Place-Based Strategies to Improve Access to Health Care in Rural Iowa

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Abstract

Sustaining the viability of rural communities depends largely upon citizens' access to high-quality healthcare, and in tandem, citizens' access to high-quality healthcare depends upon the success of the community as a whole. In order to overcome the challenges most acutely experienced in rural healthcare such as physician recruitment, reimbursement, and the providing of specialized services; community leaders and healthcare administrators should consider a comprehensive and integrated approach for health care delivery. Current methods are targeted at improvements within the healthcare system itself, but this siloed approach is not effectively capitalizing on opportunities for improvement and long-term sustainability. Strategies to achieve a more holistic approach to providing include collaboration of public and private entities, proactive development in rural communities, cultivating and fostering the next generation, increasing coordination of care, and increasing engagement of current local providers in discussions about community development. Through collaboration between the community and healthcare facilities, communities along the urban-rural continuum should work towards emphasizes their unique strengths to help draw physicians and other health professionals to the area, thereby creating improved health delivery and outcomes for residents.

Introduction

The 21st century is marked by transformation, and the environment of healthcare is no exception to this. The landscape is very complex and involves a myriad of different stakeholders and their interests. Developments in the areas of telemedicine, electronic health records, and other technological advancements are some of the leading innovative ideas in the field. However, issues and barriers with physician recruitment, reimbursement, and the providing of specialized services continue to inhibit these advancements and create roadblocks to achieving the goal of better health for patients, especially those living in rural communities. Discussions surrounding these problems are occurring across the globe as well as here in Iowa.

All Iowans across the urban-rural spectrum deserve to have equal access to high-quality, diverse health care services. Transformations across the healthcare landscape combined with rural migration place rural communities at a dire crossroads. Limited financial and cultural resources, as well as human capital, challenge these communities' abilities to provide necessary care to residents. However, each rural community has the potential to contribute to the improvement of health care services by developing innovative solutions, adapting to meet the needs of rural citizens, building upon strengths, and collaborating to create a more sustainable community.

In order to work toward achieving high-quality healthcare, community leaders together with healthcare administrators and providers must seek solutions beyond the healthcare system. Strategies to achieve a more holistic approach include: collaboration of public and private entities, proactive development in rural communities, cultivating and fostering the next generation, increasing coordination of care, and increasing engagement of current local providers in discussions about community development. Through integration of all these facets, rural areas can become sought-after locations for physicians to live and work, translating into improved health delivery and outcomes for the residents of these areas.

Methodology

Our research team is made up of a diverse background of individuals: a pharmacist, a pharmacy student, a development professional for a hospital foundation, a development professional for a publicly funded entity, and a public policy professional with expertise in health policy. Already possessing a significant degree of knowledge about the changing landscape in healthcare, we began our initial research on barriers to health care access. Each member broadly researched this preliminary topic, not limiting the research by geographic area nor type of health care. From our initial research, we oriented our focus to several issues within rural healthcare: insurance and reimbursement, provider recruitment and reassigning roles, telehealth, preventive services, and electronic health records (EHR). We sought to determine rural-specific barriers within these issues and eventually identify potential solutions or ways to mitigate such barriers.

When we began, we were looking globally for innovative methods and practices. While global innovation can certainly provide a fresh perspective, it was difficult to align within the public policy changes of the United States' healthcare landscape. Likewise, many of the examples we found of innovation within the United States did not address the needs of the Iowa population, the resources of the state, or the intrinsic and distinct values of Iowans. This ultimately led to more specific and targeted research of Iowa's health care landscape, guiding our research to follow the theme of identifying Iowa's unique needs, values, and resources with regards to health care access.

After our preliminary research was completed, we consulted with our professor, Dr. Allen Zagoren, who specializes in health policy and is a surgeon. Dr. Zagoren suggested we turn to those on the front line: Iowa's rural physicians and providers. He graciously provided us with initial contacts, and many of our conversations that followed led us to more professionals working jobs within or relating to the healthcare landscape. The majority of our findings

published here result from the dozens of interviews conducted over the course of two months. Initially, interviews were primarily conducted with rural physicians or the leaders and administrators of rural healthcare facilities, along with several statewide policy and legal experts. While specifics varied, common themes quickly emerged: Iowa's health care system is becoming streamlined, efficient care management and good outcomes are being focused on, and rural providers are attempting collaboration as a means to improve efficiency and empower one another through a single, unified, strong voice. But while the providers were working together to improve their ability to *provide care* in rural settings, we noticed that the connection between rural health care and rural sustainability were often not being addressed by the rural communities themselves. We then reached out to rural community leaders from across the state, and focused on identifying the ways that rural community leaders are building rural sustainability for public health initiatives. We researched statewide public policy initiatives and partnerships between entities seeking to improve rural health care access and further develop rural economies and communities.

