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Righting the Stereotypes in Quality of Care Between Rural and Urban Hospitals

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I. INTRODUCTION

Rural hospitals are important to the rural landscape because they are the primary source of health care for a rural community, since the next nearest hospital may be hours away.¹ They also attract physicians and health care providers to the area.² Despite their importance in the community, rural hospitals have historically been considered substandard in comparison to urban hospitals.³ Rural hospitals have dealt with hardships, most of which are economic, but they also have been unable to shed the stereotype of providing a lesser quality of care

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¹ Claude Earl Fox, M.D., Adm'r. of Health Resources & Servs. Admin., Dep't of Health & Human Serv., Testimony on the Potential Crisis Facing Rural Hospitals and the Impact on Rural Communities (July 14, 2009), *available at* <http://www.hhs.gov/asl/testify/t990714c.html> [hereinafter Testimony of Fox]; Robert A Berenson, M.D., Dir. of the Ctr. for Health Plans & Providers, Dep't of Health & Human Serv., Testimony on the Balanced Budget Act and Rural Hospitals (July 14, 2009), *available at* <http://www.hhs.gov/asl/testify/t990714b.html> [hereinafter Testimony of Berenson"].

² Testimony of Fox, *supra* note 1.

³ See Reuters Health. *Heart Care in Rural Hospitals Matches Urban Ones*. REUTERS, Dec. 3, 2009, *available at* <http://www.reuters.com/article/idUSTRE5B24W820091203> [hereinafter *Heart Care*].

to patients.⁴ A 1979 report illustrated this perceived deficiency by stating “that the number of procedures performed at a hospital (hospital volume) and mortality rates for many surgical procedures were inversely related.”⁵ Exacerbating this stigma, rural hospitals generally do not have specialists that provide more specific care, due to the lower volume of patients.⁶

In the past, rural hospitals may have provided a lesser quality of care; however, rural hospitals have closed the gap in care and are now equal to smaller urban hospitals for many health care treatments, including care for myocardial infarctions, also known as heart attacks, and Cesarean sections.⁷ In some areas, such as strokes, rural care lags behind urban hospitals, but many new procedures are being used to lower differences in care.⁸

Rural hospitals have proven to be an integral part of their communities by providing necessary care as well as maintaining the economic stability of the area. With many rural hospitals struggling financially and being forced to close in the

⁴ James Rohrer, *Closing Rural Hospitals: Reducing “Institutional Bias” or Denial of Access*, 10 J. PUB. HEALTH POL’Y 353, 356 (1989); Emmett Keeler, et al., *Hospital Characteristics and Quality of Care*, 268 J. AM. MED. ASS’N, 1709, 1709 (1992). (“Many studies have shown that better outcomes for specific procedures are related to the number of such procedures that hospitals and physicians perform”).

⁵ Arnold Epstein, *Volume and Outcome - It is Time to Move Ahead*, 346 NEW ENG. J. MED. 1161, 1161 (2002).

⁶ Paul James, et al., *Myocardial Infarction Mortality in Rural and Urban Hospitals: Rethinking Measures of Quality of Care*, 5 ANNALS FAMILY MED. 105, 105 (2007).

⁷ See *infra* notes 13-35 and accompanying text (discussing statistical analyses that assessed myocardial infarction and Cesarean section rates in rural versus urban hospitals); see also *Heart Care*, *supra* note 3; Sandra Greene, et al., N. CAROLINA RURAL HEALTH RESEARCH AND POL’Y ANALYSIS CTR., CESAREAN SECTION RATES IN RURAL HOSPITALS 1 (Mar. 2005), available at http://www.shepscenter.unc.edu/rural/pubs/finding_brief/FB79.pdf (noting that a Cesarean section is a “major abdominal surgery that carries risk to both mother and baby” and that best practices including vaginal birth “to women with previous deliveries by Cesarean section.”).

⁸ See Enrique C. Leira, et al., *Rural-Urban Differences in Acute Stroke Management Practices: A Modifiable Disparity*, 65 ARCHIVES NEUROLOGY 887, 889 (2008); Jacques Joubert, et al., *Stroke in Rural Areas and Small Communities*, 39 J. AM. HEART ASS’N 1920, 1922 (2008).

