving quality of care in the CAH are the redefinition of QA/QI processes, and improved staffing.

In response to an open-ended question, CAH administrators identified a range of activities that made the most significant contribution to improving quality in their hospital (see Table 3). The most frequently identified activities were redefining QA/QI processes and improved staffing. Redefining QA/QI processes involved greater formalization of policies and procedures, increased emphasis on QI as compared to QA throughout all hospital departments, and increased participation in network-wide QI activities that used the affiliate hospital as an anchor. Staffing improvements resulted from increased reimbursement that allows CAHs to be more competitive with salaries for staff. This has led to improved and more stable physician and nurse staffing with greater cooperation from these staff in QI activities, as well as the hiring of staff (e.g., QI coordinator) dedicated to the development and implementation of QI activities.

Table 3. Most Significant Post-CAH Activity to Improve Quality of Care (11/01)

Redefining QA/QI Processes	17%
Improving Staffing	15%
Enhanced Case Management and Use of Protocols	9%
Upgrading Equipment	7%
New Patient Safety, Medical Errors and Risk Management Initiatives	6%

3. Substantial support from affiliated hospitals, quality improvement organizations (QIOs), and state hospital associations enabled CAHs to participate in relevant QA/QI activities.

In late 2001, almost half of CAHs participated in QA/QI activities with their affiliated hospital, almost half participated with their QIOs above and beyond requirements set by federal statute and regulation, and almost one-third of CAHs participated with their state hospital association (see Table 4). Affiliated hospitals typically provided consultation and oversight of CAH QA/QI activities through staff mentoring and training, technical support for program design, review of transfers/referrals, integration of QA/QI activities with the CAH, and review of policies and procedures. CAHs typically participated in disease or diagnosis-based “projects in a box” with the QIOs. These projects frequently involved the use of critical pathways and/or protocols for conditions such as congestive heart failure, pneumonia, trauma, and diabetes and for patient transfers. The increased CAH relationships with QIOs occurred prior to recent requirements for QIO linkages with rural hospitals. State hospital associations typically provided CAHs with expertise in data collection and benchmarking, including help with completing chart reviews, developing surveys, identifying relevant quality measures, and longitudinal tracking of quality markers.

Table 4. Involvement of External Entities with QA/QI Activities of CAHs (11/01)

Affiliated Hospital (e.g., consultation and oversight)	47%
QIOs (e.g., participated in project in a box)	45%
State Hospital Association (e.g., data collection and benchmarking)	32%

Prior to CAH conversion, more than three-quarters of CAHs had no external provider linkages to support QA/QI activities. This was reduced to 35 percent by late 2001 (see Table 5). Almost all of this reduction was due to new linkages developed between CAHs and their affiliated hospitals.

The emphasis of the Flex Program on quality of care issues and network development has paid off in terms of increased interest and support for quality improvement activities in CAHs.

Table 5. CAH Linkages for QA/QI Activities

	Pre-CAH	11/01
None	77%	35%
Affiliated Hospital	10%	50%
Other Affiliated Provider	3%	11%
Non-Affiliated Provider	10%	4%

4. The most salient barriers to addressing QA/QI needs in CAHs relate to the scale of the facility and the limited availability of financial resources to make necessary changes in QA/QI activities.

CAH administrators identified the small medical staff and small patient volume as major internal barriers to addressing the QA/QI needs of their facility (see Table 6). These factors were viewed as greater hurdles to overcome than factors such as management information system capacity and staff technical expertise, which have been identified as possible underlying causes of the quality chasm described in the IOM report (Institute of Medicine, 2001; Newhouse, 2002).

