

Should Different Standards of Quality of Care Exist for Rural and Urban Settings and
what Factors Contribute to these Differences?

Submitted by

Jennifer L. Latta

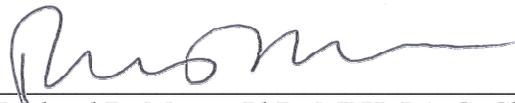
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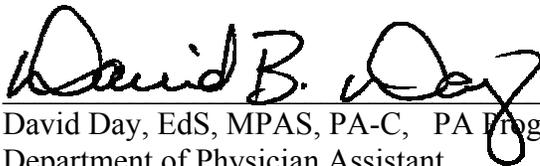
Wichita State University
College of Health Professions
Department of Physician Assistant

We hereby recommend that the research project prepared under our supervision by Jennifer Latta entitled: Should Different Standards of Quality of Care Exist for Rural and Urban Settings and what Factors Contribute to these Differences? will be accepted as partial fulfillment for the degree of Master of Physician Assistant.

Approved:



Richard D. Muma, PhD, MPH, PA-C, Chair and Associate Professor
Department of Physician Assistant



David Day, EdS, MPAS, PA-C, PA Program Faculty Advisor
Department of Physician Assistant

May 5, 2006
Date

Abstract

Introduction: Rural and urban locations differ from each other culturally, structurally, economically, and socially. Because healthcare facilities serve the surrounding communities, the structural and cultural make up of these communities plays a large role in health care delivery. However, despite the significant difference between urban and rural communities, quality of healthcare is still determined by only one set of generalized standards of care. This leaves rural areas at a disadvantage, since they lack many of the elements that urban facilities possess such as the large patient numbers, technology, large number of healthcare providers, and specialty care. To improve the quality of care for rural patients, rural communities need to be recognized as a distinct entity and specific standards of care developed that address these unique traits. By doing so, rural health care can be recognized for the true specialty that it is instead of a substandard way of practicing medicine. Methodology: The purpose of this paper was to perform a systematic review of the literature and examine the cumulative data addressing the differences in quality of healthcare between urban and rural. This study investigates the factors that contribute to these differences, in the end making a clear distinction between urban and rural cultures and determining if these factors warrant a change in the current quality of care standards. This should demonstrate to healthcare providers that these differences can play a significant role in the quality of healthcare received. Articles used included those addressing rural adherence to acute myocardial infarction and diabetes care treatment guidelines, rural quality of care, and differences in social work and nursing in rural areas. Results: Thirty-four articles matched the criteria and were reviewed using evidence-based methods. After close analysis of the presented data, it

appeared that there was a clear decrease in the quality of care in rural facilities compared to urban. However, the literature also showed a significant difference in make up of rural and urban communities.

Rural communities differed from urban in many ways including: the lack of specialty care, smaller size of the community, lack of transportation, isolation of residents, shortage of healthcare providers, cultural characteristic discrepancies, increased community interaction, and decrease in economic opportunity. Conclusion: Rural healthcare was found to have a decreased quality of care compared to urban healthcare facilities. However, there are many factors that contribute to this disparity that are not considered in quality measurements. These distinctions make rural areas unique, and need to be considered when measuring the quality of care in rural areas.

Table of Contents

ACKNOWLEDGEMENTS.....	v
INTRODUCTION.....	1
LITERATURE REVIEW.....	2
PURPOSE OF STUDY.....	26
METHODOLOGY.....	27
RESULTS.....	27
DISCUSSION	
Proposed Solutions	38
Weakness in the literature.....	39
Gaps in the literature.....	40
Validity of literature.....	40
Weakness of review.....	40
CONCLUSION.....	41
REFERENCE.....	43
VITA.....	65

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Introduction

Excellence in the quality of health care is the goal of all providers. Quality of care (QOC) is measured to evaluate a healthcare system to ensure it achieves the goal of optimizing the health of the people for whom it cares. However, healthcare practices can vary dramatically depending on geographical location or what specialty practice area. For example, it is not hard to understand the difference between eastern Chinese medicine and United State's western practices. Different cultures and different beliefs exist in these two countries that dramatically influence the kind of medicine they practice. The same is true for urban and rural cultures. Rural communities differ from urban settings in many different ways including: transportation, unemployment, poverty rates, access to care, community and personal health beliefs, culture, lack of insurance, and even disease states. Despite these inherent differences, standards of QOC are not in place to addresses these distinct discrepancies. It is essential that we identify and understand the factors that shape these rural communities in order to establish standards of QOC that meet the needs of these areas.

In the past, government agencies established standards based on existing data from urban settings, which leaves rural communities at a disadvantage. In rural areas statistical stability is difficult due to the small sample sizes and low volumes of collected data. This causes rural communities to be underrepresented in the literature from which the standards for QOC are based. Factors that contribute to these differences in care need to be identified so they can be used to design appropriate standards that apply to the realities of rural areas and reflect the preferences of these unique populations.

This study will investigate whether or not there is a difference between rural and urban QOC, and identify the possible factors that could be contributing to these differences. This study examines rural and urban differences in quality by looking specifically at treatment and management of diabetes and acute myocardial infarction (AMI).

Literature review

It is known that diabetes is a major risk factor for heart disease. Diabetes management can greatly affect the future occurrence of an AMI. By examining the quality of care for both diseases we can acquire a better understanding of needed interventions. These two conditions have widely accepted guidelines designed to provide guidance for appropriate management of these disorders. By examining the use of these guidelines, one can compare how well urban and rural populations are meeting the QOC standards. The following studies summarize the current research regarding the QOC for treatment of AMI and the management of diabetes in rural areas compared to urban.

Quality of Care in Acute Myocardial Infarction Management

Akosah, Larson, Brown, Paul, Schaper, and Green addressed the issue of enhancing compliance with guidelines for AMI care. In 1994 they collected data for a retrospective analysis of the management of AMI patients during a 4 month period to determine the compliance with national guidelines. They suggested that there is significant physician variability and overall poor adherence. They then established the acute myocardial infarction protocol orders that were intended to standardize the physician's approach to care. This protocol was used, and data was collected for a 4-year period (95-99.) The protocol included strategies proven to reduce morbidity and mortality

following discharge including use of aspirin, beta-blockers, and smoking cessation. By year four they found a significant reduction in the time it took to reperfuse and administer the recommended adjunctive therapy to improve early outcomes. Significant improvements in the rates of prescriptions for secondary preventive regimens including aspirin, beta-blockers, and smoking cessation were also shown. They further discussed the reasons they believed the protocol improved AMI care. They state that the care of an AMI involves multiple disciplines and the empowerment of non-specialist and non-physician practitioners during development and implementation, as well as continuing education and retraining. It is important to involve, recognize, and respect everyone's role to better treat the patient. Through collaboration with various services involved in the early management of AMI they were able to show improved performance in several areas of care. ¹

Baldwin, MacLehose, Hart, Beaver, Every, and Chan examined QOC for patients with AMI in rural hospitals with differing degrees of remoteness from urban centers. The data for this retrospective cohort study came from two sources: the Cooperative Cardiovascular Project and the 1995 American Hospital Association's Annual Survey of Hospitals database. Outcomes included use of aspirin, reperfusion, heparin, and intravenous nitroglycerin during hospitalization. At discharge they examined the use of beta-blocker, aspirin, and angiotensin-converting enzyme (ACE) inhibitors and the avoidance of calcium channel blockers. These treatments should all be equally accessible in rural as well as urban hospitals and can represent the QOC provided to patients with AMI in these settings. They also took into consideration the 30-day mortality. Results indicated that substantial proportions of both urban and rural patients

did not receive the recommended treatments for AMI. Rural patients were less likely than urban to receive aspirin, intravenous nitroglycerin, heparin, and either thrombolytics or percutaneous transluminal coronary angioplasty. Only ACE inhibitors at discharge were used more for patients in rural hospitals than urban. Rural hospitals had higher adjusted 30-day post AMI death rates from all causes than those in urban hospitals. ²

Dinh Vu, Heller, Y Lim, D'Este, and O'Connell compared in-hospital mortality for AMI between metropolitan and non-metropolitan hospitals after adjustment for patients' severity of disease. They used data from the Acute Cardiac Care Project of Australia. The American College of Cardiology/ American Heart Association guidelines for the management of patients with AMI were used to select hospital treatment variables from the data set. Medications selected from the guidelines for analysis included ACE inhibitors, aspirin, beta-blockers, intravenous heparin, intravenous nitrates, and thrombolytics. Results found that after adjustment for disease severity, seven-day mortality in non-metropolitan hospitals was higher than in metropolitan hospitals. The use of cardiac medications was different between the two areas, and the mortality difference was abolished when adjustment for these medications was made. They found that the use of aspirin, beta-blockers, and heparin was greater in metropolitan hospitals than in non-metropolitan hospitals. ³

Ellerbeck, Bhimaraj, and Perpich sought to characterize unique elements in the structure of AMI care, and examine how these structural elements are incorporated into health care systems in Kansas with a comparison of elemental differences between rural and urban hospitals. Urban and rural hospitals across Kansas were surveyed. Ellerbeck et

al., suggest that rural hospitals face unique obstacles including, low volume of AMI cases, limited resources, and lack of specialized personnel. In order to improve QOC for AMI patients we will need to address the unique problems faced by rural hospitals. Many rural hospitals do not have the luxury of 24-hour physician coverage in their emergency department, and coverage is much less likely to be provided by an emergency medicine specialist. It was also found that both rural and urban hospitals included in this study were not implementing a set of standard orders containing the most recent AMI guidelines. This study also addresses the inadequate monitoring of QOC in rural and urban hospitals. The national AMI programs have focused almost entirely on process measures to evaluate the QOC given in rural and urban hospitals. However, both process and outcome measures of quality may be inappropriate for examining AMI care at small rural hospitals that might only see 1 or 2 AMI patients any given month. This is not enough patient volume to adequately assess rural AMI care. AMI care in small rural communities may need to rely more on structural assessments of quality of care.⁴

