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Doohee Lee

Marshall University, leed@marshall.edu

Chris Dixon

Marshall University, dixon37@marshall.edu

Paul Kruszynski

Marshall University

Alberto Coustasse

Marshall University, coustassehen@marshall.edu

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IS UNCOMPENSATED CARE AFFECTING QUALITY ASSURANCE OF RURAL HOSPITALS?

Doohee Lee, Marshall University Graduate College

Chris Dixon, Marshall University Graduate College

Paul Kruszynski, Marshall University Graduate College

Alberto Coustasse, Marshall University Graduate College

ABSTRACT

Healthcare disparities in rural areas remain significant in the U.S. healthcare industry. Uncompensated care makes healthcare disparities in rural areas worse and rural hospitals are unfavorably positioned to compete with urban hospitals in the economic downturn marketplace. How uncompensated care affects quality care among rural hospitals has been lightly investigated. As many rural residents experience difficulty accessing high quality care and the importance of establishing quality care practice standards in a rural setting, we conducted a systematic literature review to identify some quality care barriers and opportunities, suggested strategies to strengthen the position of rural hospitals in response to uncompensated care.

INTRODUCTION

With the rising trend of the uninsured in the United States and national health care expenditures at an all-time high, hospitals and healthcare providers all over the nation are facing the financial pressures brought on by the colossal burden of uncompensated care costs. Healthcare in the U.S. is a fragmented system that leaves roughly 47 million Americans uninsured (U.S. Census Bureau 2006). This problem has only grown worse in light of the current economic crisis because of rising unemployment, which has increased the amount of uncompensated care provided

by healthcare institutions (Holahan & Garrett 2009). Although no gold-standard definition exists for uncompensated care (Coustasse et al. 2009), it can generally be defined as healthcare provided in which full payment was not received (Hadley & Holahan 200). Hadley, Holahan, Coughlin, & Miller (2008) have refined their definition to be uncompensated care as the amount of provided care that is not compensated from out-of-pocket costs, third-party reimbursements, or government subsidies. Additionally, according to the American Hospital Association (AHA), uncompensated care is further defined as the combined costs of hospital charity care and bad debt resulting from providing care to the indigent and uninsured (AHA 2006). Charity care is referred to as healthcare provided to a patient with the foreknowledge that the patient is unable to pay for these services (Baker & Baker 2006). Charity care amounted for roughly \$80 billion or five percent healthcare services (Getzen 2007). Bad debt in simple terms is an account that cannot be collected. Bad debt is accrued when healthcare is provided by the hospital and full payment is not received for these services, either by the patients' unwillingness or inability to pay (Baker & Baker 2006).

Lastly, the Centers for Medicare and Medicaid Services (CMS) (2005) defined uncompensated care as the uncollected and unrecoverable cost of services rendered to the uninsured and indigent population. Included is the cost of care, expressed in undiscounted hospital charges, provided to eligible recipients of state healthcare benefits less any reimbursement for those services by the state, Medicaid, or another payer. However, CMS also stated that UC does not include bad debt or payer discounts (CMS 2005). The AHA and Hadley et al. definitions differ from CMS because they include bad debt charges and discounts.

According to the Kaiser Foundation (2004), total uncompensated care provided for the year 2004 totaled roughly \$124.5 billion with the following breakdown: about 63% spent by hospitals, 19% by community healthcare providers and clinics, and 18% by private physicians. Although government and private subsidies absorb a portion of these costs via Disproportionate Share Hospital (DSH) payments, it is estimated that U.S. hospitals are still responsible for roughly 26 billion dollars in uncompensated care costs (Hadley and Holahan 2004).

One common practice for hospitals to compensate for this deficit is by cost shifting (Clement 1997; Zwanziger and Bamezai 2006). Increased healthcare delivery cost and health insurance costs are a result of increased uncompensated care costs. As a means for making up revenue lost by provision of uncompensated care, hospitals charge higher prices for services rendered to private payers covered by insurance companies (Shi 2008). In response, insurance companies raise their premiums in order to compensate for increased cost of services. Consequently, the rise in insurance premiums makes it difficult for employers to offer health insurance benefits to their employees, particularly small businesses, where only 42.6 percent of individuals working for small businesses are insured (National Center for Policy Analysis [NCPA] 2008). If an employer ceases to offer health benefits or is forced to offer them at a higher cost to the employee, many employees may be unable to afford coverage, thus perpetuating the vicious cycle of the uninsured (NCPA 2008).

