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Research

**A Report to the Nebraska Critical Access
Hospital Steering Committee:
Findings From Hospital Site Visits**

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Project Report 02-1

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EXECUTIVE SUMMARY

- Most hospitals have experienced a positive financial effect from their CAH designation when both inpatient and outpatient revenues were considered.
- Some hospitals have demonstrated improvement in operating efficiency as a result of their CAH designation.
- CAH networks, by fulfilling multiple functions, have had beneficial impacts on the health care delivery system of rural Nebraska.

INTRODUCTION

This report is a follow-up work from the assessors' first report (in 2000) to the Nebraska Critical Access Hospital (CAH) Steering Committee. We visited three¹ CAHs in 2001, two of which were hospitals also visited in 2000. At this stage of the State's FLEX program, one of the assessor's major objectives is to assess how network development has evolved between network hospitals and CAHs. Therefore, we also visited two network hospitals and talked with their administration and staff who have been responsible for activities with CAHs. This report includes discussion of the second on-site survey that CAHs have been through and a qualitative assessment of the impact of converting to a CAH as of the second year.

With the greatest number of certified CAHs in the nation, Nebraska has become a model for other states in re-shaping rural health care into an integrated system with greater coordination of care, more efficient use of resources, and higher standards of quality of care. By conducting case studies through hospital site visits, the assessors intend to examine, in this report, how participating hospitals of the Nebraska CAH program have tried to achieve their goals and what impact their endeavors have had on the health care delivery system of rural Nebraska.

OBJECTIVES

Specifically, the objectives of this report are to:

- analyze the process and outcome of the second survey;
- assess the impact of CAH conversion; and
- examine the characteristics and mechanisms of hospital networks.

¹ A fourth is being scheduled after a scheduled visit in 2001 had been cancelled.

STUDY DESIGN

The assessors interviewed with the following personnel when visiting each CAH:

- Chief Executive Officer (CEO);
- Chief Financial Officer (CFO);
- Clinicians, usually the chief of staff;
- Director of Nursing;
- Member of the Board of Directors; and
- Other hospital staff.

During the visits to network hospitals, the following personnel were interviewed:

- President or Chief Executive Officer (CEO);
- Vice President in Business Development or Outreach
- Quality Coordinator or whoever is responsible for CAH network development.

Before the site visit to each CAH, a pre-visit questionnaire (a shorter version than last year) was sent to the administrator for completion, and financial statements (i.e., balance sheets and the statements of operation) for the most recent four fiscal years were requested from each hospital. Using this information, the assessors had a better understanding of the general and financial pictures for the CAHs to be visited. Site visits were conducted between May and August of 2001.

SECOND SURVEY

The consensus was that the second survey was more detailed than the first one. In particular, it was more outcome-oriented (including more in-depth chart review) than the first one, which was in fact more of a “straight walking through” process. As a result, all hospitals devoted a tremendous amount of resources, effort, and time to the preparation as well as the survey itself.

The range of items being examined in hospitals for the second survey was very broad. They included the condition of facility (e.g., water temperature), maintenance of medical records, review of medical records (including lab and x-ray procedures), review of policies and procedures from each hospital department, review of medical process, review of (nursing) care plan for patients, and assessment of services needed in community. Because of the thorough examination of the second survey, it took several days for each hospital to finish the survey process. On the one hand, patient care in the hospital during survey may have been somewhat affected (because the attention of health care professionals was distracted by the survey). On the other hand, the closer scrutiny through the survey seemed to have made hospitals more conscious about demonstrating compliance with higher standards of providing quality services.

The results of the second survey varied by hospital. Some hospitals seemed to handle it quite well and were given only a couple of minor deficiency citations, while some hospitals were given more citations than they had anticipated. The two deficiencies that seemed to be cited most often were related to “plan of care” and “anesthesia notes.” Some hospital staff stated that although they did not put down all required information on their care plans for patients, they were still doing everything that is necessary to take care of their patients. As for the anesthesia notes, most hospitals stated that greater flexibility might be needed in terms of whom is required to do the assessment (pre and post operation).