Frances, Go, Dauterman, Deosaransingh, Jung, Gettner, et al. evaluated whether cardiologists provide more recommended therapies to elderly patients with AMI and, if so, determined whether variations in processes can account for differences in patient outcome. Clinical trials have shown that mortality from AMI can be significantly reduced by the use of primary angioplasty, thrombolytic therapy, aspirin, beta-adrenergic blocking agents, ACE inhibitors, and perhaps by avoiding the use of calcium channel blockers. However, physicians often fail to prescribe recommended therapies for patients with AMI. This study examined the 30-day and 1-year mortality and how well cardiologists and family practitioners adhere to established practice guidelines. Results

indicated that the proportion of patients treated appropriately was low, regardless of the specialty of the attending physician. Overall, cardiologists were somewhat more likely than family practitioners to treat patients with aspirin and thrombolytic agents, but there were no differences in the prescription of beta-adrenergic blocking agents or ACE inhibitors. Cardiologists were more likely to have their patients undergo stress testing or coronary angiography than other sub-specialists. Unadjusted 30-day mortality rates were 18.9% for patients treated by cardiologists and 21.7% for those treated by family practitioners. Overall, they found that the differences in QOC by physician specialty are small compared with the overall degree of suboptimal treatment. Therefore, recommending that AMI treatment be solely provided by cardiologists instead of primary care will only marginally improve quality.⁵

Theimann, Coresh, Oetgen, and Powe conducted a retrospective cohort study to determine whether hospital volume influences mortality among patients with AMI. Data was taken from the Cooperative Cardiovascular Project (CCP). Their assessment included clinical, historical, and health system related variables including hospital volume, availability of invasive procedures, specialty of the attending physician, and residence of the patient (rural, urban, or metropolitan). After comprehensive adjustment for coexisting clinical conditions, the patients admitted to the lowest volume hospitals were seventeen percent more likely to die within thirty days after admission than those in the highest volume quartile. The patients treated by cardiologists were considered healthier than the patients treated by other specialists, with a predicated one-year mortality of 23%. This study did not find the availability of invasive procedures to confer a significant survival benefit. They could not identify a predominant mechanism

for the survival advantage at high volume hospitals. However, the use of aspirin, thrombolytic agents, beta-blockers, ACE inhibitors, and revascularization accounted for about one third of the survival benefit.⁶

Sheikh and Bullock conducted a study to determine if differences exist in the quality of inpatient care provided for patients with AMI. The measures of QOC were the use of aspirin during hospital stay and at discharge, the administration of beta-blockers, intravenous nitroglycerin, heparin, and reperfusion by thrombolytic therapy or primary angioplasty. Results indicated that heparin was more frequently administered to the ideal candidates in urban hospitals and less frequently to the ideal candidates in rural hospitals. IV nitroglycerin was administered more often to patients in the urban hospitals and less often to patients in rural hospitals. Lower proportions of patients in rural hospitals were prescribed aspirin at discharge than the proportion of patients in urban hospitals. Failure to adhere to the clinical guidelines was much more severe in small rural hospitals. They acknowledge possible explanations for these differences including the lack of cardiologists in rural counties. They also acknowledge the poor access to health care and lack of medical education in rural hospitals. They also suggest that rural hospitals delay initiation in critical therapy. Overall relatively poor QOC for patients with AMI was provided by rural hospitals where greater opportunity for improvement exists.⁷

Quality of Care for Diabetes

Research has shown that microvascular complications including retinopathy, nephropathy, and neuropathy can be reduced in both type 1 and type 2 diabetic patients if

tight glycemic control is maintained. To prevent this damage the American Diabetes Association (ADA) developed guidelines. It is important to provide a cost-effective intervention to improve diabetes management among rural healthcare providers. To achieve better compliance, it is important to understand the barriers faced by the rural providers.⁸

Andrus, Kelley, Murphey, and Herndon sought to determine the differences in the levels of diabetes care of patients in a rural family practice clinic and an urban internal medicine clinic in Alabama. Medical records of patients with diabetes were reviewed and management practices were compared to current ADA standards of care. Results indicate that a difference in diabetes care was evident in these two populations. The rural practice had fewer patients at goal hemoglobin A1c, goal low density lipoprotein (LDL), and goal blood pressure. Rural patients were also less likely to receive screening and preventative services such as lipid profiles, eye exams, foot exams, microalbumin screening, aspirin therapy, and vaccinations. Although adherence to ADA standards was lower with rural patients, the results suggest that there exists significant opportunity to improve diabetes care to both patient populations.⁹

Rosenblatt, Baldwin, Chan, Fordyce, Hirsch, Palmer, et al. compared the quality of diabetic care received by patients in rural and urban communities. The outcome measures used included three specific recommended services: Hemoglobin A1c, cholesterol measurement, and eye examination. They found that urban patients were more likely to have their hemoglobin A1c and cholesterol levels measured than rural patients. The proportion of eye examinations and cholesterol measurements were also

higher for patients who consulted an endocrinologist. One contributing factor to these rural and urban differences is the relative unavailability of endocrinologists in many rural communities. Rural patients who saw an endocrinologist at least once during the year were almost twice as likely to have had a hemoglobin A1c. ¹⁰

Coon and Zulkowski determined whether rural healthcare providers are compliant with ADA clinical practice guidelines for glycemic, blood pressure, lipid management, and preventative services. Chart reviews obtained glycemic control measurement such as hemoglobin A1c, microalbumin-to-creatinine ratio, systolic blood pressure, diastolic blood pressure, and lipid levels. They also looked for documentation of monofilament examinations, immunizations, dilated eye examinations, diabetes education, and smoking habits. It was found that glycemic testing was adequate, and hemoglobin A1c was above the national average. Co-morbid conditions of hypertension and dyslipidemia were not as well managed. Mean systolic blood pressure was 139 +/- 18.8 mmHg and LDL was 119 +/- 33mg/dl. Of 399 patients, only 11 were considered to need no additional treatment based on ADA guidelines. Monofilament testing and dilated eye examinations were poorly documented, as were immunizations. There were also few referrals for diabetic education. Further research is needed to determine barriers to successful diabetes management by rural health care providers so that alternative strategies can be implemented. ⁸

Majumdar, Guirguis, Toth, Lewanczuk, Lee, and Johnson assessed the effectiveness of a multidisciplinary diabetes outreach service for improving the QOC for rural patients with type 2 diabetes. The intervention consisted of 6 monthly visits by a

traveling team of specialist physicians, nurses, dieticians, and a pharmacist. Data was collected before and after a 6 months period. The intervention was associated with a trend toward improvement in primary outcomes at 6 months. The intervention was associated with a significant improvement in blood pressure. (42% intervention, 25% control) It was also associated with a significant increase in satisfaction with diabetes care. Because rural patients lack the local resources or have restricted access to specialist and multidisciplinary clinics, they may be at particular risk for suboptimal QOC.¹¹

Dansky and Dirani identified differences in the use of three types of services: hospital care, home health visits, and physician office visits by geographical location. Numerous studies suggest that rural residents do not receive the same number of chronic care services as their urban counterparts. Rural elderly individuals receive about one-third fewer services from medical specialists compared with urban elderly residents. The data reveals small but significant differences in the profiles of diabetics who live in each geographical category. Results of the analysis show that rural diabetic elders use fewer hospital days, have fewer physician office visits, and have more home health visits than their urban counterparts. This pattern suggests that diabetic elders who reside in the most rural areas may not receive levels of care prescribed by the ADA. Individual characteristics partially explain differences in service use by elderly people with diabetes, including: widow status, activities of daily living impairment, and coverage by Medicare or public insurance. This study indicates that home health services may provide a safety net in rural healthcare. The reason for the variation of care from office to

home is undetermined. Reasons could include individual preference, lack of transportation, cultural values of rural community, and physician practice style.¹²

Zoorob and Mainous examined practice patterns of rural family physicians in the care of non-insulin-dependent diabetes based on the ADA guidelines. They reviewed charts for compliance with the ADA parameters. The parameters used in the evaluation include clinical recommendations such as routine skin, foot, and ophthalmologic examinations, and laboratory monitoring of kidney function, lipid status, and hemoglobin A1c. Two items were studied in regards to counseling: Compliance of primary care physicians with dietary counseling and exercise counseling. The ADA also recommends a baseline electrocardiogram on the initial visit for all diabetic patients. Records demonstrated 66% compliance with dietary counseling. However, only 33% were counseled about exercise. The study also showed a low compliance with physical examination guidelines. Specifically, foot examinations were done by 64% and skin exams by 73%. With respect to the laboratory guidelines, 70% of the charts reviewed had a urinalysis preformed, 45% had annual lipid levels, and hemoglobin A1c was performed in only 15% of patients. Results indicated that the practice patterns of rural family physicians are good in many aspects. However, they might not be fully consistent with many of the ADA guidelines.¹³

Rural vs. Urban differences in Social Work and Nursing

Rural areas are often not given the distinction they deserve when it comes to quality of healthcare. It has been shown that rural areas are not considered separate from urban in the measurement QOC despite their many unique features. Before we can truly

improve rural healthcare, we need to recognize these unique characteristics and develop specialized QOC measurement standards. These following articles show how other professions are not only acknowledging these inherent differences, but are taking steps to define rural care as a separate discipline. The profession of nursing acts as the eyes and ears of the medical world. Nurses work intimately with patients, their families, and the surrounding community. Social work is another profession that deals intimately with the community. Social workers are aware of the framework, support systems, and resources that a community has to offer its residents. By examining findings from these fields we can better understand what makes these communities so unique on sociocultural and medical levels.