To collect accurate and consistent data and to ensure we were evaluating the same issues, we created a baseline set of questions and modified scripts for the personal interviews. The questions were modified as our research developed to include questions regarding economic and community development efforts in rural settings. Different questions were presented to our three types of interviewees (providers, public policy experts, rural community leaders) to ensure we collected information that was reflective of their different experiences. Our complete list of questions is listed in Appendix A. As individuals within administration and specifically the healthcare sector are busy and often overscheduled, this contacting individuals and setting up interviews posed a challenge. Some of the interviews were conducted in person, while others over the phone or via email.

Though much of Iowa is considered rural, through our research, we learned a shift is occurring and many places are not necessarily categorized as distinctly urban or rural -- and

instead, exist on a continuum. Our group took care to include geographic diversity across the state. See Figure I, within our paper, for a map showing the locations we reached out to across the state. The list of individuals contacted regarding our research on rural healthcare and community development is located in Appendix B.

As our research became more specific to particular issues within rural health care, so too did our geographic scope. Ultimately, a “one size fits all” approach to population health care is not the solution; populations, just like communities and individuals, are unique. They have different needs, values, and capabilities. We also realized by focusing on an individual issue, such as insurance, we were merely treating the symptoms of the problem but not researching or seeking solutions to the root cause. For example, even with the best insurance coverage, a rural population may still lack adequate access to care. This led us to change our focus and look at healthcare as a component of a much larger ecosystem. We quickly learned that solving individual rural health care problems alone would not sustain rural hospitals; that the solution lies instead in creating a vibrant and distinctive rural community capable of attracting and retaining health care providers, and drawing in patients from other communities. Once we expanded our focus to include this more holistic and community-centered vision, we reached out for a final round of interviews with economic development representatives who could share their local successes and challenges in growing rural communities. Our focus and solutions quickly shifted from top-down approaches to grassroots efforts, in which local individuals and groups can work in concert with the goals of health care facilities to identify unique features of the community, and to use these distinctive qualities to their advantage.

Our group found it helpful to keep in mind throughout our research and writing process the difference between the terms “health care” and “healthcare." Health care, as two words, is “a set of actions by a person or persons to maintain or improve the health of a patient/customer” (Galli, 2014), whereas healthcare as one word is “the system, industry, or field that facilitates the logistics and delivery of health care for patients/consumers” (Galli, 2014). In this paper,

references to services that can be performed are termed as “health care,” while references to the health system as a whole are termed “healthcare."

