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MINNESOTA MDH DEPARTMENT OF HEALTH

The Impact of the Balanced Budget Act of 1997 and the Balanced Budget Refinement Act of 1999 on Rural Health Care Providers in Minnesota

Study of Year-One (1998) Effects

Prepared for

RURAL HEALTH ADVISORY COMMITTEE

January, 2001
Minnesota Department of Health
Community Health Services Division
Office of Rural Health and Primary Care

office of Rural Health & Primary Care
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EXECUTIVE SUMMARY

The Balanced Budget Act of 1997 (BBA) was aimed at reducing national Medicare costs by $116.4 billion over a five-year period (1998 - 2002). It created a new prospective payment system and made other changes that substantially affect reimbursement, billing, administration, and staffing in hospitals, home health, skilled nursing facilities, hospice, ambulances, rehabilitation services, and others. As a result, studies were completed by various stakeholder groups to analyze the implications of the BBA on specific provider groups (i.e. hospitals). In addition, health service providers were reportedly making operational changes in anticipation of reduced Medicare reimbursement.

In response to these studies and widespread provider, stakeholder, and state reactions to the BBA, the Balanced Budget Refinement Act of 1999 (BBRA) was established and delayed certain provisions of the BBA. The BBRA also restored $16 billion in Medicare cuts to providers over a five-year period as well as other changes. In 2000, other revisions to the BBRA were also proposed and the outcome was pending upon completion of this report.

Case Study

Given the widespread impact of the BBA and the implication for rural Minnesota, the Rural Health Advisory Committee completed this study to analyze the impact of the BBA on rural communities in Minnesota. A case study approach of four facilities was used, and several criteria were selected, including: geography, eligiblibility for conversion to Critical Access Hospital (CAH) status, financial stability, ownership, and degree of health services diversification. Several data sets were used to obtain measures of hospital performance and finacial viability. There were financial data limitations for skilled nursing facilities and home health agencies so financial information was derived from hospital-based systems. The objectives of the study were to document the following:

- administrative and management decisions made by facilities anaticipating the financial implications of the BBA,
- impact of the prospective payment systems on skilled nursing services and home health services, and
- changes in access to health care in the communities.

Results from the study show that it is too early to measure the true effects of the BBA on rural communities; however, all of the case study facilities are anticipating the impact of the BBA and are trying to find ways to be more efficient and cut costs without affecting the quality of patient care. As they consider these changes, facilities believe that there is both a greater need to focus on operating the facilities as integrated health care systems rather than focusing on individual services; as well as considering that reimbursement decreases will mean that they will be less able to subsidize unprofitable services.

Home health care was identified as the service currently at greatest risk because of the BBA. Staffing issues, paperwork, billing, and administrative changes are other BBA related factors that are affecting facilities. It should also be noted that each of the facilities studied is considering Critical Access Hospital status in response to the BBA.

INTRODUCTION

The Balanced Budget Act of 1997 (BBA) contained the most sweeping reforms of the Medicare program in a decade and a half. Aimed primarily at reducing the future cost of Medicare through the creation of payment limitations for hospitals and prospective payment systems for hospital outpatient services, skilled nursing facilities (SNFs), and home health agencies (HHAs), the BBA also created opportunities for some rural hospitals to improve the stability of their local delivery systems through the Medicare Rural Hospital Flexibility Program[1]. After the passage of the BBA, a storm of controversy erupted over the size of the payment cuts; providers claimed that the cuts endangered their ability to continue to provide services. Congress responded to their requests for relief by passing the Balanced Budget Refinement Act of 1999 (BBRA) which restored some of the BBA payment reductions. The BBRA did not, however, return Medicare payments to their pre-BBA levels. The federal fiscal year 2001 Labor, Health and Human Services, and Education appropriations bill, which, as of this writing, is held up in Congress due to conflict between the President and the Congress, contains provisions which would restore even more BBA reductions to Medicare providers.

How deeply did the BBA reforms affect Minnesota providers? What effect did the BBRA restorations have on the ability of providers to maintain services? How have Minnesota providers changed their operations to cope with reduced Medicare payments? Are rural and urban providers affected differently by the BBA/BBRA?

These questions are not easy to answer. First, many of the BBA reforms were timed to be implemented at a later date. Further, *some* of those dates for *some* providers were pushed back by the BBRA. Analysis of the effect of the BBA must factor in assumptions about the future state of the health care economy in Minnesota and must approach the analysis from a multiple-year perspective so that all reforms are taken into consideration. Second, evaluation of the *actual* effects of BBA reductions in Minnesota are only marginally meaningful, because of time lags in the data. The most recent year for which statewide data for hospital comparison are available is 1998. Although several cost-reduction features of the BBA were implemented in 1998, they were not implemented for the entire year and some BBA cost-reduction provisions had later implementation dates later than December 31, 1998. In other words, actual 1998 hospital data will likely under-estimate the impact of the BBA. Finally, estimates of the effects of the BBA/BBRA on providers assume only that payments will be cut. In practice, providers will attempt to change how they do business to cope with the reductions in payment. Exactly how providers will change and the magnitude of those changes cannot be fully understood at this time.

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[1] The Medicare Rural Hospital Flexibility Program, sometimes referred to simply as the Flex Program or the CAH Program, was created by the Balanced Budget Act of 1997. It is open to any state that chooses to establish a program and that meets the requirements for participation of the Health Care Financing Administration (HCFA). Minnesota was authorized by HCFA to participate in the Flex Program in July 1998. The program establishes a permanent hospital classification called the critical access hospital (CAH). Certified CAHs are paid by Medicare according to unique reimbursement rules. CAHs are alternative model rural hospitals with flexible staffing and service requirements.

There is no shortage of anecdotal evidence claiming that the BBA is harming health care providers, especially ones located in rural areas. Hospitals across the country, for example, report reductions in inpatient and outpatient services, closings of skilled nursing facilities, and cutting back on the number of home health care visits, actions taken in response to BBA cutbacks (Modern Healthcare, 1999; Washington Post, 1999). Initial reviews of the effects of the BBA and the BBRA by rural health policy experts predicted negative financial effects on many rural hospitals (RUPRI, 1997; RUPRI, 1999).

This report, undertaken at the direction of the Rural Health Advisory Committee, has two primary objectives: 1) to review national studies of the probable impact of the BBA/BBRA on rural hospitals and 2) to analyze qualitatively four Minnesota rural health centers using a case-study approach to identify the financial and operational changes undertaken as a result of the BBA.

A case study approach was selected to analyze the effects of the BBA on rural communities. Because each community is unique, caution should be used in generalizing findings to other rural communities in Minnesota. The sample of case-study facilities and communities, however, was drawn to reflect the diversity of rural Minnesota providers and geography. The analysis can be used to broaden the discussion of the BBA and possibly to influence policy. Additionally, the methods, questions and techniques used to document and collect information can be used as a template for conducting other case studies to broaden the knowledge of the impact of the BBA.

Section I provides background information on the BBA and BBRA and summarizes several national studies on the impact of the BBA on rural providers. Section II provides background information on Minnesota hospitals and their dependence on Medicare. Section III describes the criteria used in selecting rural communities for the case studies. The research questions and survey instrument are presented in Section IV. Section V presents background information for each of the four case-study health care centers. Section VI presents the strategies employed and anticipated actions of the case-study health care centers in reaction to the BBA. Finally, Section VII provides recommendations for future study and suggestions for policies to mitigate the impact of the BBA on rural health care centers and the communities they serve.

SECTION I - BACKGROUND: BBA/BBRA AND NATIONAL STUDIES OF ITS EFFECTS

THE BBA AND THE BBRA

The Balanced Budget Act (BBA) of 1997, aimed to reduce the cost of Medicare through a series of cuts in payments to providers. The intent of this was designed to allow the Medicare Trust Fund to remain solvent until 2007. A number of Medicare and Medicaid reforms in the BBA will directly and indirectly effect rural health care delivery systems. Examples of these reforms include: changes in Medicaid capitation payment to managed care organizations, establishment of the Rural Hospital Flexibility Program, Medicare reimbursement for telehealth services, and reinstatement of the Medicare Dependent Hospital Program.[2]

Over a five year period (1998-2002), the BBA provisions would reduce Medicare spending nationally by $116.4 billion. The BBA made substantial changes to the way Medicare reimburses providers. The payment for each of the following services was changed by the BBA:

- Hospital inpatient services
- Hospital outpatient services
- Home health services
- Skilled nursing services
- Hospice services
- Ambulatory services provided by federally qualified health centers
- Ambulatory services provided by the rural health clinics
- Ambulance services
- Outpatient rehabilitation services
- Ambulatory surgical services

The Balanced Budget Refinement Act of 1999 (BBRA) delayed certain provisions of the BBA. It restored an anticipated $16 billion of BBA cuts to Medicare providers over a five-year period. The BBRA "held harmless" rural hospitals with 100 or fewer beds from any losses under the outpatient prospective payment system until January 2004 and delayed implementation of the home health agency interim payment system, and the inpatient hospital transfer regulations.[3]

The BBA created three new prospective payment systems — one for hospital outpatient services, one for skilled nursing facilities, and one for home health agencies. Many rural hospitals diversified in the

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[2] Attached as Appendix A is a Rural Health Policy Institute (RUPRI) paper entitled, "Rural Implications of the Balanced Budget Act of 1997", which provides a good summary of BBA and the implications for rural health care delivery.

[3] Attached as Appendix B is a RUPRI paper entitled, "Rural Implications of the Medicare, Medicaid and SCHIP Balanced Budget Refinement Act of 1999", which provides a good background of the BBA and its provisions.