1980s and 1990s,⁹ it appeared that many rural lives would change, but the federal government stepped in to provide economic relief by enacting the Balanced Budget Act (BBA) of 1999.¹⁰ This allowed many rural hospitals to remain open and kept the quality of care in those communities higher than they would be without a local hospital.

This article is going to address whether the stereotypes about rural hospitals having lower quality of care are actually true. It will also look at how rural hospitals improve their care and economic stability since they are an important component of health care in the American landscape.

II. QUALITY OF CARE

Rural hospitals may have provided a lower quality of care in the past; however, rural hospitals have almost eliminated the gap in care for myocardial infarctions and Cesarean sections.¹¹ In some areas, such as strokes, rural care lags behind urban hospitals, but many new procedures are being used to lower differences in care.¹² These three procedures and conditions are discussed because they are common to both the rural and urban landscape and can have serious impacts on a patient.

A. *Myocardial Infarctions*

In 2007, a study was published focusing on the quality of care between Iowa's rural and urban hospitals based on in-hospital mortality rates for patients

⁹ Testimony of Fox, *supra* note 1.

¹⁰ Testimony of Berenson, *supra* note 1 (discussing rationale behind and effect of the BBA).

¹¹ See *infra* notes 13-35 and accompanying text; see also *Heart Care*, *supra* note 3; Greene, et al., *supra* note 7.

¹² See Leira, et al., *supra* note 8; Joubert, et al., *supra* note 8.

that had myocardial infarctions.¹³ The crude numbers showed rural hospitals having a significantly higher mortality rate (14%) than urban hospitals (6.4%).¹⁴ Certain variables were discovered, however, that may have caused rate exaggeration,¹⁵ suggesting that the disparities between rural hospitals and their urban counterparts were not quite as great.

First, the study found that patient demographics were very different between the two types of hospitals.¹⁶ Patients admitted to urban hospitals were younger, while patients admitted to rural hospitals were substantially older and sicker.¹⁷ Also, patients who were originally admitted to a rural hospital, and later transferred to an urban hospital had lower risk profiles than patients who remained at rural hospitals.¹⁸ Since the sickest patients are kept at rural hospitals and the ones with a lower risk profile are transferred, it is sensible that the in-hospital mortality rates would be higher. Once the study controlled the selection bias and evaluated the mortality of comparable patients between rural and urban hospitals, different numbers resulted.¹⁹ The study “showed that patients with myocardial infarction admitted to urban hospitals no longer have reduced in-hospital mortality compared with their counterparts admitted to rural hospitals.”²⁰

Another study, running over eight years, used more than 350,000 patients who were treated for heart problems, including heart attack, severe chest pain, and

¹³ James et al., *supra* note 6, at 106.

¹⁴ *Id.* at 107.

¹⁵ *Id.* at 107-08.

¹⁶ *Id.*

¹⁷ *Id.* at 106, 108.

¹⁸ *Id.* at 108.

¹⁹ *Id.*

²⁰ *Id.* at 110.

blocked heart arteries.²¹ Without controlling for any demographic variables the death rate for patients at urban hospitals was 4.5% while only 5.7% at rural hospitals.²² Once the researchers accounted for other variables, such as patient age and co-existing medical conditions, the study found no significant difference in rural and urban patients' risk of dying, and concluded that "similar patients getting similar procedures at rural and urban centers fare equally well."²³

The research study revealed two differences between rural and urban hospitals in the facilities and resources provided by the hospital.²⁴ First, only 46% of rural hospitals provided onsite cardiac surgery, while 82% of urban hospitals were able to provide similar cardiac surgery.²⁵ Second, rural hospitals had lower rates for providing patients with guideline recommended therapies, but when accounting for patients' health and other characteristics, there were no substantial difference in receiving the recommended therapies.²⁶ The study concluded that there was no difference in care between rural and urban hospitals.²⁷

The two studies show that crude numbers may exaggerate rural hospitals' mortality rates, but when accounting for patient characteristics, the statistical difference between rural and urban hospitals becomes negligible.