Falling hospital reimbursement rates coupled with uncompensated care and other factors such as population density, expensive medical technology, Certificate of Need (CON) laws, and reduced travel time to urban facilities has made it difficult for rural hospitals to provide adequate quality of care compared with urban-based hospitals, urban-outpatient care centers, and urban-urgent care centers (Moscovice & Rosenblatt, 2000; Berry, 2006). This problem has persisted because private patients whom have the ability to procure healthcare services either through out-of-pocket or health insurance bypass rural care for non-emergent needs because it's cheaper, faster, and more reliable to use urban care services, while rural hospitals attract patients with Medicare/Medicaid (Lee, 2008). Uncompensated care has been directly associated with the uninsured that receive healthcare services. In 2008, it was estimated the U.S. government covered 75% of the uncompensated care provided by hospitals, community-based providers, and private physicians (Hadley et al, 2008).

Rural Hospitals

Rural hospitals provide healthcare for approximately 54 million individuals across the U.S. (AHA, 2006). In 2006, 13% of discharges were from rural hospitals, which serve roughly 21% of the U.S. population (Levit, Stranges, Ryan, & Elixhauser 2006). The Census Bureau (2000) classified urban as all territory, population, and housing units located within an Urbanized Area (UA) or an Urban Cluster (UC). It delineates UA and UC boundaries to encompass densely settled territory, which consists of: core census block groups or blocks that have a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile (US Census Bureau 2008). All other areas not meeting such criteria is defined as rural (Joubert, Prentice, Moulin, Liaw, Joubert, et al. 2008). In 2000, rural hospitals made up 46% of the total hospitals across the United States (Loux 2000). Rural hospitals can provide a wide range of services from inpatient to outpatient care as well as ER capabilities. However, rural hospitals have a much higher percentage of UCC (9.7% of net inpatient revenue) than urban hospitals (6.3%), but rural hospitals have controlled cost of patient care much better than urban resulting in breaking almost even (0.5 % profit margin) while urban hospital had a negative margin (-1.9%) in a Medicare study of short term acute care hospitals (Schuhmann 2008).

Quality of Care

In recent years, the importance of quality assurance is widely recognized among the general public and healthcare providers as up to 98,000 Americans die each year because of medical errors (Institute of Medicine 1999). The IOM defines quality of care as the extent to which healthcare services provided to patients' increases the probability of the desired or expected outcome of the patient and the provider (IOM 2009). Quality care is assessed by the measures of skill, availability, and flexibility of the doctor to provide adequate care (Moscovice & Rosenblatt 2000). There are currently five types of quality care measures: access, outcome, patient experience, process, and structure (NQM, 2009). Quality assurance indicators are important measures that gauge the hospital's ability to provide adequate care to all patients. A high level of uncompensated care can affect quality measures through reducing the financial stability of hospitals (Bazzoli, Chen, Zhao, & Lindrooth 2007). Reduced financial stability might cause the process and structure functions to be insufficient keeping healthcare providers from identifying inefficiencies and providing adequate quality of care (IOM 2001).

A Conceptual Model of Quality Care for Rural Hospitals

Identifying competitive strategies remains critical for rural hospitals as uncompensated care negatively affects both financial status and quality care of rural hospitals. We employ Avedis Donabedian's structure-process-outcome model (1966 & 2005) to understand how rural hospitals successfully compete with urban hospitals and further develop own competitive advantages in the marketplace in response to uncompensated care. Donabedian's model is well known for understanding quality care assessment and monitoring and has been extensively touted to study diverse health outcomes among health care scholars and practitioners in the past decades. Recognizing the importance of the external health care environment, Donabedian states that quality outcome is a function of structure (resources) and process (activities), and establishing measurement standards in each stage is important to manage quality improvement (Donabedian 1980; 1982). Utilizing Donabedian's quality care model, we present six quality care strategies that are identified from the literature (Figure 1). Basically, we contend in this Model that rural hospitals could outperform (or at least compete with) their urban counterparts by engaging in the four quality care strategies.