1980s to help them weather some of the payment downturns associated with inpatient PPS. As a result of diversification into skilled nursing and home health services, approximately 75 percent of rural hospitals in Minnesota will be affected by at least one of these new prospective payment systems. At the end of the four-year moratorium on outpatient PPS, all rural hospitals in Minnesota will be effected by prospective payment systems created by the BBA.

Prospective Payment Systems

Medicare inpatient hospital prospective payment was introduced in 1984 to replace the system of cost-based reimbursement which had been in place since the creation of Medicare in 1965. The prospective payment system (PPS) features 511 diagnostic related groups (DRGs) for which hospitals are paid a predetermined "price." If a hospital can produce the service at less cost than the DRG price, it can keep the difference. If a hospital's costs exceed the DRG price, the hospital must absorb the loss. Each patient is different; therefore, some cases will be profitable, others will not (even within the same DRG). DRG prices are set, in part, on national averages. In theory, PPS is justified by the law of large numbers: at sufficiently high patient volumes, DRG "winners" and "losers" for an individual hospital will balance out (i.e., move toward the average). Unfortunately, many rural hospitals do not have sufficient volume for the DRG "winners" and "losers" to even out. Additionally, there are structural features of PPS, such as the area wage index adjustment, which work to the particular disadvantage of rural hospitals.[4]

OUTPATIENT PROSPECTIVE PAYMENT SYSTEM

The inpatient Prospective Payment System (IPPS), created in 1984, was successful in reducing the rate of increase of Medicare expenditures. Congress hopes to achieve the same goal with prospective payment systems for outpatient services.

To implement outpatient PPS (OPPS), the Health Care Financing Administration (HCFA) developed a new method of reimbursement. Like DRGs, Ambulatory Payment Classifications (APCs) group outpatients with like conditions who consume similar hospital resources. Essentially, the APCs organize procedure codes into groups that are assigned a fixed reimbursement amount.

The outpatient PPS applies to all healthcare organizations that participate in the Medicare program, including hospitals, outpatient clinics, ambulatory surgery centers and community mental health centers. The outpatient PPS does not apply to Critical Access Hospitals.

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[4] The area wage index expresses the relationship between the average hospital wages of a labor market and the national average hospital wage as a ratio. This ratio is them multiplied by a portion of the PPS payment to adjust actual payment rates. Each metropolitan area (MA), defined by the Office of Management and Budget, is considered a unique labor market. All rural areas of a state are considered to be in the same labor market. In every case, rural wage indexes of a state are lower than the metropolitan areas of the same state (Wellever, 2000a, 2000b).

The outpatient PPS will reimburse hospitals a fixed dollar amount for services provided to Medicare outpatients. Like inpatient PPS, low-volume providers, such as rural hospitals are likely to be disadvantaged by outpatient PPS. The outpatient PPS will also continue to use the hospital area wage index to modify APC "prices." Because the outpatient PPS payments are predetermined, hospitals will need to manage the cost of providing care to avoid losses. Many rural hospital may have difficulty reducing their costs below the fixed outpatient PPS rates.

SKILLED NURSING FACILITY PROSPECTIVE PAYMENT SYSTEM

The Balanced Budget Act of 1997 created a prospective payment system (PPS) for skilled nursing services beginning on or after July 1, 1998. Under the payment system, skilled nursing facilities (SNF) receive one all-inclusive per diem payment. This payment represents Medicare's full payment for all services involved in providing a day of skilled nursing facility care[5]. Total payments will vary based on the patient's length of stay and level of care.

The skilled nursing facility PPS requires a facility to classify patients into groups that need a similar level of services based on assessment data from the Minimum Data Set (MDS). The Health Care Financing Administration created Resource Utilization Groups (RUGs) to classify skilled nursing facility patients into care categories. Similar to DRGs for inpatient care, the RUGS are used to adjust the base rate for each day of skilled nursing facility care. Unlike DRGs, there are different base rates depending on the type of RUG (therapy or non-therapy) and the skilled nursing facility's location (rural or urban). The Health Care Financing Administration uses 44 RUGs to reflect differences in activities of daily living limitations (e.g. how easily patients can dress or eat) as well as signs of depression or the need for nursing rehabilitation. The different payment rates reflect the amount of nursing and other staff time that is required for each category of patients. The Minimum Data Set is the federally mandated standard assessment tool that is required to be completed on all residents in a skilled nursing facility.

Patients can change RUG classification during a skilled nursing facility stay as their needs and conditions change. At a minimum, a patients must be assessed at days 5, 14, 30, 60 and 90 of his or her stay. Because payments change depending on the RUG category, skilled nursing facilities need to accurately assess patient status. Skilled nursing facility PPS payment rates are also adjusted using the *hospital* area wage index.

Skilled nursing facilities must bill Medicare for all services provided to patients, a billing process referred to as consolidated billing. Under consolidated billing, hospitals will bill skilled nursing facilities, not Medicare, for services provided to skilled nursing patients, such as therapy treatments or lab services. The skilled nursing facilities, in turn, will bill Medicare for the services provided. Hospitals

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[5] The PPS rate will cover all services involved in providing a day of skilled nursing care, except: inpatient hospital services, home health services, outpatient hospital services (where these services are outside of a SNF's plan of care, such as emergency room services, CT scans, and cardiac catheterization).

and skilled nursing facilities between themselves must arrange how the hospitals are reimbursed for the services they provided.

During the four-year transition to PPS, the payment rate blends average facility-specific rates and national average (also known as federal) rates. For example, for cost reporting period beginning on or after July 1, 1998, the skilled nursing facility PPS rate is a blend of 75 percent facility-specific rate and 25 percent federal rate. For years 1999 through 2001, the blend will be 50/50, 25/75, and 0/100. HCFA bases the federal rate on the average of all freestanding skilled nursing facility per-day costs plus the average of all facilities (freestanding and hospital-based) per-day costs.

Implications of PPS on Skilled Nursing Facilities

A report by The Lewin Group analyzing the effects of the BBA and the BBRA on Medicare payments to skilled nursing facilities found that Medicare skilled nursing facility payments decreased by more than 1.3 billion (almost 10 percent) from 1998 to 1999. Between 1998 and 2004, Medicare skilled nursing facility spending would be reduced by $19.8 billion or 15.8 percent from pre-BBA spending projections. One of the implications of reduced Medicare skilled nursing facility revenue has been that more than 1,600 skilled nursing providers have declared bankruptcy since the BBA was implemented (Lewin, May 10, 2000).

The Office of Inspector General (1999) interviewed nursing home administrators to identify any early effects of the PPS on Medicare beneficiaries' access to skilled nursing facilities. Seventy percent of nursing home administrators report that access to nursing home care is not a problem for Medicare patients in their area, because there is no shortage of nursing home beds. However, admissions practices have changed as a result of the PPS. A patient's medical condition has become a more important factor in admissions decisions. Fifty three percent of nursing home administrators report that they are less likely to admit patients who require expensive supplies or services such as medications, feeding tubes, and dialysis.

The American Hospital Association (1998) raised a number of issues with regard to the PPS for skilled nursing facilities.[6] Many hospitals established skilled nursing facilities to help facilitate the appropriate movement of patients through the continuum of care from acute to skilled care. A freestanding nursing home is at liberty to choose whom it admits to its facility for post-acute care. Because of consolidated billing and the fixed payment RUG coding scheme, some freestanding nursing homes may be reluctant to accept patients with greater care needs. By default, these patients will be admitted to nursing homes co-located with hospitals or to hospital swing beds. Thus the prospective payment system affects where patients receive skilled nursing services.

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[6] Memo from AHA to Nancy-Ann Min Deparle, HCFA, July 9, 1998, www.aha.org/snf-pps/snfpps/ppsforsnf7998.html

Certainly, in some cases, heavy care patients are treated in freestanding nursing homes, but nursing homes cannot provide all the services that their patients need in every instance. There will be occasions in which the nursing home patients will need services that are outside the scope of the nursing home, such as emergency services, ambulatory surgery or diagnostic imaging services, and which must be provided by other entities. Thus, the inclusion or exclusion of services in the prospective payment rate under the consolidated billing requirements will affect access to services provided to nursing home patients. The American Hospital Association also noted that the newly required minimum data set creates administrative burdens for facilities that require additional staff and the capability of electronic data transmission.

PROSPECTIVE PAYMENT SYSTEM FOR HOME HEALTH AGENCIES

Until 1998, home health care was one of Medicare's fastest growing benefits. This growth was primarily due to an increase in the number of beneficiaries receiving services and an increase in the number of home health visits per patient. Concerns about rising spending, fraud and abuse, and inadequate oversight of home health providers, led Congress to implement a number of initiatives to better control Medicare's home health care costs. The BBA established a new prospective payment system for home health agencies. Until the PPS is operational, an interim payment system (IPS) will be used. The interim payment system restricts cost-based payments to home health agencies. Payments per visits are limited to 106 percent of the national average (reduced from 112 percent) and each agency's payment per beneficiary is capped (thus controlling growth in home health visits per patient). Opponents of the system express concern that, with the new PPS for home health agencies, agencies will screen the patients served and avoid high cost patients. The per beneficiary limit have a differential effect in rural areas where fewer beneficiaries use home health services but have more visits per user.[7]

A study by Franco and Leon at Project HOPE Walsh Center for Rural Health Analysis (2000) modeled the effects of the interim payment system on rural and urban home health agencies based on ownership, service mix, size, and whether they were hospital-based or freestanding. The simulations indicated that payments under the interim payment system compared to cost-based Medicare reimbursement, declined by 19 percent, on average, for urban agencies and 17 percent for rural agencies. Freestanding agencies see larger declines than hospital-based agencies and rural provider-based agencies had significantly greater payment decreases than their urban counterparts. Franco and Leon's analysis suggests that rural home care users are less likely to receive therapy visits. Isolated rural communities are more likely to have no or few home health agencies. Payment under PPS will be based on the beneficiary, not agency location. This requirement discourages urban agencies from serving beneficiaries outside of their counties so rural beneficiaries could experience reduced access to care in the future.