Although most hospitals thought the second survey was in general handled appropriately, one hospital stated that there seemed to be some inconsistency in what surveyors needed across hospitals, as well as in the definition of deficiency. Another hospital, however, stated that consistency was not an issue for concern based on their survey experience. One hospital stated that there seemed to be no clear guideline about what should be considered as “needed services” in a community. On the other hand, one hospital stated that the survey did change their way of doing things in the hospital. For example, the more stringent requirement on tracking care plans resulted in greater coordination of care; passing on more complete care notes through care plans enhanced the continuum of health care process and reduced the probability of medical errors. Hospitals completing the second survey and correcting deficiencies can now document the fact that they meet high standards for quality of services. However, when asked if the results of the survey can be used as a marketing tool toward the public, most hospitals gave a negative response.

IMPACT OF CAH CONVERSION

Financial Viability

It has been more than 12 months since conversion for all CAHs that we visited in this round. These hospitals all concluded that CAH status did improve their financial bottom line. Although two hospitals pointed out that their inpatient care revenue would have been greater under the previous DRG system, all hospitals have experienced a net positive financial effect from CAH status when inpatient and outpatient revenues were combined. These results were consistent with their expectation based on their financial feasibility studies conducted before CAH conversion.

The enhanced financial viability helped these hospitals in some concrete ways. One hospital administrator emphasized that the improvement in financial bottom line due to their CAH status enabled them to raise salaries for employees, thus helping them in recruiting and retaining competent staff in a competitive labor market where their hospital was located (i.e., near an urban area). The improved financial condition due to CAH status also helped generate funds to modernize equipment and buildings for some hospitals. Although the required capital mainly came from other sources such as community donations and a non-profit foundation, cost-based reimbursement is a means of financing operating and capital-related costs. The investment in hospital infrastructure has shaped some hospitals into an “attractive” working environment, which in particular helped a hospital in recruiting an excellent surgeon from Denver. In addition,

the payments under CAH status also enabled a hospital to increase the scope of their services to their community. New services such as CT scan and ultra sound were added to benefit the residents in their area. In sum, through enhancing the financial viability of hospitals, the CAH status seemed also to have impacted the quality of care and access to services in a positive way for these hospitals.

Utilization of Hospital Care

To maintain the CAH status, hospitals are required to keep the length of stay for their inpatients under 96 hours on average. We found that all hospitals were very conscious about this requirement and have devoted tremendous resources and efforts to comply with it. In hospitals, certain personnel were designated to carry out the duties of care coordination and communication with physicians. As a result, most hospitals have experienced a decrease in their patients' average length of stay since their conversion to a CAH. On the other hand, their use of swing beds and provision of outpatient care have increased significantly. For instance, one administrator said that the use rate of their swing beds was 44% higher in the last year compared to the previous period. The efficient use of swing beds has become a key factor for the successful operation of a CAH, according to a hospital administrator.

Cost-based reimbursement, as opposed to prospective payments, could be effective in controlling costs of rural hospitals if it was implemented for all services and coupled with some use incentives. In the case of CAHs, the potentially greater margin from outpatient services (as opposed to from inpatient services) under cost-based reimbursement, as well as the requirement on 96-hour average length of stay, may drive CAHs to shift more patients from an inpatient care setting to an outpatient care setting. As a result, a greater cost efficiency may be achieved because of the better use of more cost-effective treatments such as outpatient care.

Some hospitals stated that they have been recapturing some businesses or market share since their conversion. It is not clear how this change may have occurred under the context of CAH designation. It might be possible that the increased collaboration between CAHs in the same region through increased networking activities has reduced their competition for patients. It might also be possible that the increased quality improvement efforts (driven by CAH designation) has further improved the public's trust on hospitals, thus attracting back those out-migrating patients.

The assessors suggest conducting a quantitative multivariate analysis using an aggregate CAH sample to investigate whether CAH conversion really reduced the patient out-migration for rural hospitals.

NETWORK ACTIVITIES

The assessors visited two network hospitals and talked to their administrative teams. One of the hospitals is located in the central part of the State, and the other is located in the west. The affiliation with CAHs differs between these two network hospitals in terms of volume as well as geographic diversity. One network hospital has only 4 affiliated CAHs, the other has 12 scattered across the central region, with an additional potential affiliation from Kansas.