Table 6. Internal Barriers to QA/QI in CAHs (11/01)

	% Indicating Barrier Is Very or Extremely Difficult
Small Medical Staff	44%
Small Volume	39%
Limited Information System Capacity	32%
Limitations of Staff Technical Expertise	29%
Applicability of Accreditation Criteria	20%

The administrators identified the lack of fiscal resources as the major external barrier to addressing the QA/QI needs of CAHs (see Table 7). The lack of relevant payment policies that provide incentives for improved quality and the difficulty in getting administered prices set at the right level have been postulated as major forces affecting QI efforts by health professionals (Institute of Medicine, 2001; Newhouse, 2002). State regulations and cooperation and assistance from state agencies and affiliated hospitals were not perceived by CAH CEOs as important external barriers to addressing QA/QI needs.

Table 7. External Barriers to QA/QI in CAHs (11/01)

	% Indicating Barrier Is Very or Extremely Difficult
Availability of Financial Resources to Make Changes	44%
Availability of Consulting Services	17%
State Regulations	15%
Support Hospital Cooperation	10%
State Office of Rural Health Assistance	6%

Best Practices of Flex QA/QI Programs

We reviewed the state Flex Program grant proposals and held discussions with state office of rural health (SORH) staff to identify states and CAHs that have developed innovative QA/QI programs. The criteria for selecting best practices for site visits included:

- Programs must be rural relevant and generalizable to other rural environments.
- Programs must be linked to practical goals and be data-driven.
- Programs must receive strong support from the SORH grantee.
- Programs must involve CAHs with leadership willing to make the relevant intellectual and financial investment.
- Programs must have linkages with supportive external entities such as an affiliate hospital, QIO, and/or state hospital association.

Based on the criteria listed above, we selected Minnesota and Kansas as the grantees having the best practices of Flex Program QA/QI programs. Site visits to each state included two days of interviews with individuals knowledgeable about QA/QI activities, including the staff at two CAHs (e.g., the CEO, Medical Director, Director of Nursing, QA/QI Administrator), state agencies (e.g., SORH, licensing and certification), QIOs, state hospital associations, affiliated hospitals and network/system links.

Enhancing CAH QI Activities in Minnesota through Comprehensive Technical Assistance and Strong Links with the QIO

The Office of Rural Health and Primary Care (ORHPC), Minnesota Department of Health is the grantee for the Flex Program in Minnesota. From the start, ORHPC has viewed the Flex Program as an opportunity to strengthen the rural health infrastructure in the state rather than simply a vehicle for providing cost-based reimbursement to small rural hospitals. As part of this broader vision, ORHPC has used Flex grant dollars to support network development, EMS and quality of care initiatives as well as the conversion and designation of CAHs.

Planning and direction for Flex Program activities has been stimulated by the 32-member Statewide Flex Program Advisory Committee. The broad membership of the committee represents rural providers, the ORHPC Minnesota Hospital and Healthcare Partnership, Minnesota Council of Health Plans, State Rural Health Association, State Nurses Association, State Medical Association, the Medicare Fiscal Intermediary, the Minnesota Center for Rural Health, Stratis Health (QIO), Emergency Medical Services Regulatory Board, State Department of Human Services, Department of Health (survey unit), Association of Minnesota Counties, congressional and senatorial offices, and the Speaker's Office of the state legislature. The Advisory Committee has taken an active and informed role and provided a steady source of support for ORHPC.

An initial priority for ORHPC was to assist hospitals to meet the survey requirements for certification. Extensive staff time was invested in understanding the survey process and the expectations of the surveyors and hospitals. ORHPC staff provided substantive assistance to hospitals applying for CAH conversion including templates of quality assurance and credentialing agreements, grant support to update policies and procedures, education for hospital staff on the CAH survey protocols, and mock licensing surveys. The goal of this effort was to minimize the need for corrective action by the survey team. The remarkable result was that only one hospital that took advantage of ORHPC assistance was identified with a survey deficiency.

ORHPC also used Flex funds to support quality-related training for nurses and emergency medical technicians (EMTs) that has been used by networks of hospitals, EMS squads and county health departments. One innovative project (based in Grant Marais, MN) developed a new curriculum that trained nurses to qualify for the state EMT certification exams. This should increase local capacity for providing staff support for ambulance runs.