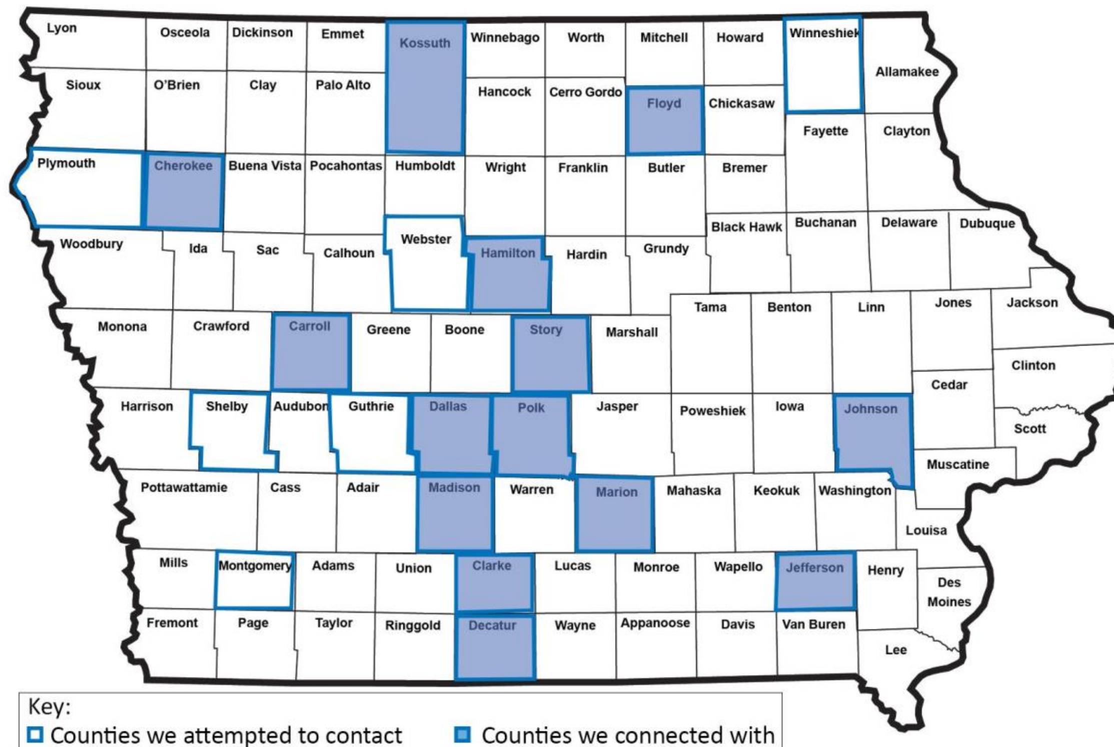

Figure I: Counties reached out to across the state of Iowa

Current Landscape

Healthcare today looks very different than it did in previous decades, especially in a rural setting. Healthcare overall has been evolving over the years and seems to be rapidly changing as time goes on. In speaking with the healthcare leaders identified in Appendix B, we often heard their “predictions” of what healthcare will look like in the future as none of them could identify exactly what will happen in the coming years. In evaluating what healthcare looks like today, we found six areas affecting health care access within rural communities. These areas include the migration from rural to urban center, physician recruitment and retention, lack of specialty services, discrepancies with reimbursement rates, healthcare and communities functioning separately, and static economic development approaches.

Rural to Urban Migration

In recent decades, individuals and families have begun migrating from their rural roots to urban centers, creating a shrinkage of the population in rural areas. According to 2010 Census data, "Four of the state's five biggest cities grew from 2000 to 2010, but only a third of Iowa's 99 counties did so" (Schulte, 2011). Schulte mentioned in his article titled, "Iowa Population Shifts From Rural to Urban," that seven counties (each with an urban center) of Iowa's 99 counties managed to grow more than 10 percent while five western rural counties lost 10 percent of their population (Schulte, 2011). The article attributes this to a few things, one being movement from factory-based work to more retail businesses, as well as a failure to repopulate rural towns as older adults die and younger individuals leave for larger urban centers (Schulte, 2011).

It is often difficult for business to thrive and be profitable in rural areas. When large businesses close or organizations leave rural communities, there is a large impact on the community's population. With fewer jobs available, people move to areas where they can more easily find employment. Even the sectors of farming and agriculture, which are considered to be more traditional to Iowa, are struggling. In the article, "With Farms Fading and Urban Might Rising, Power Shifts in Iowa," Barbaro pointed out farms in Iowa are not employing nearly as many workers these days, "As of 2011, Pocahontas county's farming industry employed 764 people, about half as many as in 1980," and he continued saying, "Laurens, which flirted with a population of 1,800 in the 1960s, was down to 1,476 in 2000, then 1,258 in 2010" (Barbaro, 2014).

This problem has a ripple effect, because as rural populations decrease due to lack of jobs, the remaining jobs may continue to diminish because the need for services decreases within the community. Retail shops, restaurants, even coffee shops may be unable to keep their doors open. Schools may also be forced to consolidate due to lack of enrollment. In an article titled "Iowa Population over 100 Years," written after the 2010 census, the author concluded that there is unlikely to be a surge of population back into these rural communities, and stated,

"…the 80-year trend in rural depopulation will likely continue into the foreseeable future. This means a rural renaissance is unlikely in Iowa and other states in the Corn Belt and Great Plains. Depopulation will be especially acute in the southern and west-central counties of Iowa" (Peters, 2011, p.10). According to Peters, the decreasing population makes providing health, social, and recreational services difficult due to the near isolation some areas face or will face in the future (Peters, 2011). Shrinking populations and school consolidation continues to erode community loyalty, and rural residents now commute greater distances for better employment opportunities (Peters, 2011, p. 13).