²¹ *Heart Care*, *supra* note 3.

²² *Id.*

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.*

²⁶ *See id.* (noting that guideline therapies include giving aspirin within twenty-four hours of heart attack symptoms, smoking-cessation counseling, and prescriptions for blood pressure and cholesterol drugs).

²⁷ *Id.*

B. Cesarean Sections

A Cesarean section is a major abdominal surgery used to deliver babies.²⁸ Cesarean sections are more dangerous to the mother and baby than vaginal delivery; thus, they are usually performed only when a doctor anticipates a problem or a problem occurs during delivery.²⁹ The rates for performing Cesarean sections are only slightly higher between rural (25.3%) and urban (24.9%) hospitals.³⁰ Furthermore, when urban hospitals were classified into teaching and non-teaching hospitals, it was found that “the rate in the urban non-teaching hospitals was identical to the [total] rural [hospital] rate.”³¹

Rural hospitals had a higher rate of Cesarean sections on weekdays and a lower rate on weekends, almost a 10% drop,³² than their urban counterparts.³³ Based on these statistics, some people have assumed that rates for Cesarean sections may be higher in rural hospitals because of the lack of or inadequate surgical coverage on weekends.³⁴ Since there is less surgical coverage on weekends, many rural doctors schedule Cesarean sections during the week in anticipation of possible weekend deliveries that could have problems.³⁵ This use of preventative care is one reason that there is a dramatic decrease of Cesarean sections on weekends. Therefore, even though a Cesarean section may be more

²⁸ Greene et al., *supra* note 7, at 1.

²⁹ *See id.*

³⁰ *Id.*

³¹ *Id.*

³² *Id.* at 3.

³³ *Id.* at 1.

³⁴ *See, e.g., id.* (positing that slower diffusion of best practices or lack of surgical care on weekends might affect Cesarean section rates at rural hospitals).

³⁵ *Id.*

risky than a vaginal birth, higher rates of performing Cesarean sections do not necessarily correlate to a lower quality of care.

C. Strokes

Notwithstanding the relatively equitable care between rural and urban hospitals with respect to Cesarean sections and myocardial infarctions, there appears to be a larger difference in quality of care for strokes. One reason may be that “rural areas ... [have] increased stroke related disability because of lack of access to and usage of preventative services.”³⁶ A few other causes may be contributing to the apparent lower quality of care in rural hospitals, including less pre-hospital stroke care, less experience dealing with stroke victims in an emergency room, and reservations among smaller emergency room doctors about using recombinant tissue plasminogen activator (rtPA).³⁷ The use of rtPA, “a thrombolytic drug made using recombinant DNA technology,”³⁸ is valuable because “it can sometimes dissolve blood clots that cause ischemic strokes.”³⁹

In an attempt to eliminate this disparity, several ideas have been proposed, such as improving “prompt recognition of stroke symptoms by patients and their caregivers, rapid notification of emergency services personnel, and a similar rapid response and transport by paramedics.”⁴⁰ Another way to help rural hospitals

³⁶ Joubert et al., *supra* note 8, at 1922.

³⁷ Leira et al., *supra* note 8, at 888-89.

³⁸ EverydayHealth.com, Glossary of Stroke Terms, <http://www.everydayhealth.com/senior-health/stroke/glossary-of-stroke-terms.aspx> (last visited Feb. 5, 2010).

³⁹ *Id.*

⁴⁰ Leira et al., *supra* note 8, at 888.

includes teaching rural doctors how to use rtPA, since most rural hospitals have the capability to use the technology.⁴¹

Additionally, one of the most practical and easy to implement ideas is the use of telemedicine. Telemedicine can provide reliable and objective information by allowing a real time examination, through video, audio, and neuro-imaging, which allows a patient to be treated locally with the assistance of a tertiary care physician.⁴² Telemedicine may be the only option for remote areas where transferring a patient by ambulance or hospital is not an option.⁴³ While the quality of care for strokes at rural hospitals may not be up to par with urban hospitals, there are many viable options that would allow rural hospitals to improve their care by working with urban hospitals.