ORHPC has developed closer working relationships with the Emergency Medical Services Regulatory Board that coordinates EMS activities in the state. Since early 1999, the EMSRB has been developing an outcomes data collection system consistent with the U.S. Department of Transportation's EMS data dictionary. ORHPC provided a \$25,000 mini-grant from Flex funds to support an effort to create a web-based technology package for the EMS database. This activity involves data collection over the Internet on pre-hospital care for all ambulance users by approximately 40 ambulance services across rural Minnesota.

Once the CAHs got past the hurdle of licensure surveys, many had substantial interest in QI activities. The development of a strong working relationship between ORHPC and the QIO, Stratis Health, has provided a strong foundation for developing and supporting CAH-related QI activities. Stratis Health has been very active with the Flex Program since its beginning. Their prior involvement in quality-related activities with small rural hospitals in Minnesota laid the groundwork for the QIO to work collaboratively with ORHPC and CAHs on QI activities. Stratis Health was enthusiastic about its role in Flex QI activities and viewed this as part of their overall responsibilities for improving the quality of care delivered to Medicare beneficiaries. More than 40 percent of Medicare beneficiaries in Minnesota live outside urban areas (i.e., in non-metropolitan statistical areas [MSAs]). This level of QIO enthusiasm for rural-based

activities was unusual since QIOs had disincentives to work with rural hospitals in their prior scopes of work.

In partnership with ORHPC, Stratis Health developed and implemented a quality improvement project for heart failure and atrial fibrillation for ten CAHs in rural Minnesota. The ten-month project started in December 2001 and is scheduled to be completed in September 2002. The objectives of the project are to (Stratis Health & Minnesota Department of Health, 2001):

- Leverage joint public resources to support the work of the CAH QI network;
- Provide a forum for CAHs to learn and network in a collaborative environment;
- Improve the quality of care for patients with heart failure and atrial fibrillation; and
- Increase the capacity and capability of CAHs to implement other QI initiatives.

To participate in the project, each CAH selected a project team that included a physician champion, a QI leader, a management sponsor, a pharmacy representative, and other relevant members (e.g., nursing, medical records). For some CAHs, this was the first time they had formed a multidisciplinary QI team. At least two members from each hospital-based team participated in four face-to-face learning workshops sponsored by Stratis Health and ORHPC and four conference calls between the workshops over the ten-month period. In addition, Stratis Health provided active ongoing support to individual facilities throughout the project including data analysis of the information collected through medical record abstraction.

Each facility was responsible for completing baseline and monthly data collection to monitor changes in the key measures of interest. Each CAH also implemented QI interventions (e.g., develop/revise standing orders, physician checklists and protocols, patient follow-up protocols, patient education information, nursing admission forms; affix reminder stickers) that modified processes of care at their facility.

ORHPC provided logistical support for the project including the recruitment of participating CAHs. They also used their Flex grant to provide \$5,000 for expenses to each participating CAH. This modest investment was truly appreciated by the facilities and was used to cover expenses related to travel, supplies, data collection, and so forth.

The content of the Heart Failure and Atrial Fibrillation Collaborative for CAHs was developed by Stratis Health using evidence-based strategies for treating patients with heart failure and atrial fibrillation and rapid cycle (i.e. plan, do, study, act) tools and measurement strategies (e.g., approaches for sampling with small populations) (Stratis Health & Minnesota Department of Health, 2001). Examples of sample aims, measures and interventions for heart failure and atrial fibrillation are shown in Tables 8 and 9. Based on the process and results to date, Stratis Health staff have found that small rural hospitals are able to use evidence-based, rapid cycle strategies in QI efforts in their facilities. At the project's end, Stratis Health will measure whether the interventions implemented at each CAH led to improvement in the assessment, treatment, and/or discharge follow-up for patients with heart failure or atrial fibrillation. In addition, Stratis Health hopes this project has planted the seed and stimulated interest for future QI initiatives in CAHs and improved the capacity and ability of CAH staff to be involved in these efforts.