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[7] RUPRI February 10, 1999, Taking Medicare into the 21st Century: Realities of a Post BBA World and Implications for Rural Health Care, page 6.

MEDICARE RURAL HOSPITAL FLEXIBILITY PROGRAM

The Medicare Rural Hospital Flexibility Program (Flex Program) was created by the Balanced Budget Act of 1997. Technical corrections to the Flex Program were made in 1999 by the Balanced Budget Refinement Act. The Program features a new category of rural hospital called the critical access hospital (CAH) that operates within a rural health network. CAHs have different licensing and certification criteria than other hospitals and receive reimbursement from Medicare for the cost of providing inpatient and outpatient services to Medicare beneficiaries. A rural health network is defined as an arrangement between a CAH and another hospital regarding patient referral and transfer; development and use of communication systems; provision of emergency and non-emergency transportation; and credentialing and quality assurance. The Medicare Rural Hospital Flexibility Program also encourages CAHs to integrate services with other local providers such as physicians and emergency medical services providers.

The Health Care Financing Administration authorized the State of Minnesota to participate in the Flex Program in July 1998. The first CAH in Minnesota, Mahnomen Health Center in Mahnomen, was certified on February 2, 1999. Sixty-six hospitals in Minnesota are eligible to apply for CAH designation. To date, approximately one-half of eligible hospitals in the state have expressed interest in the program. As of September 30, 2000, there were six certified CAHs in Minnesota and six additional applications were in process.

NATIONAL STUDIES ON IMPACT OF THE BBA AND BBRA

Several national studies have been performed examining the impact of the BBA and BBRA on hospitals. This section summarizes several of those studies.

Office of Rural Health Policy/Lewin Group, August 2000

The Lewin Group conducted two studies for the American Hospital Association on the impact of the BBA and the BBRA on hospitals (see below). The federal Office of Rural Health Policy contracted with The Lewin Group to extend this analysis to highlight the impact of the BBA and the BBRA on rural hospitals. The study found that the BBA reduced Medicare payments to rural hospitals by $16.7 billion (10.7 percent) between 1998 and 2004. All hospital payments were reduced by 11.7 percent. The BBRA is projected to restore $1.8 billion to rural hospitals between fiscal years 2000 and 2004. Thus BBA reductions to rural hospitals, even after BBRA relief, are still $15.0 billion, or 9.6 percent, from 1998 to 2004.

The study also estimated total Medicare margins[8] under the BBA and BBRA using two different cost-inflation assumptions. First they assumed that costs would grow at a rate of market basket minus one percentage point (MB-1); then they assumed that costs would grow at the same rate as the market basket (MB). The market basket inflation rate is the rate of increase in the prices of goods and

[8] Definition of Total Medicare Margin

services purchased by hospitals. Assuming a cost-inflation rate of MB-1, rural hospital hospitals would post Medicare margins of negative 4.2 percent in 2000 and negative 3.3 percent in 2004, compared to Medicare margins of minus 1.5 percent in 2000 and negative 1.6 percent in 2004 for all hospitals. Assuming a cost-inflation rate of MB, The Lewin Group estimated rural hospital Medicare margins of negative 5.9 percent in 2000 and negative 8.4 percent in 2004 after the BBRA restorations are factored in. All hospitals fare somewhat better: they have Medicare margins of negative 3.2 percent in 2000 and negative 5.9 percent in 2004. Under either cost scenario, rural hospitals are predicted to lose money on providing Medicare services between 2000 and 2004. The only question remaining to be answered is how much they will lose. Remember too, that for all practical purposes, outpatient PPS will not be implemented until 2004. Rural hospital losses after this time are expected to multiply.

This study is the first to focus on the affect of the BBA and the BBRA on rural hospitals. It also attempts to combine the effects of changes in payment on various hospital sub-providers. The analysis included reimbursements and costs for inpatient acute care services, outpatient hospital services, home health services, and PPS-exempt services, such as inpatient rehabilitation and psychiatric services. Unfortunately, data limitations prevented The Lewin Group from assessing the impact of the BBA and BBRA payments on hospital-based skilled nursing care. Earlier studies seem to confirm The Lewin Group's conclusion that Medicare payments and margins will fall because of the BBA/BBRA.

American Federation of Hospitals and Health Systems and Ernst and Young, **March 1999**
A study conducted by Ernst and Young (E&Y) for the American Federation of Hospitals and Health Systems analyzed the impact of the BBA on hospital margins.[9] Hospital margins are a primary measure of a hospitals' profitability. The study projected that all Medicare margins (inpatient, total Medicare, total hospital, and outpatient) will decrease under the BBA . The study asserts that the inpatient hospital margin on which Congress bases its payment policy decisions, is only one indicator of hospital financial health. Hospitals are involved in a variety of service lines (e.g. outpatient, post acute care), requiring policy makers to also consider total Medicare and total hospital margins as financial indicators. The E&Y study projects that:

- Total Medicare margins will drop to a negative 0.1 percent in 1999
- Total hospital margins are expected to drop to a low of 3.0 percent in 2002.
- The number of hospitals with negative total margins will increase from 22 percent to 34 percent of hospitals in 2002.

[9] HCIA and Ernst and Young, "A Comprehensive Review of Hospital Finances in the Aftermath of the BBA", March 1999.

American Hospital Association and the Lewin Group, May 1999

The American Hospital Association commissioned The Lewin Group to study the impact of the Medicare reductions included in the BBA on America's hospitals and health systems. The analysis estimated the five-year impact of BBA cuts on:

- All Medicare services (total Medicare margin)
- Medicare inpatient services
- Medicare outpatient services
- Home health care services
- Inpatient psychiatric, rehabilitation, long-term care, children's and cancer services.

The typical hospital will lose an average of 4 percent on each Medicare patient by 2002.[10] Nationwide this will amount to $71.2 billion in government cuts in Medicare from 1998 to 2002. The Lewin Group study also found that these payment reductions will force total Medicare margins for all hospitals downward to a negative 4.4 percent and rural hospitals to a negative 7.0 percent in the year 2002. For hospitals with fewer than 50 beds, most of which are rural hospitals, the total Medicare margin drops even lower to a negative 12.9 percent.

Using the methodology of The Lewin Group, the Minnesota Hospital and Healthcare Partnership (MHHP) analyzed the impact of the BBA on Minnesota hospitals. Minnesota hospitals face $908 million in Medicare payment cuts between 1998 and 2002.

Limitations of the AFHHS/Ernst and Young and AHA/Lewin Group Studies

The argument made against both the AFHHS/Ernst and Young and AHA/Lewin Group studies is that they do not consider the combined effects of all Medicare payment policies on hospital's financial performance. The Medicare Payment Advisory Commission (MedPAC) in particular questioned many of the underlying assumptions made in the Ernst and Young study.[11] Both studies were also conducted before the passage of the BBRA.

American Hospital Association Narratives

The American Hospital Association (AHA) collected information from specific hospitals across the country describing decisions they made in the aftermath of the BBA.[12] Examples of such decisions are:

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[10] See the Lewin Group, "The Balanced Budget Act and Hospitals: The Dollars and Cents of Medicare Payment Cuts", American Hospital Association, May 10, 1999.

[11] See "Implementation of the Provisions of the Balanced Budget Act of 1997: Critical Issues for Rural Health Care Delivery", July 29, 1999, P99-5, RUPRI Rural Health Panel.

[12] See *The Wall Street Journal*, "Usual Enemies Trade Roles in Medicare-Funds Battle" by Laurie McGinley, Tuesday, May 11, 1999; *Modern Healthcare*, "Naming Casualties", by Deanna Bellandi, May 10, 1999; *The Washington Post*, "Health Providers, Lawmakers Seek Measures to Ease Medicare Cuts", Monday, May 10, 1999.

1. Reductions in services provided,
2. Closings of skilled nursing facilities, and
3. Cutting back on home health visits.

In some rural communities, the hospital may be the only local provider of some services. For example when a hospital closes its home health services, it may affect not only Medicare beneficiaries but also other residents' access to health care.

Other Studies on BBA/BBRA Effects

A qualitative study by the University of Washington (WWAMI) Rural Health Research Center (1999) analyzed the impact of the BBA on six small rural hospitals. The goals of the study were to identify the types of financial and institutional changes occurring in hospitals as a result of the BBA. The hospitals were selected because they had reputations as being well-managed, had stable governing boards and medical staffs, and had suddenly began experiencing financial stress. The study found that the declining margins on which these six hospitals now operate require significant cost cutting. Eventually, these hospitals likely will be forced to cut services to survive, because their ability to make further cuts in staffing is limited (e.g., it may not be possible to reduce a department below one full-time equivalent staff position). Ironically, all six hospitals reported having to employ additional staff on the paperwork to comply with Medicare fraud and abuse rules at the same time they are reducing patient care staff.

Mohr, Franco, et al (1999) at the Project HOPE Walsh Center for Rural Health Analysis evaluated the potential impact of outpatient PPS on rural hospitals. The authors examined a broad array of hospital characteristics that may affect hospital profitability. These include affiliation with a multi-hospital system, bed size, average length of stay, teaching status, Medicare dependence and market area characteristics such as population density and per capita income. The report found that a higher proportion of rural hospitals than urban hospitals met the criteria for being vulnerable to outpatient payment reform. Many rural hospitals are experiencing financial difficulties and are highly dependent on Medicare outpatient revenue. The analysis found that the most important predictor of financial vulnerability is bed size, i.e., the smaller the hospital the greater the risk of poor financial performance due to outpatient PPS.