Nursing and Rural Areas

Clizbe discusses the unique characteristics of the people and the communities in rural areas. Rural nurses have an appreciation for, and knowledge of the rural lifestyle. They understand that love of the community is essential. Attending local high school sports and volunteering is essential to finding one's role within the community. Rural people are trusting private folks who enjoy an atmosphere of open space. Often this space can create difficulties when medical treatment is needed. A rural nurse has to have a high degree of integrity. In the rural community everybody knows everyone, and practicing confidentiality with respect is the gold standard. ¹⁴

Crooks discussed her thoughts about rural nursing as its own specialty. She states, "As I became increasingly familiar with this unique area, I became convinced that rural nursing is a specialty all its own." Rural nursing has often been thought of as merely the

poor relation of urban nursing, but it is indeed something that requires a special knowledge and skill. The rural nurse is expected to acquire a broad range of advanced practice skills from other specialties, but can not be considered a specialist in her own area. Many relational concepts such as lack of autonomy and personal qualities make rural nursing truly unique. These relational concepts require "soft skills" such as warmth, empathy, genuineness, and respect, which are required in order to be successful in rural medical practice. Without these skills the nurse can not obtain the personal relationships that are required for therapeutic care. Failure to recognize the importance of these elements, and how they differ from their urban counterparts, is a critical reason that rural nursing is not understood to be a specialty. We need to understand that this unique combination of qualities and skills does make rural healthcare a specialty all its own. ¹⁵

Damm discussed how rural and urban nursing are worlds apart as specialties. A rural nurse must be comfortable with independent practice. Rural hospitals are not broken into specialties and nurses have to be able to adapt to a wide variety of medical knowledge. In other words, rural nurses have more specialties to learn and challenges to face. Providers and patients in small towns worship together, share in one another's joys at community events, and support each other through life's challenging times. This allows nurses to care for all the patients' physical and emotional needs. ¹⁶

LeSergent and Haney developed a survey to identify stressors of rural hospital nurses. Participants were requested to describe one work related stressful event that had happened to them in the past two weeks. They found that nurses working in rural areas have added stressors beyond those identified by nurses in urban areas. The vast

economic, social, and linguistic differences found in rural areas presents challenges that often become stressors for nurses. Nurses are expected to make decisions beyond what is commonly considered healthcare in urban areas. The isolation of a rural hospital and the lack of skilled employees exacerbate difficulties. The issue of work overload was identified by 46% of the nurses. A nurse's workload is physically, psychologically, and socially demanding which becomes increasingly stressful when there is less staffing available in rural areas. ¹⁷

Stanton and Dunkin describe a rural case manager's roles in rural communities. In this study, nurses identified differences and problems associated with the case management roles in the rural environment versus urban. Health problems for which individuals, families, and communities are at risk are increased in sparsely populated, rural areas. Nurses are required to be expert generalists with a focus in community health and an understanding of cultural concepts. Rural resident's overall health status was found to be lower than their urban counterparts. Barriers to proper healthcare include lack of proximity to providers, limited health services in the rural areas, scarcity of physicians and other providers, and a decreasing number of hospitals providing emergency and acute care services in rural communities. Also, limited access to preventive healthcare services in rural areas has resulted in a higher incidence and degree of severity of health problems for rural residents. Rural case managers require a broad range of practice skills that span different levels of prevention. In rural areas there is an increased emphasis on community advocacy. Therefore, rural case managers need to be able to access and mobilize a broad range of formal and informal community resources in

the rural environment. They also need to mobilize community leaders and lawmakers to facilitate better overall care for rural residents. ¹⁸

Parker, Quinn, Viehl, McKinley, Polich, Hartwell, et al. examined the challenges of providing case management services to families living in rural areas. They found that rural areas differ from more urbanized areas in their geography, population density, economics, pace and style of life, values, and social organization. Services for rural residents are less accessible, more costly to deliver, narrow in range and scope, and few in number. Rural areas have a smaller tax base and lower per capita funding, which makes it difficult for rural locations to recruit and retain professionals. Lastly, psychological constraints, such as cultural and social values, keep patients from acknowledging a need to seek assistance. Rural clients tend to be hardy individuals, extremely independent, and possess less formal education than urban residents. Rural residents often have poor communication skills and tend to wait longer than urban dwellers to obtain health care. There is also a less formal social structure, where the provider is exposed to a client's family and interacts with them in various contexts and social settings. Because of this informal relationship between client and provider, confidentiality may be more easily compromised. All of these different aspects of the rural culture collide to form very specialized case managers with specific duties that are unique from their urban counterparts. ¹⁹

Adams demonstrated how rural directors of nursing are adjusting their leadership styles to accommodate the differences in rural vs. urban nursing. Rural communities have characteristics that are different from those of urban areas, and rural dwellers have behavior patterns that are not generally seen in urban people. Because of these

differences, rural nursing also has distinctive characteristics. Rural residents have a dysfunctional perceptual orientation to healthcare. Many residents equate health with the ability to work, or even the ability to get out of bed. Because of this, patients tend to wait until they are very ill before seeking healthcare. Consequently, they are more frequently hospitalized than urban inhabitants. In addition, rural nurses routinely care for people they know in the community, including relatives. The boundary of rural nursing practice goes beyond the time the nurse is at work. Rural nurses are sought out by friends and acquaintances in every conceivable setting for health information. ²⁰

Social Work in Rural Areas

McNellie introduced the term “advanced rural generalist” to describe a specialist who has advanced trainings in broad areas of social services with emphasis on environment and community systems theories within a rural culture. This professional is expected to have the skills necessary to advocate for the community at a macro level by meeting with individual clients, groups, or community leaders in order to meet the long-term needs of individuals. He clearly states that some of the concepts addressed in this research could be perceived as stereotyping; however the findings are pervasive enough to be considered pertinent factors in assessing a family in the rural environment. The first concept addressed is the variation in the level of trust from rural to urban cultures. In rural communities, and in the eyes of rural citizens, trust is a key aspect of all business deals. Urban citizens are less likely to trust one another and instead focus on the details and contracts. In a rural setting, getting to know the other person is more important than knowing the details of the proposed transaction. Second is the issue of isolation. In rural areas many services are too cost prohibitive due to the transportation issues involved.

Also, distance from others contributes to a feeling of isolation which causes a decline in physical and mental health in some individuals. Third, rural citizens show a fierce sense of independence. The rural family culture states that an individual is responsible for himself and should not expect outside help. It is considered a form of weakness for someone to accept help from others. This makes it difficult for the provider to develop a working relationship with the family, since the guilt of needing somebody must be overcome. Fourth is the concept of static roles. People in rural communities tend to know each other in certain roles throughout their lives. Acceptance of change or flexibility is slow and difficult in coming. Lastly is the issue of funding. As long as funding is based on population, rural areas will always face a losing battle in terms of allocated dollars. ²¹All of these concepts come together to form a unique rural culture, with very specific needs.

Templeman and Mitchell reviewed the unique characteristics of rural families and presented the recommendations of a statewide focus group of social workers for action toward change. They began by emphasizing that rural areas comprise 25% of the American population and 83% of U.S. land. However, the trend toward rural living has been met by an "urban-centrist" phenomenon, in which social work with rural children and families is patterned after urban programs. It is true that the needs of rural populations differ in significant ways including: economic, social, cultural, and geographical factors. These differences require that the purpose, design, and diversity of services be unique. Participants in this forum identified barriers to success for families in rural Texas. Families in rural communities depend on neighbors and relatives for help. They are likely to look inward for solutions and resources before looking to formal

institutions. Social work and healthcare professions should recognize and honor the independence and self-determination of rural residents who value self-sufficiency. There is also a significant lack of economic opportunity for rural residents. This affects the availability of technology, childcare, transportation, healthcare, and housing. The isolation of rural residents causes an incomplete knowledge and underutilization of the available resources. We need to inform legislators about the challenges, strengths, and unique attributes within rural families and communities which requires a rural, rather than urban focus.²²

Croxton, Jayaratne, and Mattison addressed the differences between rural and urban social workers and their practice behavior and beliefs. They developed a 10 page questionnaire to study specific practice domains. They sought to determine differences between rural and urban social workers with regards to their ethical beliefs and how this influences their practice standards. First, they found that the lack of professional and individual privacy is a concern in rural communities. In small-rural settings, privacy is constantly threatened because social, hospital, industrial, and educational counseling services overlap. Secondly, they found that in rural practice the generalist model prevails because of the lack of available resources and professionals to provide care. The rural social worker is forced to rely on referral resources, and oftentimes provide care despite the lack of needed resources. Third, they found significant differences with regard to multiple or dual relationships. Dual relationships are described as having therapeutic relationships with clients who are also lovers, business associates, church members, neighbors, or relatives. This could impair the judgment of the caregiver. However, dual relationships in rural towns are inevitable. Emphasis should be not on avoidance, but on

risk management. The treatment of acquaintance that would be a boundary violation in larger cities may only require boundary adjustment in small or rural communities. Thus, the rural practitioner appears to be enmeshed in a series of ethical dilemmas that demand additional attention.²³

Philo and Burns composed a critique of existing literature on rural mental health. They investigated how different dimensions of rural space impact both the mental health of rural dweller and the provision of services. They found that health differences are pronounced among rural and urban areas. Their discussion includes the concepts of demographic space, social space, and cultural space.