Rationale for Participation

Both network hospitals stated that the motivation for their participating in the CAH program was consistent with their organizational mission, which is to provide a high quality of health care and improve access to health care for their communities and regions of the state. Participating in the CAH program certainly would meet this goal. The development of a network with affiliated CAHs may also open a door for programs that benefit their financial bottom line. For instance, the establishment of a patient transfer agreement and physician relationships may induce affiliated CAHs, especially those somewhat distant from the network hospital (and within the “catchment area” of a different tertiary care hospital), to transfer more patients to them rather than to another tertiary care hospital. As a result, CAH networks may create a competitive advantage such as securing patient base for network hospitals.

Process of Network Development

According to the network hospitals, they have devoted a significant amount of time and effort to establishing network relationships and activities with their affiliated CAHs. Certain personnel were designated to be in charge of this work and maintained constant communication with the representatives of all affiliated CAHs. Usually, the staff of network hospitals would initiate their job by site visiting each CAH, meeting with the administrator, director of nursing, and/or the staff responsible for quality of care and physician credentialing in each hospital. The three key issues to be discussed were peer review, patient transfer review, and physician credentialing. Agreements must be achieved on the process of peer review and transfer review between the network hospital and its affiliated CAHs. Because peer review may be sensitive among physicians, certain means were used to smooth the build-up of its process. These means included: 1) physicians involved were required to sign a confidentiality form, and 2) physicians were reviewed by other physicians in hospitals which were not considered as competitors. As the network hospitals pointed out, small rural hospitals usually don't have sufficient capability to do physician credentialing. Therefore, this was also something that the network hospitals could help with through the mechanism of CAH network. Other things such as the preparation for the state survey and writing grant proposals were included as the technical assistance to CAHs by network hospitals.

Forms of Networking

Based on the assessors' observation, the CAH networking has manifested in the following forms of functionality:

1) Patient Care:

This is the core function of CAH networking, including agreements on peer review and patient transfer review processes. Since these elements are required by law, all participating hospitals (including network hospitals and CAHs) dedicated considerable effort and resources to the development of these mechanisms. As a result, these mechanisms have functioned quite well. Since patient care provided by CAHs is under closer scrutiny through these mechanisms, quality of care can be improved for rural residents.

2) Technical Assistance:

Although not required by law, network hospitals are providing technical assistance to their affiliated CAHs in areas such as physician credentialing, regulatory compliance, and grant writing. Given the opportunity of networking with larger hospitals, CAHs benefitted in these areas by making use of larger hospitals' expertise that they did not have.

3) Communication:

Both network hospitals that we talked to emphasized that a major objective of their networking was to facilitate the sharing of knowledge and experiences among member CAHs. Taking the forms of routine meetings and frequent phone calls, communication has helped to establish the functional mechanisms of the CAH network (e.g., agreements on peer review and patient transfer review), as well as to shape a positive inter-institutional culture (e.g., an atmosphere of close collaboration).

Great communication within a network may have helped CAHs in the following two ways: 1) to mitigate their transactional costs of obtaining information regarding the CAH program (e.g., regulatory requirements, lessons from other CAHs related to managerial tips) and 2) to establish a platform on which the activities such as demonstration projects related to quality improvement can be

4) Consultation:

Both CAH networks are functioning beyond what was required by law (i.e., agreements on peer review and patient transfer review). Having more resources and expertise, network hospitals have also served as "consultants" for their member CAHs in some other areas. For instance, the administration of one network hospital once received a phone call from a CAH administrator inquiring about some information related to the Centers for Disease Control and Prevention's (CDC's) guideline on infection control.

5) Education:

Education is certainly a main function served by CAH networks. For example, both network

hospitals helped to train the EMS staff of their affiliated CAHs, and then those CAH staff trained the local squads in their communities. Therefore, network hospitals served as an educational hub of EMS skills for the region covered by all of their affiliated CAHs. Another educational component associated with CAH networking was the utilization of telemedicine to set up clinical pathways for individual CAHs. This is an effective means by which network hospitals can help enhance the quality of care in CAHs.

6) Information Technology (IT):

One network hospital is considering an aggressive strategy of developing an information system linking them and all affiliated CAHs, which would collect relevant quality of care and utilization data reported by each CAH routinely (through the Internet) and produce useful reports indicating the performance of an individual CAH based on some benchmark indicators. A database with physician profiling is being considered as one component of this information system. Although this idea has not yet been totally implemented (they were applying for a grant for this), it does indicate the great potential of IT's application to rural health networking.

7) Strategic Financial Planning:

One network hospital took advantage of its managerial expertise to help CAHs to reach a longer-term prosperity by making the "right" financial decisions. This thinking certainly exceeds the scope of CAH networking required by law.