Table 8. Prototype Heart Failure Process

Sample Aims

- 1) 90% of patients admitted with heart failure will have documentation of assessment of left ventricular function on each inpatient encounter
- 2) 90% of eligible heart failure patients will be discharged on an ACE Inhibitor or ARB
- 3) 90% of discharge heart failure patients will receive appropriate education on medications, diet, weight monitoring, follow-up appointment, and instructions on what to do if symptoms worsen

Sample Measures

- 1) Percentage of patients admitted with heart failure who have documentation that an assessment of left ventricular function has been done and is clearly documented on each hospital encounter including the ejection fraction
- 2) Percentage of eligible (no contraindications) heart failure patients discharged on an ACE Inhibitor or ARB
- 3) Percentage of discharged heart failure patients (or caregivers) who receive appropriate education on medications, diet, weight monitoring, follow-up appointment, and instructions on what to do if symptoms worsen with documentation in the medical record

What Changes Can We Make to Achieve Our Aim

- 1a) Revise nursing admission form to include date of echocardiogram and EF results
 - 1b) Affix sticker to front of chart with date of echocardiogram and EF results
 - 2a) Affix reminder sticker for physician to prescribe ACE Inhibitors if not already prescribed
 - 2b) Develop heart failure protocol to include ACE Inhibitors
 - 3a) Affix reminder sticker to include all the education elements with room for date of completion
 - 3b) Develop simple, easy-to-understand education pieces
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Source: This material was prepared by Stratis Health under a contract for the Center for Medicare and Medicaid Services (CMS) (formerly the Health Care Financing Administration, HCFA). The contents presented do not necessarily reflect CMS policy. December, 2001.

Table 9. Prototype Atrial Fibrillation Process**Sample Aims**

- 1) 90% of eligible patients admitted with atrial fibrillation will be discharged on Warfarin or have physician documentation of a plan for Warfarin following discharge
- 2) 95% of eligible patients discharged on Warfarin will have a planned follow-up PT/INR

Sample Measures

- 1) Percentage of hospitalized patients with a principal or secondary diagnosis of chronic or persistent atrial fibrillation for whom Warfarin was indicated, who were discharged on Warfarin
- 2) Percentage of hospitalized patients with a principal or secondary diagnosis of chronic or persistent atrial fibrillation who receive written discharge instructions on when to return to their physician (or anticoagulation clinic) for the first follow-up visit after discharge

What Changes Can We Make to Achieve Our Aim***Warfarin at Discharge***

- 1a) Develop/revise standing orders for the management of patients with atrial fibrillation
- 1b) Develop/revise physician checklist for the management of patients with atrial fibrillation

Patient Follow-Up

- 2a) Develop/revise protocol for arranging for first follow-up visit after patient is discharged; partner with site of visit for patient to promote continuum of care for patients with atrial fibrillation
- 2b) Develop/revise patient education information to include appointment for first follow-up visit

Source: This material was prepared by Stratis Health under a contract for the Center for Medicare and Medicaid Services (CMS) (formerly the Health Care Financing Administration, HCFA). The contents presented do not necessarily reflect CMS policy. December, 2001.

In sum, the ORHPC/Stratis Health CAH QI Collaborative enabled CAHs to overcome the initial barriers of limited staff QI expertise and limited time and financial resources, and encouraged CAH participation in a meaningful set of QI activities. The collaboration also expanded the visibility of rural health on the QIO's radar screen (e.g., future rural QI collaboratives involving more facilities and conditions currently are under negotiation), stimulated ORHPC QI initiatives with other rural hospitals and other rural providers (e.g., nursing homes, home health, ambulance squads) in the state, and provided an opportunity for ORHPC to disseminate information to the state legislature on the needs of rural hospitals.