The demographic space of the rural population was found to have marked differences. In particular, rural areas tend to have an absence of anonymity. Rural people are caught in a field of visibility where everybody knows everyone's business, and where keeping secrets, maintaining confidentiality, and avoiding being the subject of gossip, is much harder than for people living in cities.

Social space is very closely related to this discussion. Rural social life is based on routine face-to-face encounters through which people build up an intimate knowledge of neighbors. Such communities are full of "natural supports" that are crucial for people sustaining or regaining good mental health. Urban life brings about an isolation that lacks that sense of moral support. It was found that stress levels are down in areas displaying an "interaction community." Through these community interactions people form social networks and build strong ties. Local support groups are an excellent source of treatment for those areas where other health services are occasionally absent. Rural churches are an excellent source for this community support. However, a crucial paradox is to

understand how high visibility could lead to ostracizing by family, friends, and neighbors which impacts an individual negatively. This may deter individuals with more advanced problems from seeking the help that they require.

With this interaction community comes a specific culture of strict moral codes that everyone is expected to follow. This is what they define as cultural space. They found that these strict codes often make it difficult for "new-comers" to enter and thrive in the community. Rural citizens are very self-managing and fiercely independent. They value self-sufficiency. In conclusion, they found that the overlapping of demographic, economic, social, and cultural views all have to be considered when evaluating the rural community for healthcare whether it be mental or physical.²⁴

Rural Quality of Care

The smaller, poorer, and more isolated the rural community, the more difficult it is to ensure that basic healthcare needs are met. It is important to understand that research on, and measurement of quality of healthcare in rural areas has a set of specific additional challenges that derive from this small size. The following articles address what the current literature states about the quality of healthcare in rural areas.

Moscovice and Rosenblatt addressed the issue of QOC in rural America and how to examine this issue in a way that is consistent with the challenges faced by rural communities. They identified issues that impede the measurement of QOC in rural settings such as small sample sizes, limited data availability, and rural population preferences. QOC measurement has become an issue due to the rapid expansion of managed care from urban into rural settings, which requires that a definition of QOC be

determined. Policy initiatives from federal and state government need to be prompted to construct a rural QOC definition. Without these needed changes, it is possible the QOC guidelines serving rural areas will evolve mainly from the expansion of urban-based plans, completely avoiding the individual differences that exist between these two populations.²⁵

Smith and Hays defined the scope of rural medical practice and how it differs from that of urban. They examined clinical scenarios and research literature to determine if rural medical practice is emerging as a distinct discipline in Australia. The scope of practice was defined as the overlap of core medical education with the expert skills and knowledge found in specialty careers such as anesthetics or obstetrics. The degree to which this overlap occurs defines each physician's personalized scope of practice. This concept was applied to rural areas to determine if the scope of practice differs for urban and rural physicians. They found that in rural areas, scope of practice shows an increasing overlap. This indicates that a more extensive medical knowledge is required of rural physicians than urban. Rural physicians have to include those skills normally only required of a specialist. The results of this study indicated that although differences are present between these two populations, enough information has not been presented to establish rural medicine as its own distinct discipline.²⁶

Strasser explored the nature of rural practice to determine whether it qualifies as a distinct discipline. He examined the psychology and sociology of rural communities and how they are different from the cities. He also identified the differences in the patterns of illness and injury that evolve in rural communities. It was found that rural physicians

carry a heavier workload with longer hours and often experience isolation from any other health professional, which makes them responsible for a wider range of services. Lastly, rural general practice is structurally and functionally different than urban. Local medical services are often provided by non-physician healthcare providers rather than doctors who are often a distance away. The combination of all of these issues should qualify rural general practice as a distinct discipline.²⁷

Gamm, Castillo, and Pittman performed a literature review to address the quality of health services in rural areas and the obstacles that these areas face. According to the rural healthy people 2010 survey, access to quality health services was rated as the top ranking rural health priority. This review considers many topics that are of continuing importance to rural health. Many studies indicated that rural counties are more socially and medically disadvantaged, and are less able to attract physicians trained in the U.S. They also found that there is a difference in the number of female physicians that are willing to practice in rural areas. This under supply of male and female providers may be responsible for the increased number of hospitalizations that might have been prevented with the timely provision of preventive and primary care service. Access to appropriate and timely primary care services is important to avoid aggravation of a condition that results in avoidable hospitalization.

They found that retention of providers also contributes to the lack of accessibility. These new physicians have to adapt and culturally integrate into the community. They achieve this by gaining the acceptance of the community through participation in the recreational opportunities and religious support. This strong rural community culture is something that needs to be utilized in order to better healthcare services. The

development of rural community-focused attitudes and activities by providers are recognized as important elements in retention of rural physicians.²⁸

Congdon discussed her findings and thoughts on rural communities, and how to meet their unique needs. She found that rural individuals have a fierce sense of independence and self-reliance, pride in hard work, strong informal support systems, skepticism of outsiders, and a natural progression of migration from the farm to town with advancing age. All of these characteristics make rural patients, and the type of healthcare they require, unique. She found that the rural environment presents many challenges to its residents including access healthcare, acceptability and cultural congruency of care, inadequate transportation, shortages of health resources, and poverty.²⁹

Cochran, Skillman, Rathge, Moore, Johnston, and Lochner designed focus group questions to identify obstacles rural families face when trying to access economic opportunities, social networks, service, and support. They found that rural poverty rates are higher than urban poverty rates. There is potential for adequate local support for families through private organizations, churches, and the business community. These community avenues of assistance need to be recognized and established. Communities should consolidate to form community resource centers that provide healthcare as well as community wide support.³⁰

Moscovice, Wholey, Klinger, and Knott examined the quality measurement for hospitals in rural settings. They sought to identify what measures are sensitive to the rural hospital context. Many of the current measurement standards have been developed with urban hospitals in mind. These standards are missing key components that are

important to consider in rural settings. Rural hospitals can be measured in many ways. For example, they can be measured by the services provided, staff available, and types of rules, norms, or culture that govern the patient hospital interaction. Before one can develop these unique measures, we need to understand what makes rural hospitals so unique.

First, rural hospitals tend to be smaller and perform a smaller variety of procedures than urban hospitals. Secondly, rural hospitals are often the only facility in the community. This makes it easier for rural hospitals to play a key role in organizing community healthcare. Third, the rural hospital serves as a link to urban care centers. This calls for appropriate triage and transfer decision-making, transporting patients, and coordinating with specialists beyond the community. Fourth, the matter of a timely and appropriate transfer to the rural hospital itself also could be addressed. Measures could include EMS response time and the communication of a complete set of patient data from the EMS team to the rural hospital so that the hospital is prepared to treat the arriving patient.

The ability of rural hospitals to build an infrastructure that supports relevant quality measurement is essential to their future viability. Instead of trying to make rural hospitals equal to urban, we need to start addressing the specific concerns and difficulties,³¹

Rosenblatt suggests a change in the way that QOC in rural areas is measured and researched. The quality of healthcare provided in rural areas is critical to rural patients and providers, and will shape the future evolution of the rural health care system. Rural communities often struggle to provide basic healthcare services to their inhabitants. In

the quest to ensure that rural people have access to healthcare providers and hospitals, the quality of that healthcare is often ignored. Therefore, it is essential to perform QOC research in rural areas to improve the efficacy of care provided and to ensure that local people make well-informed choices about where to seek medical services. One of the key methodological challenges for performing rural health quality research is isolating the sources of distinction in rural care. One of the ways that rural communities differ is the issue of patient preferences. These preferences need to be incorporated into the measures of quality. Limitations of rural research includes structural disadvantages in measuring quality such as small sample sizes, heterogeneity across rural places, and the lack of available secondary data. All of these factors need to be considered when measuring rural QOC.³²

Wakefield indicates that rural health care, in general, draws significantly less attention from policy-makers. Yet, quality assurance is just as important to rural healthcare consumers and clinicians as it is to their urban counterparts. While rural research focused on QOC is expanding, significantly more needs to be known about the actual QOC that rural populations receive. According to some, rural QOC generally seems to be comparable to that found in urban settings. However, using broad categories of rural vs. urban can mask important finer distinctions.³³

Olden addressed the issue of providing health promotion and disease prevention (HPDP) services to rural communities. His findings indicate that to better rural health we need to focus on prevention. However, he found that low reimbursement, community attitudes, inpatient priorities, personnel shortages, low educational levels, weak local

economies, and large older populations are often barriers to HPDP. To obtain his data he interviewed hospital chief executive officers (CEO) to review the background information about each hospital. The first obstacle encountered was that of rural communities' attitudes toward their hospitals and toward healthy behavior. One CEO stated that healthcare is not a top priority for the community, and people do not understand lifestyle implications on health. These factors reduce receptiveness to the idea of HPDP. Coinciding with this concept is the issue of low reimbursement. Without added government funding, preventative care is overridden by the focus on the sick. Olden also discusses the ways that many hospitals did succeed with HPDP. All interviewees stated that intra-organizational relationships increased their ability to provide HPDP. In conclusion, he states that the key to preventative care in rural communities is to understand the obstacles and to involve the community as a partner in healthcare.³⁴

Purpose of the Study

The above studies demonstrate to us that there is an inherent difference in rural and urban populations. However, research and QOC standards have not significantly acknowledged this variation. QOC measurement has one set of standards that is applied to both locations.