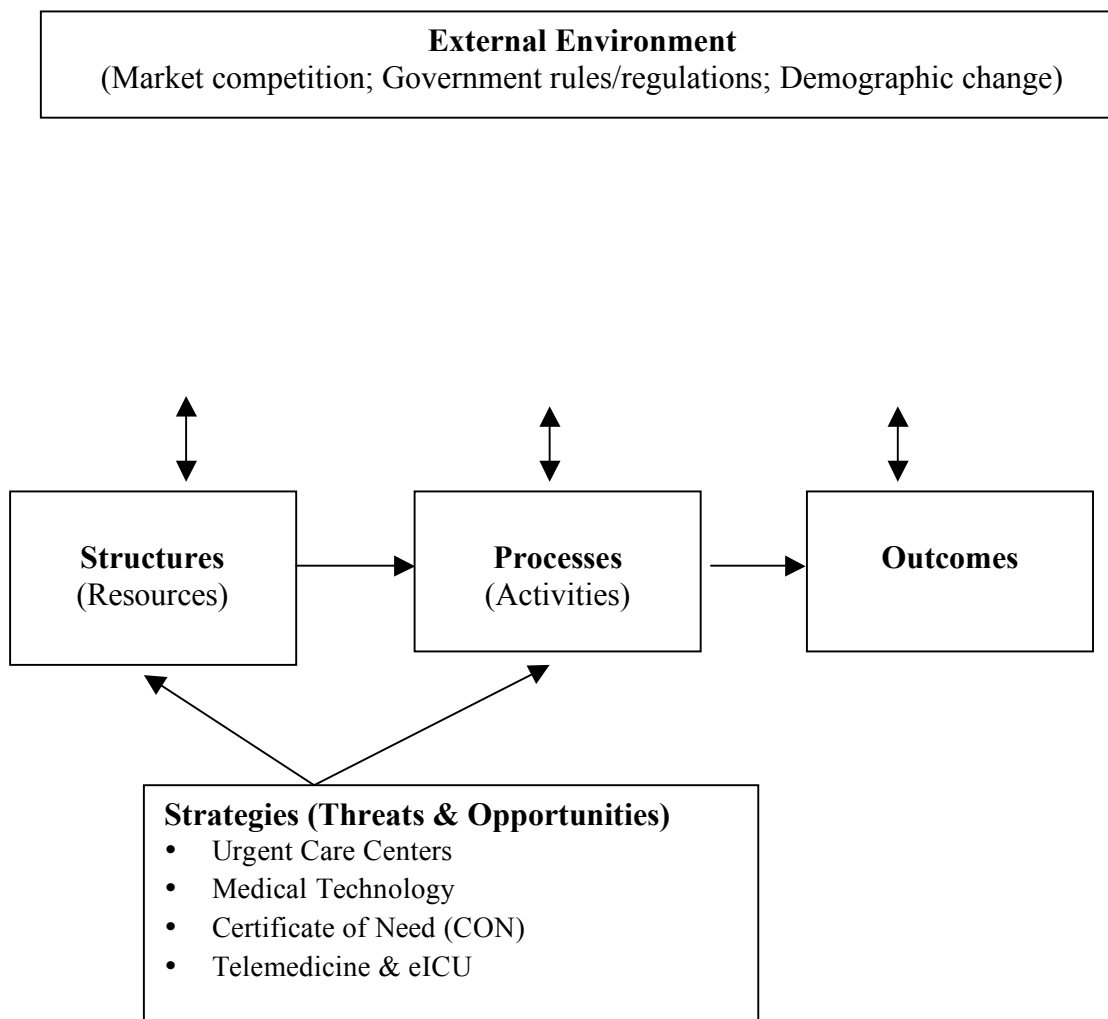


Figure 1: A Conceptual Model of Quality Assurance For Rural Hospitals

The main objective of this research is twofold: (1) to review the literature in terms of how UCC affects quality care of rural hospitals, (2) to provide strategic alternatives to sustain competitive advantages in response to uncompensated care.