Transforming the QI Organizational Culture in CAHs in Nebraska through Network Development and Clinical Information Systems

The Nebraska Office of Rural Health (ORH), Department of Health is the Flex Program grantee in Nebraska. During the past decade, ORH built an extensive track record in network development, alternative models for rural hospitals and technical assistance provision to smaller rural facilities. The Flex Program is a natural extension to these previous efforts. It is not

surprising that ORH took a broader perspective concerning the Flex Program and invested substantial resources in quality of care activities. Table 10 shows the proposed distribution of funds for quality activities in Year 3 of the Flex grant. The total of \$90,000 for quality activities is a substantial amount representing approximately 15 percent of their total award for Year 3.

Table 10. Proposed Budget for Quality of Care Activities in Flex Program Grant (Project Year 3), Nebraska Office of Rural Health

Organizational and Program Development:	
• General technical assistance and organizational development for the area of quality improvement, including conducting 8 regional workshops	\$20,000
Clinical Outcomes Measurement System:	
• Develop system and generate appropriate reports on selected indicators using the Clinical Outcomes Measurement System (COMS)	\$30,000
• Conduct three educational workshops on how to use the COMS	\$10,000
• Provide software to CAH facilities that are interested in participating in COMS	\$20,000
Patient Satisfaction:	
• Develop and conduct patient satisfaction surveys in 15 CAH facilities	\$10,000
Total	\$90,000

ORH viewed the Flex Program as an opportunity to transform the organizational culture of CAHs from one that viewed QI as a threat to one that views QI as a valuable resource and a central part of doing business. ORH recognized that it would take time to create a new organizational culture that embraced QI, and that it would involve providing a baseline orientation for all staff, management and board members on QI fundamentals, expectations and policies; establishing an ongoing educational process on QI; and empowering those in leadership to set an agenda and provide resources for QI activities (Caluccio & Campion, 2001). ORH staff stressed the importance of documenting the quality provided in a facility as one mechanism for stemming the bypass of the CAH by local residents.

During the first three years of the Flex grant, the Nebraska ORH has used several vehicles for stimulating QI activities including:

- CAH network agreements.
- The Clinical Outcomes Measurement System (COMS).
- Credentialing Verification Program.
- MD peer review.
- Technical assistance through regional workshops and on-site consultation.
- Patient satisfaction surveys.

At the time of our site visit in April 2002, there were 55 CAHs in Nebraska with linkages to 11 affiliate hospitals in Nebraska and 4 located in the border states of Colorado, Iowa, and South Dakota. ORH required QA/QI to be an explicit component of network agreements between CAHs and their affiliate hospitals. Affiliate hospitals were given a mandate to send relevant staff to CAHs at least twice a year to provide assistance with review of the appropriateness of the diagnosis and treatment provided by CAH physicians, implementation of the CAH QA plan, and assessment of quality issues related to patient transfers. ORH provided mini-grants of \$5,500 to defray some of the costs associated with these efforts. Colleen Chapp of Bryan LGH Medical Center, an affiliate hospital working with more than 20 CAHs in the state, served as a regional consultant in QI issues for CAHs and held well-attended programs and meetings on patient safety and the reduction of medical errors with nurses and pharmacists, and transfer issues for patients with mental illness with nursing directors.

Network agreements require that the affiliate hospital or an external body verify CAH physician credentials. Some networks are providing CAH credentialing verification but Heartland Health Alliance oversees this service for most CAHs in Nebraska. Heartland offers a full service, on-line or paper, credentialing verification service or a credentialing verification audit process for CAHs. One issue that has been raised is whether CAH credentialing should be expanded to include the review of additional information (e.g., medical education and residency) as well as licensure data.

Physicians in some affiliate hospitals also have begun to peer review a limited number of medical records from CAHs. Peer review in small rural facilities is an extremely sensitive issue given their limited medical staff size. Some CAHs had no provisions for conducting physician peer review and other reviewed only a very limited number of records. Options available for peer review include the use of affiliate hospital physicians, internal review by staff physicians or use of an external body such as the Southeast Rural Physicians Alliance (SERPA). SERPA uses other rural physicians to review the records of rural physicians in CAHs. This practice generally is viewed favorably by rural physicians but raises the issue of whether there are different modes of practice across urban and rural settings.