This study investigates the factors that make these two populations so diverse and determines if these factors warrant a change in the current QOC standards. The professions of rural nursing and social work were examined. These studies show how other community driven professions acknowledge and address urban and rural differences. AMI treatment and diabetes care were specifically addressed to determine

QOC discrepancies between rural and urban hospitals and clinics. By analyzing this data a clearer answer regarding the differences between rural and urban QOC will be illustrated. Therefore, the research question was stated as: Should different standards of QOC exist for rural and urban settings and what factors contribute to these differences?

Methodology

A systematic review of the literature using evidence based technique was completed pertaining to studies addressing rural adherence to AMI and diabetes care treatment guidelines, rural QOC, and differences in social work and nursing in rural areas. Articles were collected using Pubmed and Medline databases. The peer reviewed articles used included retrospective cohort, focus group, questionnaire, editorial/opinion, survey, literature review, interview, prospective, and discussion of rural culture

The following key terms were used: rural medical care, rural care in diabetes, urban vs. rural quality of care, quality of care, rural care in acute myocardial infarction, nursing rural vs. urban, social work rural vs. urban. From the selected articles data was examined, extracted, and compared with one another regarding the differences in quality of care and rural and urban discrepancies.

Results

When examining QOC based on specific guidelines for treatment of common conditions it was found that suboptimal care was provided for AMI and diabetes management. Specifically, treatment of AMI in rural areas was shown to be substandard to urban facilities. It was demonstrated that rural areas are not as likely to administer the recommended adjunctive therapy such as aspirin and beta- blockers to improve early outcomes for AMI. ^{1,3} Rural hospitalized patients were less likely than urban hospitals'

patients to receive intravenous nitroglycerin, heparin, and either thrombolytics or percutaneous transluminal coronary angioplasty.^{2,7}

Rural hospitals also had higher adjusted 30-day post AMI death rates from all causes than those in urban hospitals.^{2,6} The patients admitted to the lowest volume hospitals were 17 percent more likely to die within 30 days after admission than those in the highest volume quartile.⁶ One study found that seven-day mortality in non-metropolitan hospitals was higher than in metropolitan hospitals.³

Results also indicated a significant difference in AMI treatment and survival according to the specialty of the attending physician. The patients treated by a cardiologist were considerably healthier than the patients treated by other specialists, with a predicated one-year mortality of 23%.⁶ Unadjusted 30-day mortality rates were 18.9% for patients treated by cardiologists and 21.7% for those treated by family practitioners.⁵ Results indicated that cardiologists were more likely than family practitioners to treat patients with aspirin and thrombolytic agents. Cardiologists were also more likely to have their patients undergo stress testing or coronary angiography than other sub-specialists.⁶ Therefore, increasing the use of recommended therapies to that provided by cardiologists will marginally improve quality compared with raising the average level of care.⁵

Lastly, it was also found that both rural and urban hospitals included in this study were not implementing a set of standard orders containing the most recent cardiology guidelines.⁴ However, failure to adhere to the clinical guidelines was much more severe in small rural hospitals.⁷

The data on diabetes care showed similar results. It has been found that those who receive care from rural practitioners are less likely to receive the appropriate medical care for diabetes, as prescribe by the ADA.^{12,9} As population density decreases, there is a corresponding decline in hospital days and physician office visits and an increase in home health visits for rural diabetics. This pattern suggests that those who reside in the most rural areas may not receive the level of care recommended by the ADA.¹²

When looking at specific ADA guidelines, rural practitioners were shown to be at a decreased level of compliance. The rural practice had fewer patients at goal hemoglobin A1c, goal LDL, and goal blood pressure. Rural patients were also less likely to receive screening and preventive services such as lipid profiles, eye exams, microalbumin screening, and aspirin therapy.^{8-10,13} It was also found that documentation of monofilament examinations, immunizations, dilated eye examinations, diabetes education, and smoking habits were decreased for rural diabetics. Comorbid conditions of hypertension and dyslipidemia were also not as well managed. One study documented a mean systolic blood pressure of 139 +/- 18.8 mmHg and LDL of 119 +/- 33mg/dl.⁸ Results indicated that the practice patterns of rural family physicians are good in many aspects. However, they might not be fully consistent with many of the ADA guidelines.¹³

Similarly to AMI treatment by cardiologists, it was shown that specialty care for diabetes also proved superior to that of family practice physicians. The proportion of adequate diabetic care was higher for patients who consulted an endocrinologist. Because rural patients lack the local resources or have restricted access to specialist and

multidisciplinary clinics, they may be at particular risk for suboptimal QOC.¹¹ Rural patients who saw an endocrinologist at least once during the year were almost twice as likely to have had a hemoglobin A1c.¹⁰ One study documented an intervention by a specialist team, which was associated with a trend toward improvement in outcomes for diabetics at 6 months. The intervention was associated with a significant improvement in blood pressure, 42% intervention, 25% control.¹¹ On average rural individuals receive about one-third fewer services from medical specialists compared with urban residents.¹²

These results agree that there is a decreased QOC for rural patients with regards to AMI and diabetes management. It has also been demonstrated that there is a decreased compliance with the standards of care set forth by leading health organizations. This lack of compliance shows that rural patients are at risk for poor health care, leading to these markedly different outcomes. However, these studies, do not take into account the important and inherent differences that rural and urban societies face. Past research has focused almost exclusively on the disease- specific comparison of the QOC rendered in rural as compared with urban areas. However, it is the functioning of the entire system, not a specific disease outcome, that determines whether or not rural residents receive high QOC.³² The rural hospitals need to show that they do not have suboptimal care compared to urban hospitals. They are completely separate entities and both should have a unique set of quality measures. The use of improper measurement techniques makes rural hospitals look inferior, when they are just unique.³¹

An often-overlooked limitation to the adherence of AMI guidelines is the extensive number of practice guidelines that a typical generalist is expected to know.¹ This may be a particular problem for generalist physicians, who appear to be less

knowledgeable than cardiologists about such therapies.⁵ The patients treated by cardiologists were considered healthier than the patients treated by other specialists. Unfortunately, there is a lack of cardiologists in rural counties compared to urban.⁷ Rural communities have restricted access to all specialist and multidisciplinary clinics.^{11 22} Therefore, rural physicians have to include those skills normally only required of a specialist.²⁶ Rural hospitals are not broken into specialties. Therefore nurses and physicians have to be able to adapt to all kinds of medical knowledge.¹⁶ Rural nurses routinely extend their practice to that of other healthcare disciplines, especially respiratory therapy, pharmacy, and medicine.²⁰ This indicates that a more extensive medical knowledge is required of rural health care providers compared to urban.²⁶ It was found that rural case managers also need broader practice skills that span different levels of prevention, and encompass practice with clients across the entire lifespan.¹⁸

The care received in the pre-hospital setting can also affect the QOC measures in rural facilities. Many ambulance systems are not staffed with paramedics and are unable to provide advanced cardiac life support interventions like those of urban areas.⁴ EMS response time and the communication of a complete set of patient data from the EMS team to the rural hospital dramatically affects the outcomes.³¹ The lack of these prompt interventions could cause the outcomes of the treatment provided at the rural facilities to be jeopardized.

Rural hospital's sheer size also plays a large role in the QOC provided. There are many specific issues that directly relate to the smaller size of the rural facilities. First, rural hospitals perform a smaller variety of procedures than urban hospitals. When these procedures are done they are performed by generalist practitioners rather than

specialists. Therefore, there is a strong reliance on staff to perform tasks that only occur on an intermittent, irregular basis.³¹ This infrequency of procedures can significantly affect QOC outcomes. Measures that evaluate the actual process and outcomes of procedures may be inappropriate for examining care at small rural hospitals. For example, it would be inappropriate to evaluate the quality of diabetic ketoacidosis management based on only one or two cases.⁴ Urban facilities, on the other hand, have a large number of each type of procedure and clinical scenario, making this type of evaluation more indicative of the actual quality of their care.

Second is the issue of isolation. The distance between people poses unique problems for rural communities.²¹ Because rural hospitals are isolated from specialists and other larger facilities with more comprehensive treatment, frequent transfer of patients is common. This frequent transfer of patients makes it difficult to fully assess the quality of a hospital due to the numerous episodes of care that span multiple locations. This may result in less reliable measurement particularly when some of the care sites are not within a rural hospital's control.³¹

Isolation also causes many services to be cost prohibitive due to the transportation issues involved.²¹ Services for rural residents are less accessible, more costly to deliver, narrower in range and scope, and fewer in number.¹⁹ Limited access to services such as preventative healthcare has resulted in a higher incidence and degree of severity of health problems for rural residents.¹⁸ Inadequate health service delivery systems in rural areas may be partly responsible for the finding that rural elders are more likely to report nutrition, sleep, exercise, and alcohol consumption practices that are not conducive to good health.³⁵

Unfortunately, transportation is not the only way that rural patients experience limited access to health care. There is also a scarcity of generalist physicians and other providers within their own communities.¹⁸ Many studies indicate that rural counties are more socially and medically disadvantaged, and are therefore less able to attract and retain physicians trained in the U.S.²⁸ They also found that there is a difference in the number of female physicians that are willing to practice in rural areas. This under supply of male and female providers may be responsible for the increased number of hospitalizations that might have been prevented with the timely provision of preventive and primary care service.²⁸

One reason that retention of providers may be difficult is due to the unique cultural dynamic that rural areas possess. A provider has to not only understand, but become a part of this unique dynamic and embrace it when treating his patients.¹² It is important for a newcomer to the community to take time to understand and acknowledge these moral codes, instead of trying to change the present conditions. A healthcare professional must become aware of the local knowledge, beliefs, and values of the people in the rural community. They must also realize the health-seeking behavior of the people in the area. These are important factors for developing appropriate and acceptable service delivery programs. Unless a new provider is willing to work “within” the community he will not be received well as a healthcare professional.