CONCLUSION

In summary, the effects of the changes in the Medicare payment system are beginning to be realized, and the negative effects are being felt earliest in some small rural hospitals. It is clear from reviewing the literature that further analysis is needed on the impacts of the BBA on small rural hospitals.

An in-depth case-study analysis of a rural community and rural health care system could point out the management, operational, and administrative changes that would result from the BBA. This in turn can lead to understanding how a community responds to these changes and what it means for patient care. Also, a thorough analysis can point to possible remedies, legislation, or policies that might alleviate the unintended consequences for rural health care providers.

SECTION II - BACKGROUND ON MINNESOTA HOSPITALS

Currently, there are 143 hospitals in Minnesota.[13] Harmony hospital in Fillmore county closed December 31, 1999. One hundred and eight of these hospitals are rural. Approximately 45 percent of hospitals in Minnesota are government-owned hospitals and 55 percent are non-profit. There are only two for-profit hospitals in the state, Vencor hospital in Golden Valley and Lakeside Medical Center in Pine City.

Like the rest of the country, rural hospitals in Minnesota over the past 15 years or so have expanded services and diversified their revenues. At the same time, these facilities have become more reliant on Medicare, making them more vulnerable to changes in payment. This increased vulnerability is reflected in the financial performance of rural hospitals in Minnesota. These trends are explored in greater detail in the sections that follow.

EXPANDED SERVICES OF RURAL HOSPITALS

Beginning in the late 1980s, rural hospitals employed a strategy of health services diversification. Although many rural hospitals in the past provided nursing home services in combined or adjacent facilities, from 1987 to 1996 rural hospitals across the U.S. increasingly began to provide home health care services, hospice services, and other non-traditional services (Moscovice, Wellever, and Stensland, 1999).

As shown in the Figure 1, rural hospitals in Minnesota provide a variety of services. In 1998, approximately 45 percent of rural hospitals operated both a hospital-based skilled nursing facility and hospital-based home health agency compared to urban hospitals with only 22 percent. Forty-two percent of urban hospitals had neither a hospital-based skilled nursing facility nor a home health agency (Figure 2). Twenty five percent of rural hospitals have not expanded or diversified into other services. The provision of a broader array of services through the rural hospitals not only allowed for more efficient use of facilities and staff and produced new streams of revenue to the hospital, but it also improved access to care for rural residents.

[13] This does not include Woodwinds Hospital in Woodbury which had not opened at the time of the study..

Figure 1
Variety of Providers
for Rural Hospitals, 1997

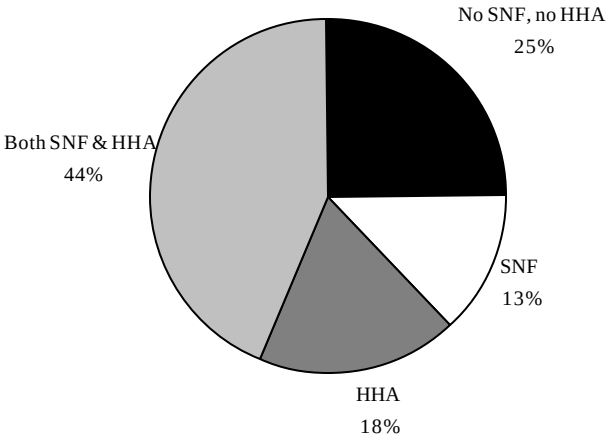
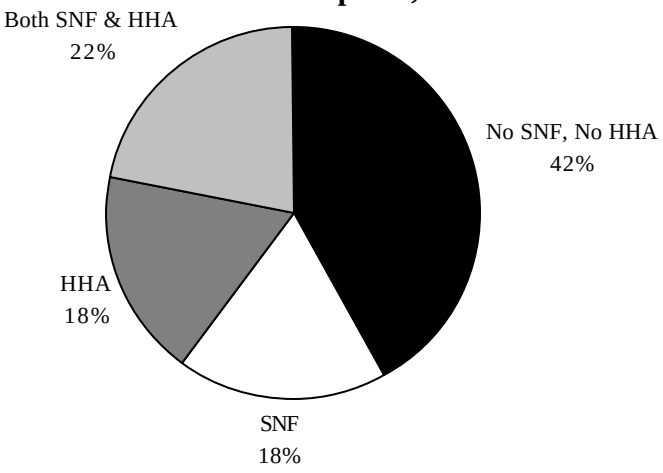


Figure 2
Variety of Providers
for Urban Hospitals, 1997



DEPENDENCE ON MEDICARE REVENUE

According to the Minnesota Department of Health (MDH) Report on Congressional Medicare Reform and Minnesota's Health Care System (April 1996), 58 percent of Minnesota's Medicare enrollees live outside of the seven-county metropolitan areas, while 46 percent of the state's entire population live in rural areas. Thus, rural areas in Minnesota have a disproportionate share of the state's Medicare population.

In 1997, Minnesota rural hospitals received 48 percent of their net patient revenue from Medicare, as compared with 32 percent for urban hospitals. More than one-third (37 of 110) of the rural hospitals across the state depend on Medicare for more than 50 percent of their revenue.

In 1997, total hospital charges were approximately $8 billion. As shown in Figure 3, thirty-eight percent were from Medicare, 11 percent medical assistance and 51 percent from other sources. When only rural hospitals are examined, total rural hospital charges were $1.6 billion. Forty-eight percent of those charges were from Medicare, 10 percent from Medicaid and 42 percent from all other sources (Figure 4). Rural hospitals with hospital-based skilled nursing facilities are more dependent on Medicare (53 percent) than those facilities that have not diversified into skilled nursing services and home health services (46 percent). It is clear that further decreases in Medicare reimbursement will affect Minnesota's rural hospitals substantially more than urban facilities.

Figure 3
Sources of Revenue for all MN Hospitals, 1997

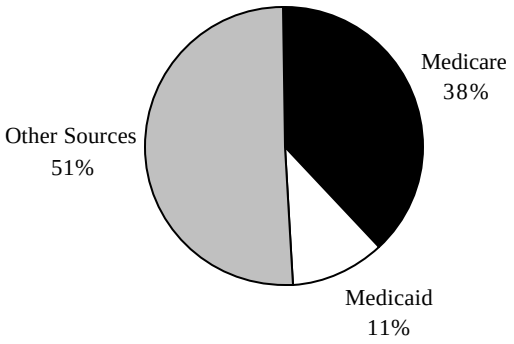
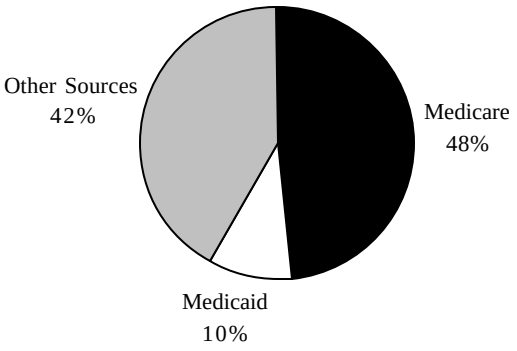


Figure 4
Sources of Revenue for Rural MN Hospitals, 1997



SHIFT TO OUTPATIENT SERVICES

The proportion of hospital charges attributable to outpatient services has grown substantially from 1985 to 1997 for Minnesota hospitals. In 1997, 32 percent of total hospital revenue was outpatient revenue as compared to 18 percent in 1985. For rural hospitals in Minnesota in 1997, 49 percent of total hospital revenue was due to outpatient revenue as compared to 28 percent in 1985. Because rural hospitals rely heavily on outpatient revenue, the introduction of prospective payment for outpatient services to Medicare patients is of special concern. Lower-volume providers typically do poorly under fixed-rate payment systems which are designed to pay an average-sized hospital the average cost of providing a service. With fewer units of service over which to spread their fixed costs, lower-volume providers risk losing money on each unit of service produced.

PROFITABILITY OF RURAL HOSPITALS

In 1997, 82 percent of rural hospitals in Minnesota that operated both a hospital-based nursing home and home health agency posted a profit. Ninety-two percent of rural hospitals that operated just a skilled nursing facility and 81 percent of rural hospitals that operate just a home health agency posted a profit. Eighty percent of hospitals that operate neither a home health agency nor a skilled nursing facility were profitable. Nationally, rural hospitals that have diversified are more financially stable then those that have not.

Diversified rural hospitals will face the biggest challenge from the BBA, because of the introduction of prospective payment for outpatient, skilled nursing care, and home health agencies. Losses under the prospective payment systems for these services could cause rural hospitals to retrench and close unprofitable services. Closure of the hospitals' services may produce access problems for some rural communities.

THE FINANCIAL VIABILITY OF RURAL HOSPITALS

Predicting the survival of rural hospitals is not an easy task. A 1989 study of Northwestern states, for example, listed eight "high-risk" hospitals in Minnesota (Hartley and Moscovice). High risk were defined as hospitals with net overall losses in three of the last four years and a net overall loss of 10 percent in one of the last two years, or a negative cash flow in one of the last two years. Although none of the hospitals identified in the study have closed in the last seven years, 15 other Minnesota hospitals *have* closed since the study.

According to the American Hospital Association, even hospital administrators are poor prognosticators of hospital closures. In June of 1988, 700 hospital administrators surveyed said their facilities were at risk of closure in the next five years. Only 265 hospitals closed nationwide between 1988 and 1993.

Current data from the Minnesota Hospital and Healthcare Partnership (MHHP) gives an approximation of the financial condition of rural Minnesota hospitals. The MHHP defines a "financially troubled hospital" as a hospital that "has experienced four or more net losses in the last eight years." In 1998, the MHHP found 22 Minnesota rural hospitals that met this definition (an increase of six hospitals in two years).