Finally, ORH has used the network structure to develop and field patient satisfaction surveys. A network in southeastern Nebraska (i.e. Rural Comprehensive Care Network) has completed inpatient and outpatient/emergency room care surveys with patients at the 13 CAHs in the network. These surveys are being continued and will allow CAHs to assess changes over time in patient satisfaction, an important component of QI and marketing for these facilities. In Year 3, other networks have initiated patient satisfaction surveys as part of their QI programs.

ORH has encouraged strong network relationships as a foundation for CAH QA/QI activities. By working with networks, ORH is positioned to implement statewide initiatives that increase QI awareness and develop local capacity to address QI issues.

A second essential ingredient to ORH's organizational culture transformation strategy has been the use of a Clinical Outcomes Measurement System, developed by the Nebraska Association of Hospitals and Health Systems. COMS initially was developed in the mid-1990s to compare

hospital patient origin data. It has been transformed into a web-based clinical benchmark system that serves as a quality “warning system.” COMS monitors indicators such as length of stay, mortality, surgical complications and readmission rates, and reports statewide benchmarked data and peer group comparisons back to CAHs. Six quarterly reports had been produced by the time of our site visit. Flex grant funds have been used to pay for software that allows CAHs to participate in COMS and to receive reports from the state hospital association.

The objective was for these data to be used by CAH staff to identify relevant QI activities. CAH staff are able to understand and are not threatened by the information provided in the reports, but many staff are finding it difficult to identify system or delivery process changes necessary for QI. Staff from the ORH, state hospital association and the QIO have held regional workshops to provide assistance on how to use the COMS data as a basis for defining QI activities and sharing of best practices. Key stakeholders have provided a united front at these meetings, which also have provided an opportunity to dovetail COMS activities with the QIO’s Project in a Box initiatives.

In Year 3, ORH also is hosting a series of regional QI workshops to disseminate information, tools, and templates that facilitate implementation of QI activities. The goal is to start the standardization of the QI process in CAHs in Nebraska as part of transforming their organizational culture. This was considered particularly relevant and timely given the high turnover of CAH management staff. However, it also raises the larger question of whether QI processes need to be customized to each CAH or whether they can be standardized.

In sum, participation in the Flex Program in Nebraska has regenerated interest in and awareness of quality-related activities in CAHs. In conjunction with other key stakeholders (such as the hospital association and QIO), ORH has fostered a non-threatening playing field for QA/QI discussions where providers listen to other stakeholders and jointly attempt to develop new QI initiatives. ORH used network development and clinical information systems to stimulate the transformation of the QI organizational culture in CAHs. The challenge ahead is to operationalize these activities in a manner relevant to the scale of the CAH environment.

Conclusion

To date, most of the evidence on quality of care has come from the urban-based academically affiliated environment. Rural quality of care issues typically have received little attention from major stakeholders such as accrediting bodies, business coalitions, and professional associations. However, there is a strong environmental context to quality issues. Differences in organizational size and complexity result in different types of quality issues that need to be addressed and different responses to these issues (Wholey et al., 2002).

Our analysis of CAH QA/QI activities has identified the significant maturation of these activities over time as the Flex Program has moved beyond the initial organizational focus on CAH conversion. We identified two states (Minnesota and Nebraska) with QI best practices that are data-driven and based on extensive technical assistance, QIO linkages, and network

development. We found the rural CAH environment to be an excellent laboratory for examining rural quality issues.

The next step is to better understand how organizational learning to improve quality can be supported in the rural CAH environment. CAHs need to be part of the emerging national strategy for public reporting by hospitals. We believe that the systematic collection of data from CAHs can lead to quality improvement and objective assessment of the quality of care provided in small rural hospitals.

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