METHODOLOGY

We conducted a systematic review of the literature to explore whether UCC affects the quality of healthcare in rural hospitals. A systematic review methodology has been popular among policymakers and health service researchers (Fox 2005) and one core advantages of a systematic review is the ability to limit bias by disclosing the purpose of the paper, the assembly of the literature and the appraisal of study quality (Callcut & Branson 2009). The systematic literature review helps link directly and indirectly uncompensated care to the inability of rural hospitals to provide adequate levels of care through proper staffing, using up-to-date technology, and increasing market competition. These variables can affect quality of care through lack of funding caused by providing uncompensated care. To fully capture quality and uncompensated care, the research study separated the two components and broke down what makes up each part. This research gathered data from well-known healthcare organizations, journals, and government websites who collect healthcare data.

Search Method

The systematic review tools for this research include the Internet search, healthcare related books, newspaper articles, and journal articles. All articles were obtained through electronic databases such as EBSCO host, PubMed, Medline AHA, CMS, U.S. Census Bureau, Institute of Medicine, and Agency for Healthcare Research and Quality (AHRQ)/Healthcare Cost and Utilization Project (HCUP). Most articles used for research were gathered through search terms such as “uncompensated care”, “quality of care”, “rural hospitals”, “financial effect of uncompensated care”, were combined using the Boolean method. All articles referenced in the study were in English and were limited to ten years (1999-2009) in order to make sure the information was current and up-to-date.

RESULTS

The study results are portrayed in Table 1. A systematic review generated the following alternatives that will enhance the ability of rural hospitals in competing with their urban counterparts. These strategies could be threats, rather than opportunities, when and if rural hospitals do not recognize the importance of each strategy and utilize them unsuitably.

Table 1. Results of Uncompensated Care Affecting Quality Care Among Rural Hospitals

<ul style="list-style-type: none"> • Author (year) 	<ul style="list-style-type: none"> • Type of Study 	<ul style="list-style-type: none"> • Key Findings (Keywords)
<ul style="list-style-type: none"> • Loux • (2000) 	<ul style="list-style-type: none"> • Quantitative • Literature Review 	<ul style="list-style-type: none"> • 46% of hospitals are classified as rural (rural hospitals)
Thorp (2000)	<ul style="list-style-type: none"> • Qualitative • Literature Review 	<ul style="list-style-type: none"> • Differences in billing software calculates uncompensated care differently (Billing software)

<ul style="list-style-type: none"> • Kellermann (2003) 	<ul style="list-style-type: none"> • Qualitative • Interview/Statement 	<p>Competition has shrunk rural hospitals profit margin and has affected quality of care (competition & profit margins)</p>
<ul style="list-style-type: none"> • CMS (2005) 	<ul style="list-style-type: none"> • Qualitative • Case Study 	<p>Nonpayment for provided care it does not include bad debt or underpayment costs (Uncompensated care definition)</p>
<ul style="list-style-type: none"> • Lubitz (2005) 	<ul style="list-style-type: none"> • Quantitative 	<p>With the GDP costs increasing to 14 percent in 2002 Medical Technology can account for almost half (healthcare spending, medical costs, GDP)</p>
<ul style="list-style-type: none"> • Enthoven (2005) 	<ul style="list-style-type: none"> • Qualitative • Case Study 	<p>Hospital systems make it easier to operate in rural areas (hospital systems: the outgrowth or merging of hospitals or satellite healthcare services)</p>
<ul style="list-style-type: none"> • IOM (2005) 	<ul style="list-style-type: none"> • Qualitative • Case Study 	<p>Uncompensated care is linked to quality of care through the financial status of healthcare institutions (uncompensated care & quality of care)</p>
<ul style="list-style-type: none"> • AHA (2006) 	<ul style="list-style-type: none"> • Qualitative • Case Study 	<ul style="list-style-type: none"> • Bad debt plus charity care (uncompensated care definition)
<ul style="list-style-type: none"> • Flatland (2006) 	<ul style="list-style-type: none"> • Quantitative • Case Study 	<ul style="list-style-type: none"> • Utilizing an urgent care center can be up to 50% cheaper than an ER visit (urgent care)
<ul style="list-style-type: none"> • Dobson (2006) 	<ul style="list-style-type: none"> • Qualitative • Literature Review 	<ul style="list-style-type: none"> • Healthcare services offered outside of the hospital ER will eliminate cost shifting that takes place which makes urgent care visits cheaper than the ER for non-emergent needs (cost shifting)
<ul style="list-style-type: none"> • ARC (2006) 	<ul style="list-style-type: none"> • Qualitative Literature Review 	<ul style="list-style-type: none"> • Easier travel in rural areas gives better access to health facilities (US infrastructure)
<ul style="list-style-type: none"> • Casto (2006) 	<ul style="list-style-type: none"> • Qualitative Literature Review 	<ul style="list-style-type: none"> • Price contracts providing third-party payers discounts places a greater burden of risk on healthcare facilities (Prospective payment system, price contract negotiations)
<ul style="list-style-type: none"> • U.S. Census Bureau (2007) 	<ul style="list-style-type: none"> • Quantitative • Survey 	<ul style="list-style-type: none"> • 79% of citizens are located in urban areas leaving roughly 21% to rural areas (US population density)
<ul style="list-style-type: none"> • Hadley (2008) 	<ul style="list-style-type: none"> • Quantitative • Literature Review 	<ul style="list-style-type: none"> • Covering the uninsured in 2008. 86 billion in healthcare services, 56 billion was uncompensated and 30 billion will be out of pocket (Uncompensated care, uninsured)