The MHHP has also defined “financially distressed hospitals” as one that “has experienced four or more net-income losses during the last eight years and has a cumulative loss greater than ten percent of its 1994 equity.” According to the MHHP, 16 rural hospitals in the state met these criteria in 1998 (an increase of two hospitals since 1996).

SECTION III - METHODOLOGY FOR SELECTING SITE VISIT COMMUNITIES

Several criteria were used to select the four communities for the BBA case study analysis. The study focuses on hospitals because data on free-standing skilled nursing facilities and home health facilities required for the study were not readily available. However, because many hospitals have diversified into skilled nursing and home health services, it was possible to examine the impact of the new PPS for skilled nursing and home health services by studying diversified rural hospitals. The criteria for selecting case-study communities are discussed below. In addition to these criteria, the four hospitals in the selected communities had to agree to participate in the study.

GEOGRAPHIC CRITERIA

The first criterion for the selection of a hospital to participate in the study was that it must be located in a rural area. The federal government defines rural as counties without a metropolitan statistical area (MSA). An MSA includes a city of 50,000 or more, and urbanized areas with at least 50,000 people within a county, or counties with at least 100,000 total residents. For this study, rural is defined as non-MSA areas.

Every community is unique. One of the limitation of case studies is that it is difficult to generalize to other rural communities in Minnesota based upon only four cases. To improve the representativeness of the communities selected, hospitals located in different parts of the state were selected. Factors such as geography, demographics, business and industry affect both the operations of a hospital and the characteristics of a community.

ELIGIBILITY TO PARTICIPATE IN THE RURAL HOSPITAL FLEXIBILITY PROGRAM

Another criterion for selection was that a hospital chosen for the study must be either 1) more than 20 miles from the next nearest hospital, 2) the only hospital in the county, or 3) in a health professional shortage area (HPSA) and/or in a Medically Underserved Area (MUA). This criterion helps define a distinct community. Second, this criterion is one of several Minnesota-specific criteria for hospitals to participate in the Rural Hospital Flexibility Program.[14]

FINANCIAL STABILITY OF HOSPITAL

The third criterion was to choose hospitals that are financially stable. A hospital that is not financially distressed and at-risk will allow for better separating the decisions and actions taken by that hospital as a result of the BBA.

Audited Financial data from hospitals for 1995-1998 was used to calculate operating and total margins. Total margin and operating margin are two primary measures of a hospital's profitability. Operating

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[14] See the following reports for additional information regarding the Medicare Rural Hospital Flexibility Program: Minnesota Rural Health Plan (1998), Minnesota Rural Hospital Flexibility Program Implementation Plan (1999, 2000).

margin is defined as the proportion of total revenue that has been realized in income from operations. Total margin is defined as the excess of revenues over expenses divided by total revenues net of allowances and uncollectibles. This ratio reflects profits from both operations and non-operating revenues (e.g., tax revenues, gifts, income on investments). A hospital is determined to be financially stable if the hospital has had positive operating and total margins for two of the past three years from 1995 to 1998.

Rural hospitals play a much larger role in their local communities than simply providing health care services. They are often among the largest local employers and a bellwether of the economic health of a small town. A financially stable rural hospital is usually associated with a community that is also economically stable. Research shows that the health sector provides 10-15 percent of the jobs in many rural counties, and that if the secondary benefits of those jobs are included, the health sector accounts for 15-20 percent of all jobs. On an individual employer basis, hospitals are often second only to school systems as the largest employer in rural counties.

A strong rural hospital can be a solid foundation for a small town with a diversified local economy and can serve as a magnet for other economic development. In rural Minnesota, 55 percent of the communities with hospitals rank health care as their first or second leading industry and 81 percent of these communities rank health care in their top five industries. Although rural hospitals are termed "small" in statewide size comparisons, when viewed from their community's perspective they are enormous assets (Rural Hospital Study Work Group 1997).

The stability of the hospital and the community is important because it is difficult to distinguish between problems attributable to BBA policy changes and other independent causes. If the hospital is financially stable then the study can better isolate the impact of the BBA on the community.

VARIETY OF PROVIDERS IN COMMUNITY

The BBA implements three new prospective payment systems — for hospital outpatient services, skilled nursing facilities, and home health services. The net impact of the BBA is best illustrated by considering the impact on three groups of providers, which may be combined in a single organization. Approximately 55 percent of hospitals in Minnesota have a hospital-based skilled nursing facility and 51 percent have a hospital-based home health agency.[15] This diversification has helped rural hospitals to continue providing needed care to their communities.

The four hospitals selected for analysis had varying degrees of health services diversification. One hospital was selected in each of the following categories:

- Both hospital-based home health and skilled nursing services
- Only hospital-based home health service

[15] Source: 1998 Medicare Cost Reports, Worksheet S-2.

- Only hospital-based skilled nursing facility
- Neither hospital-based home health nor skilled nursing facility

Comparisons between hospitals were made based on the degree of diversification in home health and skilled nursing services.

HOSPITAL OWNERSHIP

The final criterion is hospital ownership, i.e., whether they are general, non-profit or government-owned facilities. Government-owned hospitals refers to hospitals which are city, district, or county owned. In 1997, approximately 45 percent of hospitals were government owned compared to 55 percent which were non-profit. Government-supported hospitals obtain tax subsidies that can lessen the impact of the BBA prospective payment systems. Thus, there should be a mix of both government-owned and non-profit hospitals considered for study.

STUDY SAMPLE

The criteria described above were used to select the potential hospitals for study. Table 1 identifies the number of potential hospitals eligible for case study analysis meeting the criteria outlined above.

Table 1
Number of potential hospitals eligible for case study analysis

Variety of Providers	Hospitals
With both a hospital-based skilled nursing facility and hospital-based home health facility	28
With only a hospital-based home health facility	15
With only a hospital-based skilled nursing facility	8
Without a hospital-based home health facility or hospital-based skilled nursing facility	12
Total	63

HOSPITALS NOT INCLUDED IN THE STUDY SAMPLE

Several data sets were used to obtain revenue and expenditure information on each hospital. Missing data for individual hospitals eliminated them from the sample universe. Table 2 depicts the number of hospitals not included in the study sample and the corresponding reason for their exclusion.

Table 2 **Exclusion of Hospitals From Study Sample**	
	Hospitals
Total number of Hospitals	139
Missing Data	10
Subtotal	129
Urban	44
Converted to CAH	4
Hospitals not eligible for CAH	12
Hospitals which do not meet financial criteria	6
Total	63

SECTION IV - RESEARCH QUESTIONS AND SURVEY INSTRUMENT

This section describes the framework, objectives, and survey instrument used for the study.

FRAMEWORK

To combat the effects of reduced Medicare reimbursement, a hospital has five options. These strategies may be implemented in combination with one another. The strategies are as follows:

- Reduce costs
- Eliminate unprofitable services
- Increase revenues
- Increase charges (i.e., shift costs)
- Convert to critical access hospital (CAH)

Examples of cost-cutting strategies include cutting back on the hiring and training of staff, outsourcing of support functions such as housekeeping and dietary, and halting building renovations. Many rural hospitals operate as leanly as possible. It is impossible in some cases to reduce staffing below current levels and also comply with the hospital licensing regulations. Many rural hospital administrators and boards scrutinize every expenditure and conservatively husband the scarce resources of the hospital. While some additional savings may be wrung from rural hospitals, employing a strategy of cost reduction will produce only modest gains.

The health care trade literature and local newspaper are replete with articles reporting that hospitals have closed or reduced certain services as a result of Medicare payment changes. The greatest area of service closure is in home health. The U.S. General Accounting Office reported that between October 1, 1997 (two months after the passage of the BBA) and January 1, 1999, over 1,400 home health agencies closed (GAO, March 17, 1999). Perhaps some of those agencies should have closed (half of the closures were in just four states — California, Louisiana, Oklahoma, and Texas). However, when the same strategy that is used to reduce overexpansion of home health agencies nationally causes a rural service to close or reduce its service area, resident access to home health services may be severely constrained if not curtailed altogether.

Rural hospitals are somewhat limited in their ability to offer new services on several levels. First, they often lack the capital to invest in new equipment and facilities. Second, due to health workforce shortages, they often lack the ability to staff new services. This is particularly true of “high tech” services which require special training and expertise. Finally, rural areas may not have sufficient volume to financially “break even” on a new service. Rural hospitals that add unprofitable services simply to increase revenue make a substantial strategic error.

Rural hospitals, as has been stated previously, are heavily dependent on Medicare. Because Medicare is such a large portion of the total volume of a rural hospital, it is difficult for these hospitals to shift costs (or losses) to charge-paying patients. There simply are not enough charge-paying patients to cover

Medicare losses. Furthermore, hospitals often sign agreements with commercial payers to accept discounts from charges or to accept payments according to an insurer-initiated fee schedule. The strategy of cost shifting is only marginally effective.

Another response to the BBA is to convert to critical access hospital (CAH) status. The BBA established the Rural Hospital Flexibility Program which is intended to preserve access to primary care and emergency health care services, provide health care services which meet community needs, and foster network development. Conversion to a CAH places certain restrictions on a hospital but allows the hospital to receive cost-based reimbursement from Medicare for hospital inpatient and outpatient services. CAH conversions may improve the financial position of the hospital to support less profitable services. Hospitals that convert to CAH are permanently exempt from outpatient PPS. However, diversified CAHs, will still be reimbursed for skilled nursing facility and home health services according to the new prospective payment systems of the BBA.

Hospitals that have diversified into home health and skilled nursing services are expected to engage in a greater number of strategies since these hospitals are affected by all three prospective payment systems. Certainly any of the options taken by a hospital has implications for the community and its continued access to health care services.