Rural citizens possess personal qualities that make rural healthcare truly unique.¹⁵ Rural people are described as trusting private folks who enjoy and atmosphere of open space.¹⁴ They tend to be hardy individuals, and extremely independent with less formal education than urban residents. Rural residents often have poorer communication skills

and tend to wait longer than urban dwellers to obtain healthcare.^{19, 24, 29, 35} Rural citizens often equate health with the ability to work, or even the ability to get out of bed. Because of this, rural patients tend to wait until they are very ill before seeking healthcare.

Because of their independence and self-reliance, many rural clients prefer to care for themselves when they do become ill. They would rather try to solve their own problems and dismiss any signs of weakness that could show vulnerability. Because these patients only seek care when they feel that they are very ill, preventative care is practically impossible to obtain. Hospitals are viewed as a place for sickness not for health.²⁴

Consequently, rural dwellers are more frequently hospitalized at the point of seeking care and require longer care than urban inhabitants.²⁰ This characteristic could help explain why rural areas show decreased QOC. When patients seek care only at the advanced stages of the disease, morbidity and mortality are increased. Because this is the only data shown, it appears that proper measures were not taken to prevent these occurrences, making the provider seem weak in his efforts.

Specific patient characteristics were found to be obstacles to appropriate QOC. The first characteristic discussed was that of trust. In rural communities, and in the eyes of rural citizens, trust is a key aspect of all business deals. Urban citizens are much less likely to trust one another, and are more focused on details and contracts. In a rural setting, getting to know the other person is more important than knowing the details of the proposed transaction.

Secondly, healthcare can be greatly affected by rural communities' attitudes toward their hospitals and toward healthy behavior. In rural communities there is a feeling of the family's business being sacred and not open to anyone for any reason. The

rural family culture states that an individual is responsible for him or her self and should not expect or look for outside help. It is considered a form of weakness for someone to accept help from others.²¹ Sickness is also seen as a form of weakness, resulting in delayed medical care. One CEO stated that healthcare is not a top priority for the community, and people do not understand lifestyle implications on health. Many of these communities also have low educational levels, weak local economies, and older populations. These factors reduce receptiveness to the idea of preventative care.³⁴ This makes it difficult for the practitioner to develop a working relationship with the patients, since the guilt for needing somebody or admitting illness must be overcome.²¹

Third, is the concept of static roles. People in rural communities tend to know each other in certain roles throughout their lives. The people have a place to put people and acceptance of change or flexibility is slow and difficult in coming.²¹ For this reason healthcare providers that are new to a community, might require some time before their services and presence is fully appreciated and utilized. Trust has to be earned from the community for their new role to be accepted. Foreign ideas and new ways of thinking can pose a threat to what people are used to doing, and could be negatively perceived. This could be a reason that retention of these providers is an ongoing issue for rural communities.

This isolated way of thinking leaves many of these people looking for support from their friends and community, where they feel secure. Families in rural communities depend on neighbors and relatives for help, so they are likely to look inward for solutions and resources before looking to formal institutions.²² This strong rural community culture is something that needs to be utilized in order to better healthcare services. The

development of rural community-focused attitudes and activities by providers are recognized as important elements in retention of rural physicians.²⁸ Colleagues, physicians, and patients in small towns worship together, share in one another's joys at community events, and support each other through life's challenging times.¹⁶ Through these personal connections, providers feel compelled to empower patients and families through education to enhance their self-care capabilities.¹⁸ Communities should consolidate to form community resource centers that provide healthcare as well as community wide support.³⁰ It has been found that stress levels are down in areas displaying an "interaction community." Through these community interactions people form social networks and build strong ties to certain people. Local support groups are an excellent source of treatment for those areas where other health services are occasionally absent.²⁴ Collaboration with health providers, churches, youth groups, civic clubs, and employers introduces the importance of preventative care to the community.^{24, 30} Women's health, smoking cessation, oral cancer screenings, breast-cancer screening, farm injury prevention, and hypertension screening are just a few of the outreach programs that can be offered. The key to preventative care in rural communities is to understand the obstacles and to involve the community as a partner in healthcare.^{24, 28, 34}

Along with this interaction community comes a potential for lack of autonomy between patients and healthcare providers.¹⁵ In rural communities there is a less formal social structure, where the provider is exposed to a client's family and sees them in many different contexts and social settings.¹⁹ Because of this informal relationship between client and provider, and small town resident's familiarity with each other, confidentiality may be more easily compromised.¹⁹ Therefore, rural healthcare providers have to have a

high degree of integrity. In the rural community everybody knows everyone and practicing confidentiality with respect is the gold standard.^{14,23}

The final barrier we found to success for rural families is lack of economic opportunity.²² Rural poverty rates, as a percentage of rural population, are higher than urban poverty rates.³⁰ Compared with urban residents, rural elders are about twice as likely to live in poverty or be poor.³⁵ The smaller tax base and lower per capita funding associated with rural areas exacerbates the under funding characteristic of human services in rural areas.¹⁹ As long as funding is based on population, rural areas will always face a losing battle in terms of allocated dollars.²¹ This affects the availability of technology, childcare, transportation, healthcare, and housing.²² It was also found that the lack of health insurance coverage in rural areas contributes to under utilization of health services. Often the visits to the provider for preventative monitoring are forgone, due to cost of service. It is only when the disease has progressed, does the patient seek help.²⁸ Without added government funding preventative care is overridden by the focus on the sick.³⁴

Discussion

Rural areas were shown to have a decreased QOC compared to urban healthcare. However, little has been done to help rural healthcare improve upon these differences. Merely insisting that rural facilities improve is not enough. Differences need to be realized and measures taken to account for these distinctions.

The issue of rural versus urban QOC is a complicated one, laden with facts that address more than just statistical data. As results indicated, sociocultural issues play a large role in rural healthcare. While these issues may be more difficult to measure and

account for, those that work in rural facilities agree that they play a significant role.

Results indicate that until these issues are taken into consideration, standards of care will not be adequately serving the rural population's needs.

Proposed Solutions

Many suggestions were made on how to resolve these issues and improve QOC. Because physicians are not available on site, empowerment of nurses is particularly important in rural emergency departments. One measure that could be developed is the presence of protocols to use for infrequently encountered conditions. Each protocol needs to be specific to the resources available at each hospital.³¹ For example, providing facilities with a written up-to-date AMI protocol to follow could greatly improve outcome. Structural measures of the triage, stabilization, and transfer processes should be addressed in these protocols, since they are a large part of the rural treatment process.³¹ Rural healthcare facilities should form partnerships with urban facilities to help with the development and maintenance of their own quality improvement programs.⁴ Although access to formal services may be limited, providers are in a position to help. One way to truly benefit rural citizens is through community collaboration. The strong relationships present in rural communities can be used to build strong coalitions that are driven by citizens to benefit citizens.²² They could coordinate informal support services involving family members, neighbors, friends, homemaker's clubs, service organizations, and churches to help with care plans. This will minimize isolation by linking neighbor-to-neighbor, instead of developing new programs with outsiders as the experts. Healthcare should recognize and honor the independence and right to self-determination of rural residents who value self-sufficiency. Rural communities also need to have way to

promote these services to the community so that the people will use these new services.

They also recommend reducing the isolation of rural providers, and to increase their support and contact with other physicians. Electronic media should be utilized to disseminate information. Providers could also develop a computer network system so that case managers, health care providers, and families could communicate with each other more readily, frequently, and inexpensively.¹⁹

A solution for both the provider and the recipient is home healthcare. Home care provides the services that allow older people to remain independent in their homes, encourages involvement and self-care, and eases the burden of informal caregivers.²⁹

Without the changes mentioned above, it is possible the QOC guidelines serving rural areas will evolve mainly from the expansion of urban-based plans, completely avoiding the individual differences that exist between these two populations.²⁵ As healthcare systems take steps to improve patient safety and to ensure quality healthcare, it is important that national programs take into account the unique circumstances of the rural health care providers. The purpose of this paper was to organize studies in an understandable and presentable fashion that may serve to direct future rural standard of care development.

Weakness in the Literature

The majority of the literature evaluated addresses sociocultural measures instead of specific statistical data. The characteristics of people are much more difficult to quantify than numerical results. Therefore, it is difficult to isolate the sources of inconsistency in processes and outcomes of care. In other words, it is difficult to tell where the problem truly lies when looking at quality differences.

Gaps in the Literature

Areas of future research should include further examination of other community-based professions such as psychiatry and education. One should examine how they acknowledge and adjust for rural differences. Examining clients in other aspects of their lives besides healthcare will present a more complete picture of our patients.