III. IMPORTANCE OF RURAL HOSPITALS ON THEIR COMMUNITIES AND THEIR CHALLENGES

Rural hospitals have struggled financially for a variety of reasons, which has affected the surrounding communities. The federal government finally decided to help rural hospitals by providing additional funding.⁴⁴ This extra funding has allowed rural hospitals to use new strategies to close any gaps in quality of care when compared with urban hospitals.

⁴¹ *Id.* at 889.

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *See generally*, Balanced Budget Act of 1997, Pub. L. No.105-33, 111 Stat. 251 (1997) [hereinafter BBA of 1997]; Medicare, Medicaid, and Schip Balanced Budget Refinement Act of 1999, Pub L. No. 106-113, 113 Stat. 1501 (1999) [hereinafter BBRA of 1999].

A. Economic Impacts and Difficulties Surrounding Rural Hospitals

Rural hospitals are prone to having small operating margins, which causes them to diversify their services to provide care to their communities.⁴⁵ Due to the low volume of patients, rural hospitals are very dependent on each service that they provide to remain economically viable.⁴⁶ Rural hospitals are not only important for medical care, but they also provide 10% to 15% of all jobs in many rural counties, and “if the secondary benefits of those jobs are included, the health sector then accounts for 15% to 20% of all jobs.”⁴⁷ Rural hospitals also help local economies by bringing in outside dollars, stimulating local purchasing, and attracting industry and retirees to an area.⁴⁸ Thus, rural communities need hospitals not only for medical care, but to help boost the rural economy,⁴⁹ which is a compelling reason to help rural hospitals operate with a profit.

A main issue affecting rural hospitals’ financial struggle is the low volume of patients, but very little can be done to alleviate this problem. The next major difficulty is the disparities in payers of patient care since “a greater percentage of rural residents [18%] are Medicare beneficiaries, compared to urban residents [15%].”⁵⁰ 39% of rural hospital inpatient revenue comes from Medicare payments, and in some areas it can reach as high as 80%.⁵¹ This is a problem

⁴⁵ Testimony of Fox, *supra* note 1. (diversification of rural hospital services include: 100% provide outpatient services; 59% operate home health agencies; 72% provide either a home health agency, a skilled nursing facility, or both; 21% operate an outpatient center, a skilled nursing facility, and a home health agency).

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ George Holmes et al., *The Effect of Rural Hospital Closures on Community Economic Health*, 41 HEALTH SERV. RESEARCH 467, 467 (2006).

⁴⁹ *Id.* at 467-68.

⁵⁰ Testimony of Fox, *supra* note 1.

⁵¹ *Id.*

because “total Medicare payment per beneficiary is nearly \$1,000 less for rural beneficiaries than for urban beneficiaries.”⁵² The lower Medicare payments, in turn, caused a “rapid succession of [rural] hospital closures throughout the 1980s and 1990s [which] helped stimulate legislation, such as the creation of Critical Access Hospitals”⁵³ and the BBA of 1997.⁵⁴ Both acts were designed to ensure the economic stability of rural hospitals by providing more funding which could also improve the quality of care.

B. Economic Reforms to Help Rural Hospitals

The BBA of 1997 was designed to cut Medicaid costs in order to balance governmental spending, but also provided additional funding for Medicare.⁵⁵ In 1999, President Clinton wanted to add more provisions to the BBA so that rural hospitals would have a better chance of qualifying for higher urban payments, which was accomplished by lowering the average wage for employees necessary to qualify for the higher reimbursement rates.⁵⁶ This plan was designed to increase payments to low-volume rural hospitals,⁵⁷ which would, in theory, allow them to achieve greater economic stability.

Other reforms proposed to the BBA of 1997 by President Clinton included helping rural hospitals adjust to new outpatient prospective payments systems,

⁵² *Id.*

⁵³ Holmes et al., *supra* note 46, at 468.

⁵⁴ BBA of 1997, *supra* note 43.