OBJECTIVES

One objective of the study was to document the administrative and management decisions made by a hospital anticipating the financial implications of the BBA. In other words, if there are overall reduced payments to the hospital, how will the hospital respond to the reduced payments? The BBRA delayed some of the provisions of the BBA so the full effects of the BBA have yet to be felt. So, the objective was to measure any actual changes or anticipated changes resulting from the BBA.

Survey questions asked include:

1. What steps has your hospital taken or anticipates taking in response to the expected affects of the BBA policies?
2. Describe how the change in payment system may affect management and operation decisions in the following areas:
   a. Outsourcing of services
   b. Consolidation of services
   c. Reduction of services
   d. Renovations
   e. Training for hospital personnel
   f. Hospital staff recruitment and retention

3. Are there any other ways the change in the payment system has affected management and operation decisions?

A second objective of the case study was to understand the factors that affect a hospital's decision to convert to a Critical Access Hospital (CAH). It is important to document and understand what becoming a CAH may mean for the continued access to health care for the community.

Survey questions asked include:

4. Are you considering or have you considered becoming a CAH?
5. What are some of the factors affecting your decision?
6. What are the implications of converting to a CAH? What would it mean for your community? Would the community notice a difference in terms of services, access to care, quality of care, if the hospital converted? Why or why not?

A third objective of the case study was to document the impact of the specific prospective payment systems on skilled nursing services and home health services.

Survey questions asked include:

7. Have you taken steps or anticipate taking steps because of the new prospective payment system for skilled nursing facilities? Explain.
8. Have you taken steps or anticipate changes because of the new payment system for home health?
9. Do you anticipate a change in the mix of patients served? Why? Explain.
10. What is the impact of the new OASIS reporting system? How do you anticipate handling this new reporting requirement? (Example, hire more staff, additional training for staff, changes in billing processes, etc..)

Finally, a fourth objective of the study was to examine the impact of the BBA on access to health care in the community. Options for health care in rural areas are limited so any changes in services provided by the hospital will immediately impact rural residents.

Among the survey questions asked was:

11. What impact do you think the BBA will have on patient care in the community when it is fully-implemented?

METHODS

Telephone and on-site interviews with hospital administrators were conducted. The hospital administrator determined which additional hospital staff were appropriate to include in the survey interview. Prior to administering the survey, several hospital data sets were used to obtain measures of hospital performance and financial viability. These data sets are outlined on the following page.

Audited Financial Statements, 1995-1997

- Health Care Cost Information System data, 1995-1997
- Medicare Cost reports, 1998

The Minnesota Hospital and Healthcare Partnership (MHHP) shared a spreadsheet which analyzes the impact of BBA payment changes on outpatient services for specific hospitals. This was used to determine the combined impact of the BBA on the hospital. Once the financial impact of the BBA and BBRA was calculated the survey was administered. A complete copy of the survey instrument may be found in Appendix C.

DATA LIMITATIONS

It is difficult to obtain a complete financial picture of the hospital-based skilled nursing facility or hospital-based home health agency since revenue and expenditure data is not reported for each individual service. The audited financial data provides financial information for the entire hospital-based system. So, this data set aggregates the financial information from the hospital-based skilled nursing facility and hospital-based home health agency and the hospital. The Health Care Cost Information System data set provides revenue and expenditure information only on the hospital. Thus, separate financial analysis on the hospital-based skilled nursing facilities or hospital-based home health agencies cannot be calculated.

SECTION V: CASE STUDY HOSPITALS AND COMMUNITIES: BASELINE MEASUREMENTS AND BACKGROUND INFORMATION

Four rural hospitals were randomly selected from each eligible class of hospitals (see Table 1). Table 3 presents background information on each of the four hospitals selected for case-study analysis. The case-study hospitals are small with bed sizes ranging from 16 to 25. Their average length of stay ranges from 2.5 to 4.2. "Average length of stay" measures the average number of days spent in the hospital by all patients. Shorter lengths of stay may be attributable to a less intense mix of cases or to hospital efficiencies and greater use of outpatient and home health services to manage inpatient utilization. The average daily census in 1997 for the case-study hospitals ranged from 1.9 to 5.3. Average daily census indicates the average number of patients receiving care each day within a specified time period.

Table 4 provides information about the communities in which each of the hospital is located. Community C has the greatest population per square mile (27.0) but all communities are below the state average of 58.9. Community A is designated a frontier county. Frontier counties are those that have a population density of six or fewer residents per square mile. At 3.3 residents per square mile, Community A is well below the frontier county criterion. All communities have a greater percentage of residents over age 65, lower per capita income and median income, and higher unemployment rates than the state average.

Table 5 shows the dependence on Medicare of the four case-study hospitals for the baseline year 1997, the year before implementation of any of the BBA payment reforms. The percent of Medicare charges ranged from 47 percent to 61 percent for the four hospitals. The average percent of Medicare charges for all rural hospitals in Minnesota was 49 percent. The percent Medicare days ranged from 62 percent to 83 percent. Hospital D had the largest percentage of Medicare days at 83 percent. Hospital D also had the longest average length of stay at 4.23. The longer length of stay may be attributable to case mix, but more likely it is due to the Hospital D's inability to influence its discharge planning process. Hospital D is the only hospital of the four not to own a post-discharge long-term care option (either a nursing home or a home health agency). Hospital D's average length of stay is a full day greater than the next longest length of stay among the case-study hospitals.

Table 5 also presents each hospital's dependence on outpatient revenue, charting the percent of total revenue attributable to outpatient charges. The percent outpatient charges for the four hospitals range from 50 percent to 68 percent; the average for all rural hospitals in Minnesota is 55 percent. Hospital A has the greatest dependence on outpatient charges as of total patient charges.

Table 3
Background Information on Four Case Study Hospitals

	A	B	C	D
Bed Size (acute only)	16	20	25	20
Ownership	government	government	non-profit	non-profit
Diversification of Services[a]	skilled nursing and home health	skilled nursing	home health	none
Total Patient Days	706	1137	1205	1920
Average Daily Census[1]	1.93	3.11	3.30	5.26
Total Hospital Admissions	277	398	373	454
Average Length of Stay[2]	2.55	2.86	3.23	4.23
ER Visits	1929	1261	1221	889

[a] Information on diversification of hospital services is based on Medicare Cost reports for each hospital in 1998.
[1] Average Daily Census is defined as the total number of patient days divided by 365.
[2] Average length of stay is defined as the total number of patient days divided by total hospital admissions.

Source: Health Care Cost Information System 1997, Medicare Cost Reports, 1998

Table 4
Background Information on Four Case Study Communities

	A	B	C	D	State
County population per sq mile	3.3	16.3	27.0	11.2	58.9
Percentage of residents over age 65	16.2%	15.8%	18.5%	24.3%	12.3%
Per capita income	$22,347	$17,530	$20,478	$23,120	$25,699
Estimated Median income	$28,056	$27,220	$26,673	$25,265	$33,240
Unemployment rate (county)	4.7%	8.6%	3.4%	5.2%	3.3%
City population	1,171	384	2,237	1,200	

Source: 1998 County Health Profile Reports, Center for Health Statistics, Minnesota Department of Health

Table 5
Dependence on Medicare for Each Hospital, 1997

	A	B	C	D	All Rural Hospitals[4]
Percent Medicare Charges[1]	47%	60%	61%	55%	49%
Percent Medicare Days[2]	63%	62%	67%	83%	
Percent Outpatient Charges[3]	68%	67%	50%	52%	55%

[1]Percentage Medicare Charges equals to total Medicare charges divided by total patient charges.
[2] Percentage Medicare Days equals total Medicare days divided by total patient days.
[3] Percentage Outpatient Charges equals total outpatient charges divided by total patient charges.
[4] This column provides averages for rural hospitals in the state.
Source: Health Care Cost Information System, 1997

CASE STUDY COMMUNITY PROFILES

Community A

Hospital A is located in Northern Minnesota. Population projections indicate increased population rates for the entire county and surrounding counties in which the community is located. Also, the Medicare-eligible population is expected to increase in this region. Approximately 16.2 percent of the population currently in the area are over age 65 compared to the state average of 12.3 percent.

There are a number of senior services in the community such as two senior apartment buildings, a senior congregate housing unit and a senior residence cooperative. There is a senior bus which operates within town, and there is daily bus service to several larger cities.

The hospital is one of the largest employers in the community. Over the last ten years there has been a subtle change in the types of businesses in the area. More technology, service, and Internet-based businesses are moving into the community. For example, a growing number of consulting groups and independent consultants have moved into the community. The hospital owns and operates both a skilled nursing facility and a home health agency.

Community B

Community B is also located in Northern Minnesota. The hospital in Community B is a sole community provider and the largest employer in the community. Changes in the local economy do not significantly affect the hospital and health care in the community. The hospital offers a number of services for the community and the elderly, the most notable of which is a skilled nursing facility. The hospital operates a shuttle service which is used mostly for adult day care clients, nursing home residents, and for transporting patients to the clinic. In 1999, the hospital began providing home health services.

Community C

Community C is located in Southern Minnesota. Community C is the largest of the four communities in terms of population with a county population density of per square mile of 27. It has the lowest unemployment rate of the four communities at 3.4 percent. The hospital is one of several larger employers in the community. The hospital also operates a home health agency.

Community D

Community D is located in Western Minnesota. Population projections for this area indicate significant population losses with moderate increases in both 65+ and 85+ populations. At 24.3 percent, Community D has a significant percentage of residents over the age of 65 compared to the state average of 12.3 percent. The hospital has telemedicine capabilities and is currently developing a new wellness center. The hospital is the only one of the four not to have diversified into long-term care services.