Urgent Care Centers

Urgent care centers have given potential non-emergent ER patients the option of receiving non-emergency care outside of the hospital ER. Most urgent care centers open seven days a week and operate extended office hours (Urgent Care Association of America [UCAOA] 2008). These centers offer medical care to walk-in patients at a fraction of the cost and reduced wait times compared to ERs. The cost savings of utilizing an urgent care center can be up to 50% compared to an ER visit (Flatland & White 2006). For those that pay for health services out-of-pocket or have high co-pays/deductibles, urgent care centers have provided the cheapest route resulting in patients bypassing the hospital ER reducing the inflow of revenue. The types of non-emergent care include x-rays, lab services, provider's office visits, wound care, and minor surgical procedures (UCAOA 2008). These services are offered outside of the hospital setting normally in rural or suburban areas because of cost shifting that takes place within hospitals which makes ER charges substantially higher than urgent care centers for non-emergent needs (Dobson et al 2006). This easy and greater accessibility allows insured patients and self-payers to bypass rural hospitals, diminishing rural hospital's inflow of revenue and severely reducing their financial ability to provide adequate quality of care (Kellermann 2003).

Medical Technology and Certificate of Need (CON)

As a percentage of Gross Domestic Product (GDP), healthcare spending in the United States rose from 5.7% in 1965 to 14.9% in 2002, with technological changes accounting for at least half of the growth (Lubitiz 2005). Improving and procuring medical technology is an elaborate process that involves substantial amounts of capital and hospitals are finding it difficult to raise capital due to the current state of the economy (Abelson 2008). This is a crucial part of the healthcare system that relies on Certificate of Need (CON) approvals and having the financial resources to acquire the equipment. Urban care facilities have more resources to purchase equipment and higher patient volume to qualify for CON than rural healthcare facilities placing them at a competitive disadvantage at a time when rural healthcare providers need to adapt to meet patients needs (Pollard 1999). On the other hand, there is evidence that states that have dropped CON experienced lower CABG mortality rates relative to states that kept CON, although the differential is not permanent. However, the question still remains on whether this is due to greater number of hospitals performing revascularization after CON removal, by building of more facilities, or lowering expenditures due to enhanced price competition (Ho et al. 2009).

Improved medical technology relies heavily on the process. The CON is a state-based regulatory measure responsible for the planning and diffusion of expensive medical technology. CON is the process which hospitals or other healthcare providers seeking a substantial expansion of their scope of services or physical facilities pursue approval from a government-endorsed entity (Shi 2008). The CON process is a way for governing bodies to control healthcare costs through the diffusion of medical technology. The governing body that approves a CON evaluates the geographic area in which the applicant has filed and makes their decision based on whether the existing facilities can adequately satisfy the need of that surrounding population. The CON can prevent facilities from purchasing

expensive and unneeded medical equipment just to offer a broader range of services to compete for more patients. In some areas, the CON process restricts rural hospitals from purchasing low utilization high cost equipment not allowing them to compete with their urban counterparts (Sorrel 2008).