Another possible area to study is the rural patients themselves. Time should be taken to gather their thoughts and opinions towards healthcare, and why it is or is not utilized. Because rural care is based so heavily on community and patient characteristics, it is essential that we collect data directly from the source instead of other's observations.

Other aspects that may be examined more closely are the present QOC measures, and how they correspond with the rural structure. By examining the measures themselves, one can recognize which sections have the greatest discontinuity. Rural healthcare distinctions can be compared to these measures directly to uncover shortcomings, and prompt changes.

Validity of the review

The article selection process was completed in a systematic fashion collecting the original articles via Pubmed and Medline with the above mentioned key words. The articles were then examined closely, making sure all chosen addressed specified content. The data of the included articles were then separated into the sections shown in the literature review above, where it was reevaluated and reviewed for similarities and differences.

Weakness of review

As in any research or review process, there are always going to be some

weaknesses. In this project, each article was evaluated and summarized including, what the author thought to be, the most pertinent data. This leaves the reader with less opportunity to evaluate the articles in their entirety, forcing them to rely on the authors interpretation. Another limitation of this study is the editorial articles that are based on an author's personal opinions and views of the rural public. Although these articles provide profound insight into the rural lifestyle, one could challenge their validity.

Conclusion

In summary, healthcare is an institution that we trust our lives and our families and friends' lives with everyday. It is a field that demands the up most professionalism and quality. As physician assistants, it is this QOC that protects our patients and ensures them that we offer the best care possible. However, as this research indicates, there are vast differences in healthcare between rural and urban populations. To establish a standard of care appropriate for rural populations, patient characteristics such as their perceptions, preferences, finances, education, and cultural views must be taken into consideration. We also must address limitations of small rural hospitals including constrained resources, limited data availability, small medical staffs, financial concerns, and limited technological sophistication. By first understanding the factors that influence QOC measurement in rural communities, we can be sure to create a set of standards that is unique to these rural populations and, by doing so, improving their quality of healthcare received. The ability of rural hospitals to build an infrastructure that supports relevant quality measurement is essential to their future viability. By applying this study's findings we can move toward a system that isolates the factors affecting rural healthcare and focus on future interventions that will improve the quality of life for the

residents of rural communities.

References

1. Akosah DE, Brown WM, Paul KM, Schaper A, Green RM. Using a Systemwide Care Path to Enhance Compliance with Guidelines for Acute Myocardial Infarction. *Commission Journal on Quality and Safety*. May 2003 2003;29(5):248-255.
2. Baldwin LM, Richard F, Hart G, Beaver SK, Every N, Chan L. Quality of Care for Acute Myocardial Infarction in Rural and Urban US Hospitals. *The Journal of Rural health*. Spring 2004 2004; 20(2):99-108.
3. Dinh Vu RF, Y Lim, LL, D'Este C, O'Connell, RL. Mortality after acute myocardial infarction is lower in metropolitan regions than in non-metropolitan regions. *Epidemiology of Community Health*. February 1 2000 2000;54:590-595.
4. Ellerbeck A, Perpich D. Organization of Care for Acute Myocardial Infarction in Rural and Urban Hospitals in Kansas. *The Journal of Rural health*. Fall 2004 2004;20(4):363-367.
5. Frances AS, Dauterman KW, Deosaransingh K, Jung DL, Gettner S, Newman JM, Massie BM, Browner WS. Outcome Following Acute Myocardial Infarction: Are Differences Among Physician Specialties the result of Quality of Care or Case Mix? *Archives of Internal Medicine*. July 12 1999;159:1429-1435.
6. Thiemann CJ, Oetgen WJ, Powe NR. The Association Between hospital Volume and Survival After Acute Myocardial Infarction in Elderly Patients. *The New England Journal of Medicine*. May 27,1999 1999;340(21):1640-1648.

7. Sheikh C. Urban-Rural Differences in the Quality of Care for Medicare Patients with Acute Myocardial Infarction. *Archives of Internal Medicine*. March 12 2001;161:737-743.
8. Coon K. Adherence to American Diabetes Association Standards of Care by Rural Health Care Providers. *Diabetes Care*. December 2002 2002;25(12):2224-2229.
9. Andrus KW, Murphey LM, Herndon KC. A Comparison of Diabetes Care in Rural and Urban Medical Clinics in Alabama. *Journal of Community Health*. February 2004 2003;29(1):29-42.
10. Rosenblatt L, Leighton C, Fordyce MA, Hirsch IB, Palmer JP, Wright GE, Hart G. Improving the Quality of care for Older Patients with Diabetes: Lessons from a Comparison of Rural and Urban Communities. *The Journal of Family Practice*. August 2001 2001;50(8):676-679.
11. Majumdar LM, Toth EL, Lewanczuk RZ, Lee TK, Johnson JA. Controlled Trial of a Multifaceted Intervention for Improving Quality of Care for Rural Patients with Type 2 Diabetes. *Diabetes Care*. November 2003 2003;26(11):3061-3065.
12. Dansky R. The Use of Health Care Services by People with Diabetes In Rural Areas. *The Journal of Rural health*. Spring 1998 1998;14(2):129-137.
13. Zoorob AG. Practice Patterns of Rural Family Physicians Based on the American Diabetes Association Standards of Care. *Journal of Community Health*. June 1996 1996;21(3):175-181.
14. Clizbe B. The Spirit of the Rural Nurse. *Pulse*. April -June 2005 2005;42(2):6.
15. Crooks K. Is Rural Nursing a Specialty? *Online Journal of Rural Nursing and*

Health Care. Spring 2004 2004;4(1):4p.

16. Damm W. A love affair with country nursing: nursing practice is different outside the city limits. *Nursing matters: news about nursing for nurses*. June 2003;14(6):1,3.
17. LeSergent CJ. Rural hospital nurse's stressors and coping strategies: a survey. *International Journal of Nursing Studies*. 2005;42(3):315-324.
18. Stanton J. Rural Case Management: Nursing Role Variations. *Lippincott's case management: managing the process of patient care*. March-April 2002 2002;7(2):48-58.
19. Parker J, Viehl M, McKinley AH, Polich CL, Hartwell S, Van Hook R, Detzner DF. Issues in rural case management. *Family and Community Health*. January 1992;14(4):40-60.
20. Adams CE. Leader Behavior in Rural Directors of Nurses. *JONA*. September 1993;23(9):29-34.
21. McNellie RB. The Advanced Rural Generalist. *The New Social Worker*. Winter 2001;8(1):16-18.
22. Templeman L. Challenging the One-Size-Fits-All Myth: Findings and Solutions from a Statewide Focus Group of Rural Social Workers. *Child Welfare*. September/October 2002;LXXX1(5):757-771.
23. Croxton S, Mattison D. Social Work Practice Behaviors and Beliefs; Rural-Urban Differences? *Advances in Social Work*. Fall 2002; 3:117-132.
24. Philo H, Burns N. Rural madness: a geographical reading and critique of the rural mental health literature. *Journal of Rural Studies*. 2003 2003; 19:259-281.

25. Moscovice R. Quality-of-Care Challenges for Rural Health. *The Journal of Rural health*. Spring 2000 2000; 16(2):168-176.
26. Smith R. Is Rural Medicine a Separate Discipline? *Australian Journal of Rural Health*. 2004; 12:67-72.
27. Strasser R. Rural general practice: is it a distinct discipline? *Australian Family Physician* May 1995 1995;24(5):870-876.
28. Gamm G, Pittman S. Access to Quality Health Services in Rural Areas- primary Care: A literature review.
29. Congdon MA. Meeting the Unique Needs of Elders in Rural Settings. *Geriatric Nursing*. 2001; 22(5):265-267.
30. Cochran GD, Rathge RW, Moore K, Johnston J, Lochner AA. Rural Road: Exploring Opportunities, Networks, Services, and Supports that Affect Rural Families. *Child Welfare* September/October 2002; LXXXI(5):050837-050826.
31. Moscovice I, Wholly DR, Klinger J, Knott A. Measuring Rural Hospital Quality. *The Journal of Rural Health*. Fall 2004;20(4):384-392.
32. Rosenblatt RA. Quality of Care in the Rural Context: A proposed Research Agenda. *The Journal of Rural health*. 2002;18(5):176-184.
33. Wakefield M. Patient safety and medical errors: Implications for rural health care. *Journal of Legal Medicine: LexisNexis Academic*; 2002:43-56.
34. Olden PC. Health Promotion and Disease Prevention by Small Rural Hospitals: Reasons, Obstacles, and Enablers. *Journal of Healthcare Management*. March/April 2004 2004;49(2):89-100.
35. Goins J. Health-related Quality of Life: Does Rurality Matter? *The Journal of*

Rural health. Spring 1999 1999;15(2):147-155.