HOSPITAL FINANCIAL MEASURES

There are a variety of financial measures that can be used to evaluate the financial position of a hospital. Financial flexibility was the primary conceptual basis for the evaluation of financial performance. Financial flexibility is a concept used to assess the ability of a business to survive financial shocks such as changes in payment programs, increased competition, or delayed payment of accounts receivable. Organizations with poor financial flexibility are more susceptible to failure and closure than those with good financial flexibility. Four financial ratios (profitability, liquidity, capital structure and condition of physical facilities) were used to assess the overall financial position and flexibility of a hospital.

Baseline measures use 1997 data, because this data reflects the hospitals financial position in the year immediately prior to the implementation of payment changes under the BBA. In the future, comparisons will be made using the most current data available to compare with the 1997 baseline measures.

Profitability Ratios

Profitability is an important concept in the hospital industry. Few hospitals — even not-for-profit hospitals — could remain financially viable without a profit. Without a profit, cash flow would be insufficient to meet normal cash requirements such as debt principal and investment in fixed or current assets. The presence or absence of a profit for a hospital has a pervasive effect on most other ratios. For example, low values of profit may adversely affect liquidity ratios and sharply reduce debt repayment ability. Two ratios, total margin and operating margin, were calculated for each hospital to gauge profitability.

Operating margin is defined as the proportion of total revenue that has been realized in income from operations. Total margin is defined as the excess of revenues over expenses divided by total revenues net of allowances and uncollectibles. This ratio reflects profits from both operating and nonoperating revenue. The median total margin and operating margin for rural hospitals in 1997 was 4.7 percent and 3.5 percent respectively.

All of the study hospitals had positive total and operating margins. Hospitals B, C and D had total and operating margins greater than the median for rural hospitals in1997. Higher operating margins may reflect greater cost management in these hospitals. Hospital A's operating margin is 0.1 percent greater than the rural average and its total margin is identical to the rural hospital average.

Liquidity Ratios

Liquidity refers to the ability of an organization to meet its short-term obligations. Most organizations experience financial problems because of a liquidity crisis: They are unable to pay current obligations as they become due. Reductions in payment caused by the BBA may affect both profitability and liquidity. One measure used to examine liquidity is the current ratio. The current ratio is defined as the number of dollars held in current assets per dollar of current liabilities. Current assets includes cash, marketable securities, inventory, and prepaid expenses. Current liabilities include accounts payable, current

portions of long-term debt, and salaries payable. A value of 2.0 is considered an optimal level of liquidity.

Hospitals A, B, and D have current ratios in the acceptable range. At 4.86, Hospital C has the highest current ratio, which means that it keeps almost three times the number of dollars above the amount needed to pay current obligations. Such a high current ratio requires study and may require corrective action by the facility.

Capital Structure Ratios

Capital structure ratios are carefully evaluated by long-term creditors and bond rating agencies to determine an entity's ability to increase its amount of debt financing. During the past 20 years, the hospital industry has radically increased its percentage of debt financing. Values for the fixed asset ratio may ultimately determine the amount of funding available to an institution, directly affecting its rate of growth. The fixed asset ratios for the four study hospitals are presented in Table 6.

The fixed assets ratio is a measure of the proportion of resources devoted to plant and equipment. The median for all rural hospitals in the state is 4.1. Hospitals C and D had fixed assets ratios below the median. This suggests that significant fixed assets may be fully depreciated and that investments have not been made in plant and equipment recently. In the case of Hospital C the low fixed asset ration may be due in part to its high investment in current assets (see discussion of the Current Ratio above).

PROJECTED CHANGES IN HOSPITAL REVENUE RESULTING FROM THE BBA

The Minnesota Hospital and Healthcare Partnership (MHHP) assessed the probable impact of the BBA and the BBRA on the four case-study hospitals for the period 1998 though 2002. The MHHP also estimated the percentage impact on profitability of the four case-study hospitals converting to critical access hospital (CAH) status. CAHs are paid by Medicare on the basis of cost. They are not subject to hospital outpatient PPS, but skilled nursing homes and home health agencies owned by them are subject to the new prospective payment systems created by the BBA. Conversion to CAH is a strategy suggested by some for rural hospitals to cope with the reforms of the BBA.

Table 7 compares the projected cumulative impact of the BBA and BBRA on patient revenue from 1998 to 2002 to the impact of converting to CAH. Hospital A benefits greatly from converting to a CAH. Hospital A gains 11 percent in total Medicare (inpatient and outpatient) revenue by converting to a CAH. If, on the other hand, it continued to operate as a hospital, it would see its patient revenue reduced by 11 percent by the BBA and BBRA reforms.

Hospital B would not benefit from conversion. Total Medicare revenue would decrease by 25 percent from converting to a CAH. Hospital B has a high inpatient volume and does not benefit from cost-based reimbursement. This analysis may change when the outpatient PPS hold-harmless provision for small, rural hospitals expires in 2004. Hospitals C and D would see reductions in Medicare revenue of six percent and eight percent, respectively, if they converted to CAHs. Although this is a reduction

from current revenue levels, it is less than the degree of loss projected for the BBA. In other words, these two hospitals would lose less if they converted to CAH. When the outpatient PPS hold-harmless exemption lapses, these hospital will likely do substantially better under CAH reimbursement. However, when or if they may decide to convert is unknown and dependent on other, non-financial, considerations.

Table 6
Financial Ratios for Each Hospital, 1997

	Hospital A	Hospital B	Hospital C	Hospital D	Rural Hospitals (median)
Operating Margin[a]	3.6%	7.2%	9.0%	10.5%	3.5%
Total Margin[b]	4.7%	7.9%	8.0%	11.7%	4.7%
Current Ratio[c]	2.1	3.1	4.9	3.2	2.0
Fixed Assets Ratio[d]	.50	.49	.23	.10	.41

[a] Operating margin is defined as the excess of operating revenue over expenses divided by operating revenue.
[b] Total margin is defined as the excess of total revenue over expenses divided by total revenue.
[c] Current Ratio is defined as current assets divided by current liabilities.
[d] Fixed Assets Ratio is defined as fixed assets divided by total assets.

Source: HCCIS, 1997, Hospital Ratio database, 1997

Table 7
Financial Impact of the BBA and BBRA and Converting to CAH for Each Case-Study Hospital

	Projected Percentage Impact of the BBA and BBRA, 1998-2002	Percentage Impact of Converting to CAH, 1998
Hospital A	-11%	11%
Hospital B	-9%	-25%
Hospital C	-9%	-6%
Hospital D	-10%	-8%

Source: Minnesota Hospital and Health Care Partnership Spreadsheet, Hospital Financial Feasibility Studies

SECTION VI. STRATEGIES AND ANTICIPATED RESPONSES TO THE BBA BY CASE-STUDY HOSPITALS

Even without the new payment systems of the BBA, the case-study hospitals are all trying to find ways to cut costs without affecting the quality of patient care. In the four hospitals, there is a greater focus on operating the facilities as integrated health care systems rather than focusing on individual services. All of the hospitals agreed that services they offer are interconnected and that it is difficult to isolate the impact of the BBA on each service individually. One hospital administrator said,

> "*We are looking at the impact of the BBA from a systems approach. We are an integrated system. We are looking at how can we remain viable as a whole rather than concentrating on each center and each business*".

CONTRACTING FOR SERVICES

All four case-study hospitals have explored strategies to become more efficient and reduce costs. The BBA has prompted the case-study hospitals to reconsider cost-cutting strategies such as contracting with service vendors to fulfill traditional hospital functions. Two of the case-study hospitals tried outsourcing services such as laundry and housekeeping several years ago. Hospital A found the outsourcing choices limited and unreliable. Hospital A's administrator felt it was more effective to provide laundry and housekeeping services with in-house personnel in order to have greater control. Hospital B also examined outsourcing and found that transportation costs increased the cost of contracted services to an unacceptable level. Therefore Hospital B provides most services in-house.

Hospital D attempts to integrate all medical, hospital, and other health care services to reduce duplication of services, staff, medical records, telephone and computer systems. This consolidation of services makes the hospital not only more efficient but also streamlining the continuum of care. The BBA changes to Medicare reimbursement strengthens Hospital D's resolve to become even more efficient and to be even more creative in reducing costs without reducing quality of patient care.

CONSOLIDATION AND CLOSING OF SERVICES

Future reductions in Medicare revenue as a result of the BBA have caused all case-study hospitals to re-evaluate the services they offer. With the increasingly limited ability of one service to subsidize another, the merits of each service is being weighed individually. One case-study hospital is struggling with its home health service. It is not a profitable service. The home health agency serves a large area, approximately a 40 mile radius from the hospital. Recently administrators have discussed reducing the service area; however, because the community needs the service, the hospital will continue to provide home health services. Reduced home health reimbursement because of the BBA will continue to make it more and more difficult for the hospital to maintain its home health service.

Case-study Hospital B provides a wide range of services for the elderly such as adult day care, home health, and shuttle service to and from the hospital. However, with the projected reductions in Medicare payment, the hospital administrator is beginning to evaluate the return each service provides to the community and which services potentially could be cut.

Another case-study hospital administrator said that closing services affects the hospital's ability to attract and retain medical personnel. Even in the face of reimbursement reductions, it would be necessary to examine all of the potential effects of service closures carefully.

STAFFING

The ability to attract and retain qualified medical personnel and other health professional is a major problem for all rural hospitals. The BBA makes this problem even more difficult. Labor costs are the greatest cost to a hospital. In reaction to the Medicare payment reductions of the BBA, the case-study hospital administrators said that they will examine reducing staff or changing hours of operation. The administrators said that while the staff was the most expensive part of the hospital's operation, it was also the most important. Reducing one staff member might mean doing away with an entire department in some small hospitals. Hospital D found that nurses are not well-trained to handle the BBA changes. For example, BBA reporting requirements call for nurses to spend more time processing data and documenting actions.