Rural Telemedicine and Geographical Isolation

Traveling within the U.S. has become easier over the years as infrastructure projects have been completed. These projects such as highways, bridges, tunnels, and other roadway systems have made it easier for automotive travel giving better access to health facilities despite long driving. This has not only made it easier and quicker for patients to reach healthcare facilities within a timely manner; it has given them the ability to bypass rural hospitals and clinics, reaching urban healthcare settings within a relatively short time frame for non-medical emergencies (Appalachian Regional Commission [ARC] 2006). A common alternative to offset geographical isolation is telemedicine where rural patients could be screened and treated by urban medical providers. The literature provides evidence of benefiting from the rural telemedicine services (Puskins 1995; Smith et al. 2005; Frickton & Chen 2009;). E-ICU (Electronic Intensive Care Unit) is another strategic cost-saving alternative for rural hospitals in the context of telemedicine as studies document advantages of utilizing eICU in a rural hospital setting. eICU refers to a technology-enabled care model (Celi et al. 2001) and has been widely studied within the medical community. Although initial technology investment cost could be high, rural hospitals with eICU could certainly enhance the ability of drawing more patients. Evaluating the impact of ICU telemedicine programs among 15 rural hospitals, Zawada et al (2009) found the following constructive outcomes: reduced length of stay; raw mortality was the same or lower; decreased actual-to-predicted ICU and hospital mortality).

Since the 1983 transfer from the retrospective payment system by CMS to the prospective payment system (PPS), reimbursement rates have been continuously falling (Office of Inspector General [OIG] 2001). This shift in payment methods enabled CMS to set the reimbursement rates for healthcare procedures through using Diagnoses Related Groups (DRGs) and Resource Utilization Groups (RUGs). The switch in payment methods by CMS was soon followed by third-party payers, which enabled them to negotiate price contracts providing them discounts (contractual allowances) placing a greater burden of risk on healthcare facilities (Casto & Layman, 2006).

As highlighted in Table 1, UCC is linked to quality of care through the financial viability of healthcare institutions (IOM 2005). Healthcare regulations that were enacted in order to help control costs through competition have shrunk profit margins of rural healthcare institutions reducing the amount of uncompensated care that can be provided affecting quality of care in rural areas (Kellermann 2003). As unemployment rates continue to rise so will the number of uninsured and many hospitals especially rural healthcare institutions with thin profit margins cannot bear the burden of providing uncompensated care and will become financially unstable (Guggenheim 2008).

Considering population density, the majority of the U.S. population (79%) is located in urban areas leaving roughly 21% to rural areas (U.S. Census 2000). This places most patients closer to urban care settings reducing the patient pool of rural hospitals placing them at a disadvantage (National Association for Rural Mental Health (NARMH) (2007). The disadvantage comes in the form of nonpayment for

providing care to indigent uninsured patients. However, calculating nonpayment of services or uncompensated care levels becomes complicated because of differences between billing software used by healthcare facilities all of which calculate uncompensated care differently (Thorp, Seiber & Curtis 2000).

DISCUSSION

Urban hospitals have the ability to threaten the financial viability of rural hospitals because of their capacity to create outpatient facilities or systems in rural areas reducing the patient population of rural hospitals. Affiliated hospital systems make it easier to operate in rural areas than unaffiliated rural hospitals because of bigger purchasing power, larger market share, and more negotiation power for reimbursement (Enthoven & Tollen 2005). Urban hospitals offer more services than their rural counterparts due to the larger population base and more financial resources. This places urban-based hospitals in direct competition with rural hospitals, placing rural hospitals at a disadvantage position because urban facilities can channel patients through their hospital system (Enthoven & Tollen 2005). On the other hand, rural patients prefer to receive healthcare from a hospital that is in a network, that provides more number of services, and that has a greater market share (i.e., a lower level of market competition) in their locality (Roh et al. 2008).