⁵⁵ See generally Andy Schneider, *Overview of Medicaid Provisions in the Balanced Budget Act of 1997*, P.L. 105-33, CTR. ON BUDGET & POL’Y PRIORITIES. (Sept. 8, 1997), <http://www.cbpp.org/cms/index.cfm?fa=view&id=2138>. (noting that the Medicaid cuts are projected to save the government \$61.4 million over ten years, while Medicare will cover increases in premiums from \$43.80 to \$105.40 in those same ten years.)

⁵⁶ Testimony of Berenson, *supra* note 1.

⁵⁷ *Id.*

making additional funds available to rural hospitals, and giving rural hospitals larger rate increases between 2003 and 2009.⁵⁸ There was also a provision to provide more relief to “home health agencies.” A home health agency is defined as “[a] public or private agency that specializes in providing skilled nursing services, home health aides, and other therapeutic services, such as physical therapy, in the home.”⁵⁹ Home health agencies are often associated with rural hospitals by “extend[ing] the time for agencies to repay overpayment without interest from one year to three years.”⁶⁰ The BBA also helped rural hospitals through a reform in Medicare payment systems by: (1) allowing very small “critical access” hospitals to be reimbursed for the money spent on each patient;⁶¹ (2) reinstating the Medicare dependent hospital” designation;⁶² (3) “permanently grandfathering special ‘rural referral center’ status;”⁶³ (4) “allowing more rural hospitals to obtain special ‘disproportionate share’ payments,” which hospitals serving higher volumes of low income patients receive; and (5) “authorizing payment for telemedicine.”⁶⁴ The telemedicine provision was especially important as a way to close the gap in quality of care between rural and urban

⁵⁸ *Id.*

⁵⁹ ANN BOOKMAN ET AL., FAMILY CAREGIVER HANDBOOK: FINDING ELDER CARE RESOURCES IN MASSACHUSETTS (2007), available at <http://web.mit.edu/workplacecenter/hndbk/sec7.html#H>.

⁶⁰ Testimony of Berenson, *supra* note 1.

⁶¹ *See id.* (stating that Medicare usually reimburses hospitals based on the average expected cost for specific diagnoses).

⁶² *Id.* (noting that Medicare dependent hospitals provide “higher reimbursement for rural facilities with less than 100 beds serving large numbers of Medicare beneficiaries”).

⁶³ *Id.* (stating that Rural referral centers are considered hospitals with 275 or more beds that serve large numbers of patients that live more than 25 miles away from the hospital or other referred hospital).

⁶⁴ *Id.* (noting that Telemedicine is a medical consultation completed over the phone or computer for patients living in rural areas).

hospitals for strokes.⁶⁵ It is unclear whether these provisions will help close the minimal gaps left in quality of care between rural and urban hospitals or help relieve the economic stress that is placed on rural hospitals, but these moves are a step in the right direction.

IV. CONCLUSION

Rural hospitals were historically perceived to have a lower quality of care than urban hospitals; however, when variables that can create significantly disparate research outcomes, such as patient characteristics and transfer rates of patients, are controlled for in comparative studies, the quality of care for certain procedures such as myocardial infarctions and Cesarean sections was similar for rural and urban hospitals.⁶⁶ Even though perceived disparities in care were usually not statistically significant, rural hospitals have still struggled to shed their image of providing a lower quality of care.

Although differences in quality of care have been found to be more pronounced for strokes, many new ideas have been proposed and implemented to close the gap and help rural hospitals perform at the same level as urban hospitals. Many of these proposals call for urban hospitals to provide education and assistance to rural hospitals.⁶⁷ Accordingly, through a sharing of ideas and education, the disparities will disappear and acknowledgement of the perceived deficiency in rural hospital care will disappear as well.

⁶⁵ See *supra* notes 42-43 and accompanying text (describing the role of telemedicine in decreasing disparities between rural and urban hospitals).

⁶⁶ See *supra* notes 13-35 and accompanying text (dispelling myths that rural hospitals provide lower qualities of care with respect to myocardial infarctions and Cesarean sections).

⁶⁷ See *supra* notes 55-635 and accompanying text (discussing the BBA's economic proposals for reform).