PAPERWORK/TRAINING

Three of the hospitals found the new reporting systems created by the BBA have led them to devote more staff time to billing and quality assurance. Hospital B staff have attended training seminars in using the new payment systems and document manuals. In the short-run, Hospital B experienced increased staff costs because of overtime for training and working with the new payment rules. Hospital C found that the paperwork was an increased burden and that 1.5 new full-time equivalent had to be devoted to billing and paperwork. Hospital D felt that educating staff was extremely important and that training would remain an important function of hospitals. The new BBA reporting and quality assurance documentation is a burden on the hospitals. The administrator of Hospital D felt that the hospital needed to improve its efficiency in handling paperwork and saw the increased data requirements as a challenge.

RENOVATIONS

The BBA has had no impact on capital improvements or renovation plans of the case study hospitals.

BBA AND SKILLED NURSING SERVICES

Two hospitals in this analysis offer hospital-based skilled nursing services. Both hospital-based skilled nursing facilites have not changed the way they operate because of the BBA. However, one of the hospital-based skilled nursing facilities has hired an additional nurse to handle the increased paperwork as a result of the BBA.

BBA AND HOME HEALTH SERVICES

Two case-study hospitals offer hospital-based home health services. Both hospitals have not made administrative or operational changes because of the new BBA payment system for home health. Neither of the home health services offered by the case-study hospitals is profitable, but there is a need for these services in the community. For one of the hospitals, home health services are a small part of total gross revenue for the hospital. The hospital is selective in which clients receive home health services. A number of clients are refused service because the hospital does not have the staff or resources to meet the needs of certain patients. Also, the new reporting system for home health has led the hospital to devote more staff time to billing.

The other hospital-based home health agency reported that travel expenses are high and recently considered shrinking its service area. However, the hospital board felt that providing home health services was a part of the mission of the hospital. Although the hospital continues to offer the service, it is increasingly difficult to maintain because of the reduced Medicare reimbursement.

CONVERSION TO CRITICAL ACCESS HOSPITALS

The two government-owned hospitals have conducted financial feasibility studies to analyze the impact of converting to a critical access hospital. Both hospitals say they will convert to CAHs.

The two non-profit organizations have also considered CAH conversion but need more information. One hospital administrator said that all staff --- physicians, nurses, technicians -- need to learn about what it means to be a CAH. The other hospital administrator said that if staff understand the upcoming changes of the BBA and if there is "buy-in" on solutions needed to cope with the payment reductions, it may be possible to avoid converting to CAH.

IMPLICATIONS OF THE BBA

> *" The future impact of all the BBA changes is to reduce the quality of health care for patients."*

Three of the four hospital administrators predicted that the BBA will reduce the quality of health care for patients in rural areas. One hospital administrator predicted that ultimately there will be clusters of health care services in rural areas. In other words, patients will have to go to different locations to receive the different services they need as opposed to going to an integrated health care center. Another administrator said that the increased paperwork and regulations from the BBA means nurses and physicians will spend less time with patients.

The administrator from Hospital D felt that rural hospitals, because of the unique challenges they face such as an aging and low-income population, have had to find ways to operate efficiently. The administrator said,

> *"... rural hospitals are very efficient. We have to be... The BBA is cutting reimbursement rates on the backs of rural health care..."*

The administrator went on to say that the BBA reforms have a greater negative impact on rural hospitals than urban hospitals. Rural hospitals provide the same care as urban hospitals at a lower cost. The hospital administrator went on to say that the reduced Medicare reimbursement payments will only hurt rural hospitals and consumers because hospitals will be forced to subsidize important services such as home care and outpatient care with resources that support other services.

Ultimately, the long-term impact of the BBA for rural hospitals will be the elimination of unprofitable health care services in order for the hospital to survive. As one hospital administrator said,

> *" ... the long-term effect of the BBA will be less health care services in rural areas... rural hospitals will trim services in order to survive ..."*

All four case-study hospitals agreed that the data requirements are an additional administrative burden. They said that the BBA regulations and data requirements will harm the patient, because they receive less time with nurses and physicians. They noted that it is ironic that hospitals will add staff who will devote their time to paperwork at the same time that they will reduce patient care staff.

Despite the reduced Medicare payments, all four hospitals saw themselves continuing their missions of providing health care in their communities. One hospital administrator speculated that the BBA will be corrected in the future and does not want to rush and make operational or administrative changes that he will later reverse.

CONCLUSION

It is clear that hospitals will need to change the way they do business because of the BBA. The BBA implements three prospective payment systems - for hospital outpatient services, skilled nursing facility services and home health services. Approximately 75 percent of rural hospitals in Minnesota will be affected by at least one of the new prospective payment systems in the next four years. After 2004, if nothing is done to alter implementation of outpatient PPS, all rural hospitals will be affected by it. Although outpatient PPS is projected to lower Medicare payments for rural hospitals it will be especially burdensome for those rural hospitals that also offer skilled nursing services, or home health services, or both.

All the case-study hospitals are examining the potential financial impacts of the BBA but are finding it difficult to isolate the impact of the BBA on each service provided by the hospital. All four case-study

hospitals agreed that it is still too early to know what the effects of the BBA will be on their facilities and they are taking a “wait and see” approach. They are all analyzing their finances and are trying to understand the impact of the BBA. Two of the hospitals have decided to convert to CAH to take advantage of cost-based reimbursement for both inpatient and outpatient Medicare services. All four case-study hospitals agree that the long-term effects of the BBA will be to reduce the quality of health care for patients in rural areas.

SECTION VII: CONCLUSION AND NEXT STEPS

What effect will the Balanced Budget Act of 1997 have on rural hospitals in Minnesota? The jury is still out. Although the anticipated reductions in reimbursement contained in the BBA are projected, on average, to harm rural hospitals, mitigating factors have entered the picture since the August 1997 passage of the BBA:

- The Balanced Budget Refinement Act of 1999 restored approximately 13 percent of the project BBA cuts and postponed full implementation of the outpatient prospective payment system for rural hospitals.
- Since 1998, rural hospital administrators complied with the regulatory provisions of the BBA and improved their efficiency to cope with lower payments.
- Further restorations of BBA payment cuts are contained in the Labor, Health and Human Services, Education Appropriations Bill and the Medicare, Medicaid, and State Children's Health Insurance Program Beneficiary Improvement and Protection Act of 2000, two bills which currently are held up in Congress, pending the outcome of the presidential election.

These mitigating factors likely will blunt the projected effect of the BBA on rural hospitals. However, many rural hospitals will still be affected by the BBA payment reductions, and given that they had lower operating margins to begin with than urban hospitals and that they are more highly diversified than urban hospitals, it is likely that rural hospitals will be affected by the payment reductions more substantially.

The lag in time between the occurrence of financial transactions and the reporting of financial information for use by policy makers is such that, at this point, we cannot draw many conclusions about the affect of the BBA on rural hospitals. In Minnesota we have analyzed statewide information on the finances of rural hospitals only through 1998. Nationally, we know that the rate of hospital closures increased by 13 percent in 1998 (the first year of BBA implementation) over 1997. In 1998, 43 hospitals closed, according to the Health and Human Services Office of the Inspector General. Fifteen of the closed hospitals were located in rural areas (35 percent) and 28 were located in urban areas (65 percent). The most frequently cited reasons for closure were low census, financial problems, outdated facilities, Medicare and Medicaid payment reductions, and increased competition.[16] No hospitals in Minnesota closed in 1998, although two converted to critical access hospitals.

The most timely approach to studying the effects of the BBA is using case studies. Through case studies it is possible to learn in "real time" the financial impact that the BBA is having on case-study facilities and the actions they have taken to cope with payment reductions. The limitation of this approach is that only four facilities are monitored. Also, because financial stability in 1997 was a selection criterion, the four case-study hospitals will not be as sharply affected by the BBA as some other Minnesota rural hospitals might be.

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[16] HHS Office of Inspector General report released July 28, 2000. http://www.hhs.gov/oig/oei/reports/a447.pdf.

To date, the regulatory effects of the BBA seem to have had the greatest impact on hospitals. New coding, billing, and documentation requirements have added staff to hospitals and increased the need for continuous training. Although payment reductions have occurred and are being felt, they do not appear to be critical yet. The most critical area of payment reduction seems to be in the area of home health. Home health providers are evaluating whether they should reduce their service areas or withdraw from the business altogether.

The BBA also created the Medicare Rural Hospital Flexibility Program. Participation in the program, that is, converting to critical access hospital (CAH) status, is a strategy that some rural hospitals are selecting to combat the payment downturns of the BBA. Nationally, there are 259 certified CAHs (September 30, 2000); Minnesota has six certified CAHs and another six hospitals are in the process of converting.

This study should be considered a first step in monitoring the impact of the BBA on rural hospitals in Minnesota. Future steps should include:

- Monitoring Congress for proposed changes in Medicare payment policies and provider regulations and supporting the efforts of advocacy organizations to obtain recognition of the special needs of rural providers.
- Continuing to site-visit case-study communities annually to assess the impact of BBA reforms. The assessment should consider not only the financial implications of the BBA, but the strategies employed by the hospitals to cope with reduced payments and their effects on the hospital and the community served.
- Monitoring the statewide impact of the BBA on the financial performance of all rural hospitals annually beginning with fiscal year 1999.
- Reporting to the Rural Health Advisory Committee and the State Rural Hospital Flexibility Program Advisory Committee on an annual basis any observed impact of the BBA reforms.

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