Rural hospitals are frequently located in areas that have indigent populations and out-of-pocket healthcare expenses often exceed five percent of annual income (Reschovsky & Staiti 2005). These rural indigent populations often procure health services through hospital ERs that are required to treat patients under the Emergency Medical Treatment and Active Labor Act (EMTALA) regardless of payment type (Zibulewsky 2001). Often treatment of these patients leads to uncompensated care either through charity care or bad debt expense of the hospital. The continuing decline of the economy will cause the unemployment rate to increase. A 2009 study by the Urban Institute predicts that a one percent increase in the unemployment rate will cause a 1.1 million increase in the uninsured population. These increased levels of uninsured individuals will place a greater strain on the healthcare system to provide sufficient quality of care within rural areas.

Quality of care received at rural hospitals is affected by uncompensated care due to the lack of financial funding (IOM 2005). Rural hospitals located in areas with higher rates of uninsured individuals have smaller financial margins (Kellermann 2003). These smaller financial margins often cause hospitals to have budget cuts which require hiring freezes, lay-offs of key non-medical personnel, and understaffing of medical professionals (Massa 2009). Cost cutting strategies such as understaffing medical personnel can affect quality of care levels through decreased health outcomes and negative patient experience (Stanton & Rutherford 2004).

The amount of uncompensated care provided by each healthcare facility urban and rural is hard to distinguish due to differences in uncompensated care definitions. The varying definition of uncompensated care between CMS and other healthcare organizations make it difficult to identify key components of uncompensated care; therefore, the true value of uncompensated care varies depending on the definition. The Government Accountability Office (GAO), for instance, recognized and created the interest in collecting data from healthcare providers and facilities on their definitions of uncompensated care and the process of data collection and review of uncompensated components (GAO 2005). These differences in uncompensated care definitions and its components makes it difficult for researchers to properly compare healthcare facilities. Hence, one standardized definition of uncompensated care would significantly improve the ability of health service researchers to compare uncompensated care rates among different healthcare facilities rural and urban.

CONCLUSION

As the U.S. economy continues to weaken, providers will encounter a rise in uncompensated care, as the number of uninsured increases due to unemployment. This will cause healthcare organizations to cost shift increasing financial risk sharing and getting more uninsured individuals. Providers will have to focus on cost saving measures to reduce uncompensated care such as bad debt expense and charity care losses. These cost saving measures will affect quality of care standards among healthcare facilities through the reduction in staffing, maintenance, and utilization of older equipment due to lack of financial funding caused by uncompensated care losses.

The higher the amount of uncompensated care provided by rural hospitals, the higher the probability of financial instability that can affect quality of care. Rural hospitals are geographically located in areas that contain higher levels of uninsured individuals, which effects quality of care through reducing the financial resources of rural hospitals. The insured and those able to purchase healthcare out-of-pocket will bypass rural non-emergent care to access care at urban health facilities such as urgent care centers that provide care at a fraction of the cost. This creates competition between rural and urban health providers causing financial strains on rural providers.

Furthermore, competition between rural hospitals and urban-based care will continue to increase as satellite services from urban-based hospitals continue to grow. As Roh and Lee (2006) suggested, collaborating with other rural hospitals and strategic alliance in the marketplace will help and strengthen the marketplace position of rural hospitals as they compete with urban hospitals. Larger hospital systems and for-profit outpatient clinics will continue to squeeze profit margins of rural healthcare institutions. As a result, this will leave rural hospitals to merge or close leaving a significant population without a source of care.

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Doohee Lee, PhD
Associate Professor
Lewis College of Business
Marshall University Graduate College
100 Angus E. Peyton Drive
South Charleston, WV 25303
304 746-1973
304 746-2063 FAX
leed@marshall.edu

Chris Dixon, BS, MSc
Lewis College of Business
Marshall University Graduate College
100 Angus E. Peyton Drive
South Charleston, WV 25303

Paul Kruszynski, BS, MSc
Marshall University Graduate College
100 Angus E. Peyton Drive
South Charleston, WV 25303

Alberto Coustasse, MD, DrPH, MBA
Assistant Professor
Lewis College of Business
Marshall University Graduate College
100 Angus E. Peyton Drive
South Charleston, WV 25303