Lessons Learned

- The strong commitment and enthusiasm devoted by the staff from both network hospitals and affiliated CAHs, who have been involved in network development activities, are the most important factors to the success of creating a well-functioning CAH network.
- Collaboration between the network hospital and its affiliated CAHs during the process of network development is optimal if the staff of the network hospital position themselves as the ones who provide assistance and information as requested by CAHs, and facilitate the communication among CAHs. Decision-making should still be done by individual CAHs.
- The staff responsible for network development from network hospitals must recognize that what is possible (or working well) in their organization may not be possible (or working well) in individual CAHs.
- There is still unrealized potential of making use of CAH networking to integrate resources, improve quality of care, enhance access to health care, and increase organizational efficiency for the region served by the network. Pursuing strategic financial planning and establishing information systems through CAH networks were two good examples on this potential.

- A constant dialogue between CAH network hospitals themselves appeared to be constructive in terms of sharing experiences and learning from each other about how to function well as network hospitals. Additional programs involving collaboration among network hospitals may also be stimulated through these dialogues.

DISCUSSION

Some hospitals started their CAH conversion process later than most of their peer hospitals in Nebraska. These hospitals seemed to behave as “market followers” (as opposed to “early adopters”). Based on the assessors’ findings, there was not any great disparity in the effect of CAH conversion between these market followers and early adopters.

Although the 96-hour limit on patient’s length of stay was the greatest initial concern for most hospitals when seeking CAH conversion, the regulatory change from 96-hour limit to average eased this concern and opened the way for most hospitals to participate in the program. In fact, keeping this requirement in mind, most hospitals carefully coordinated the care for their patients and have successfully reduced their average length of stay to an even lower level compared to before conversion. This seems to contradict the conventional wisdom that cost-based reimbursement would lead to greater cost inefficiency in providing health care. Although a more refined quantitative cost analysis using an aggregate CAH sample needs to be done to be able to really prove the positive association between CAH conversion and cost efficiency, the findings through site visits do provide some initial evidence to challenge the conventional wisdom.

Cost-based reimbursement for inpatient and outpatient services did improve the financial bottom line of rural hospitals, although in some cases, inpatient care revenues would have been greater under the DRG system. The increased financial viability not only sustains the long-term survival of these rural hospitals, but impacts the quality of and access to health care of rural residents served by these hospitals. By providing competitive salary and modernizing infrastructure, hospitals can recruit and retain competent health care professionals and staff, which are important (structural) factors contributing to the quality of health care. By increasing the scope of services, hospitals can provide additional services to rural residents so that they do not need to travel outside their own community to access to these services. In addition to achieving savings in time cost, the consumption of more health services within the community would have some positive impact on the growth of the local economy.

Another access issue is related to the integration with other health care services. Many rural hospitals have attached home health agencies and/or other long-term care facilities. The increased financial viability through CAH status may also help secure the operation of these services. This is especially true for home health care, because most hospitals have recently experienced a significant down turn in the volume as well as the revenue from their home health business but still wanted to maintain it. In some cases, home health services are essential because it may serve as a public health function in the local community. In most cases, the home health setting is crucial to rural hospitals because of its important role within the management of care for many rural residents.

As a major component of CAH designation, affiliation with a network hospital is required to ensure the quality of care received and continuum of care for rural residents served by CAHs. But the functionality of the CAH network can certainly go beyond that boundary. Based on the assessors' findings, in addition to the required "patient care" network, hospitals took advantage of their network mechanism to meet their needs in technical assistance, communication, education, consultation, information management, and financial planning. The strong commitment by all hospitals involved and a good communication among them appeared to be the most important factors to the successful development of a CAH network.

RECOMMENDATIONS

Based on the findings through site visits, the assessors make the following recommendations:

- 1) to conduct quantitative analyses of the impact of CAH designation on the outcome measures such as financial viability (e.g., operating margin), cost efficiency, utilization of services (e.g., patient flow), and quality of care (e.g., readmission rate) for Nebraska rural hospitals;
- 2) to promote the use of CAH network mechanisms to serve multiple functions such as patient care, technical assistance, communication, consultation, education, information technology, and strategic financial planning; and
- 3) to document the effect of CAH network development on the quality and cost efficiency of patient care in rural Nebraska.