Study year	Research Addresses	Level of Evidence	Demographics	Findings	Supportive of Research
	1. Acute myocardial infarction QOC	1. Retrospective cohort			1. Yes, decrease in rural AMI QOC
	2. Diabetes QOC	2. Focus group			2. Yes, decrease in rural DM QOC
	3. Rural Nursing	3. Questionnaire			3. Yes, showed differing characteristics in rural areas compared to urban.
	4. Rural Social work	4. Editorial/Opinion Paper			4. Yes, showed differences in rural nursing.
	5. Rural QOC	5. Survey			5. Yes, showed differences in rural social work
		6. Literature review			
		7. Interview			
		8. Prospective			
		9. Discussion of Rural Culture			

<i>Adams, 1993</i>	3	3	71 Hospital DON in Idaho, Wyoming, Montana, Oregon and Washington	*Dominant leadership styles of the DON were high in behaviors	4
<i>Akosah, 2003</i>	1	8	Patients in Wisconsin medical center with AMI between 95-99	* Initiative resulted in improvements in all phases of AMI care and met the benchmark recommendations in EKG, thrombolytic therapy, and ASA and beta-blocker administration	1
<i>Andrus, 2003</i>	2	1	Rural clinic=78 urban clinic=109 patients with type 2 DM	*Rural practice had few patients at goal hemoglobin A1c, LDL, BP, and screening services	2
<i>Baldwin, 2004</i>	1	1	1,920 rural hospitals and 2,165 urban hospitals with 135,759 admissions of Medicare beneficiaries with a AMI	* Urban and rural pts did not receive recommended treatments of AMI. Rural patients were less likely to receive ASA, NTG, heparin, or thrombolytics. Rural hospitals had increased 30-day mortality.	1

<i>Clizbe, 2005</i>	3	4	NA	* Rural communities possess a strong sense of community. Rural healthcare requires a great deal of trust and confidentiality.	4
<i>Cochran, 2002</i>	4	2	22-76 year old participants with at least one child at or below 185% poverty level	* More community resources need to be developed. Obstacles in economic, social networks, and service and support.	5
<i>Congdon, 2001</i>	3	4	NA	* Rural life has challenges in access to care, quality of health resources, acceptance of care, independence of patients. Homecare meets rural patient's needs	4
<i>Coon, 2002</i>	2	1	399 patients 45 years and older with DM at rural health facilities in Montana	* HTN not well managed. SBP was 139 +/- 18.8 mmHg. LDL was 119 +/- 33 mg/dl. Monofilament and dilated eye poorly documented	2

<i>Crooks, 2004</i>	3		NA	* Rural nursing requires a wider knowledge base. Lack of autonomy present. Rural nursing should be considered a specialty.	4
<i>Croxton, 2002</i>	4	3	126 rural and 441 urban members of the National Association of Social Workers	*Difficulty preserving confidentiality in the rural community. More dual relationships exist between providers and clients in rural areas.	5
<i>Damm, 2003</i>	3	4	NA	* Rural nursing requires a wider knowledge base. Rural towns have increased community cohesiveness. Lack of specialty care.	4
<i>Dansky, 1998</i>	2	1	6,698 Medicare beneficiaries with DM	* Diabetics in the most sparsely populated communities reporting fewer office visits and more home health visits than urban patients.	2

<i>Dinh Vu, 2000</i>	1	1	1665 pts with discharge diagnosis of AMI from Feb. to June 1996 in Australia	* Odds of death in non-metropolitan hospitals was higher than in metropolitan hospitals.	1
<i>Ellerbeck, 2004</i>	1	5	Survey of 45 rural and 12 urban Kansas hospitals	* Few rural hospitals were capable of emergent catheterization, angioplasty, or CABG. Cardiologists rarely on site. Decrease in use of AMI protocols.	1
<i>Frances, 1999</i>	1	1	7663 Medicare beneficiaries admitted to hospital with AMI	* Patients were more likely to receive ASA, thrombolytic therapy, and revascularization when treated by a cardiologist as compared to a family practitioner. 1-year mortality rate was greater for those treated by subspecialty.	1
<i>Gamm</i>	5	6	NA	* Rural areas have a decrease in the number and retention of providers. Decrease in preventive care service. Lack of health insurance coverage contributes to underutilization of health services	3

<i>Goins, 1999</i>	5	7	2,178 adults 60 y/o and older in North Carolina between 1989-1991	* Elderly who live in more densely populated areas report better quality of life. The more populated the area a person lives, the less likely they will report chronic illness interference, ADL limitations, and depressive symptoms.	3
<i>LeSergent, 2005</i>	3	5	87 nurses aged 25-65	* Lack of adequate staffing is an issue in rural areas causing stressful work environments for nurses. Nurses are required to do a broader spectrum of services	4
<i>Majumdar, 2003</i>	2	8	393 pts with DM in the rural health region of northern Alberta	* Intervention by a DM specialist team showed a significant improvement in BP, and an increase in satisfaction with care.	2
<i>McNellie, 2001</i>	4	4	NA	* Rural communities face difficulties with issues of isolation, rigid ways of thinking, limited funding, static roles, and lack of specialization.	3

<i>Moscovice, 2000</i>	5	9	NA	* Quality assessment of rural areas must focus on pertinent components, including: unemployment, poverty, health beliefs, lack of insurance, and small medical staffs. Rural facilities should not be viewed as extensions of urban.	3
<i>Moscovice, 2004</i>	5	9	NA	* Rural specific quality measurement issues include, smaller size of hospital, reliance on generalist physicians, multiple community-hospital linkages, and rural hospital-referral center linkages. These issues need to be addressed when assessing hospital quality.	3
<i>Olden, 2004</i>	5	7	9 small rural general hospitals in rural Pennsylvania	* Rural hospitals have barriers to health promotion and disease prevention including low reimbursement, community attitudes, inpatient priorities, personnel shortages, low educational levels, weak local economics and larger older populations.	3

<i>Parker, 1992</i>	5	5	Nonrandom survey of experienced service providers and case managers in Minnesota and Wisconsin	* Low population densities, great distances, population disbursement, transportation problems, urban bias in public policies, financial constraints, lower rates of reimbursement, staffing problems, personal values of patients, and lifestyle of patients make it difficult to plan, coordinate, and deliver services to rural populations.	3
<i>Philo, 2003</i>	4	6	NA	* Rural communities have an absence of anonymity. Rural communities are strong in community support for their residents. Rural attitudes show resistance to new practices outside of their strict moral codes. Knowledge of the beliefs and values of rural communities are important for acceptable service delivery.	3

<i>Rosenblatt, 2002</i>	5	9	NA	<p>* QOC measurement should focus on the entire rural healthcare system.</p> <p>* Recommendations for rural research includes: creation of a national rural healthcare data set, change the focus of QOC research from individual conditions to those that effect the entire rural population, incorporate human factors into rural QOC studies, and strengthen QOC research on culturally centered issues.</p>	3
<i>Rosenblatt, 2001</i>	2	1	30,589 Medicare pts living in Washington who have DM. 29.1% in rural communities	<p>* In rural communities generalists provide most DM care. Consultation with an endocrinologist may improve adherence to guidelines.</p>	2

<i>Sheikh, 2001</i>	1	1	2,521 Medicare patients 65 and older from 12 urban, 31 semi-rural, and 76 rural hospitals in Kansas who had survived an AMI in an 8-month period from 94-95	* A significantly higher proportion of patients received ASA, heparin, and IV NTG in urban hospitals compared to rural.	1
<i>Smith, 2004</i>	5	6	NA	* Rural areas have a scope of practice that includes skills and knowledge normally required of a specialist. The rural context shows a lack of resources, limited access to care, differing patient characteristics, and extended clinical skills knowledge	3
<i>Stanton, 2002</i>	3	3	38 nurses from rural environments with membership in several nursing organizations	* Rural case managers mentioned multiple differences including: high level of autonomy, strong emphasis on community advocacy, broad range of knowledge, and lack of adequate health insurance	4

<i>Strasser, 1995</i>	5	9	NA	*Rural healthcare involves unique issues including: a strong sense of community, specific patterns of illness and injury, social attitudes of patients, and a wider range of services for providers * Rural practice is distinct discipline within the field of general practice.	3	
<i>Templeman, 2002</i>	4	2	50 social workers	* Barriers to success in rural communities included: lack of economic opportunity, lack of technology, lack of transportation, isolation, retention of professionals, lack of specialized services, lack of funding, and inaccessible services. * Recommend community collaboration and a rural, rather than urban, focus in future planning.	5	
<i>Theimann, 1999</i>	1	1	98,898 Medicare pts 65 y/o or older with AMI	* Patients admitted to hospitals with the lowest volume were 17% more likely to die within 30 days after admission compared with the highest volume hospitals	1	
<i>Wakefield, 2002</i>	5		9	NA	*Background information	3

Zoorob, 1996

2

1 100 Diabetic patient's charts were randomly chosen, 20 for each physician from the practices of 5 family physicians in rural Ohio

* The results suggest that rural family physicians do not consistently follow the ADA standards of care.

2

DON = director of Nursing

AMI = acute myocardial infarction

ASA = aspirin

DM = diabetes

BP = blood pressure

NTG = nitroglycerin

HTN = hypertension

IV = intravenous

SBP = systolic blood pressure

ADA = American Diabetes Association

ADL = activities of daily living

QOC = quality of care

CABG = coronary artery bypass graft

Vita

Name: Jennifer Latta

Date of Birth: July 31, 1982

Place of Birth: Osborne, Ks

Education:

2004-2006 Master- Physician Assistant (M.P.A)
Wichita State University, Wichita, Ks

2000-2004 Bachelor of Science- Lifespan Human Development
Kansas State University, Manhattan, Ks

Awards: Graduated with honors with completion of honors research
project. 2003

Recognized as being in top 10% of graduating class at KSU
2002-2003

Kappa Omicron Nu Honor Society 2002-2003

Golden Key Honor Society 2003

Nominated and participated in National Youth Leadership
Forum medical mission to China 2001