Challenges with Recruitment and Retention

On a national and international scale the population is growing, and as people are living longer, there is an increased demand for physicians, resulting in physician shortages nationwide (GME Funding and Physician Workforce, 2015). Within rural areas, the physician, and overall health care provider shortage is a huge challenge for rural hospitals. According to Schmitz, Claiborne, and Rouhana (2012), "While [the physician shortage] is a recognized current problem, future projections of these shortages are even greater due to the aging of rural populations and the increasing relative shortage of these health care providers in the context of a growing and aging populous at large." This shortage presents a large risk within the healthcare system and mainly impacts patients. With a decreasing number of physicians and an increasing aging population, there will reach a point where the number of doctors is not sufficient to care for the elderly, or patients in general for that matter. Since five to ten years of education is required in order for an individual to become a physician, it is difficult to determine how long this gap in providers may last.

An article titled, "Health Professions Recruitment and Retention" from Health Workforce Information Center (HWIC) (2013), stated that, "A U.S. Census Bureau report on the older population projects that, from 2010 to 2050, the U.S. population will increase by 42 percent, from 310 million to 439 million. The population is also expected to become much older, with

nearly one in five U.S. residents aged 65 and older in 2030." The healthcare workforce is already one of the oldest workforce sectors within the economy, so there are fewer replacements to fill the upcoming vacancies left by baby boomers. According to the Institute of Medicine, it is predicted that "…as the population of seniors with complex healthcare needs increases to comprise 20 percent of the U.S. population, the health workforce will not be adequate in number and preparation to meet their demands" ("Health Professions Recruitment and Retention," 2013).

With physician recruitment an issue nationwide, one can only imagine how difficult it might be to recruit a physician to a rural community. Within metropolitan and urban areas, there are numerous amenities aside from employment that can attract physicians to that location. Cities or towns with cultural offerings, recreational activities, great schools, and affordable housing find recruiting physicians much easier than many rural areas, where there may not even be a mall within two hours driving time, let alone a professional sports team within five hours. Suzanne Cooner, CEO of Decatur County Hospital in Leon, Iowa stated, "It's difficult to recruit and retain providers to an area where there is poor housing, no malls, and very few eating establishments" (personal communication, March 19, 2015).

Data shows that physicians often end up practicing in the same place they were trained and/or completed their residency programs (Handel & Hedges, 2007, p. 563). Rural residencies are not nearly as popular or numerous as other types of programs. With this in mind, many medical schools are now creating specific tracks and programs designed to create more rural health care physicians and providers. Des Moines University has a rural health care track, the purpose of which is to give students experience in rural health care while still attending school. Once finished with their residency, physicians who participate in the program spend eight years working in a rural health facility in exchange for full tuition paid for the resident. Another medical school with a similar program is the University of Minnesota Medical School. Their program, Rural Physician Associate Program (RPAP), is very similar in that it requires students to live and

work in a rural setting for at least nine months during their studies. According to the University of Minnesota Medical School, since 1971, 44 percent of the students in the RPAP program entered a rural health setting and of that, nearly 31 percent stayed in Minnesota (Outcomes, 2015).

In rural areas, administrators must get creative with recruitment techniques, and strive to pinpoint reasons why physicians would want to practice in rural areas. Administrators at Decatur County Hospital in Leon, Iowa found a successful incentive to recruit a specific physician. In need of a new Chief of Staff during their restructuring process, they found a trauma physician who was currently living in Arizona that they wanted to hire. Knowing there would be a big change from Arizona to small town Iowa, they were able to entice him through emphasizing the vast amount of hunting grounds in the area. While that initially sparked his interest, he was also curious about work for his spouse. She was a nurse in Arizona and knew the types of practices the physician was familiar working within, so Decatur County offered to give her a job training the entire staff on the new best practices they would be using (S. Conner, personal communication, March 19, 2015). When it comes to recruitment, each physician and provider is different because they all have different needs and wants. The American Academy of Family Physicians stated in order to retain physicians in rural communities, the physicians' ability to adapt to a rural lifestyle is key ("Keeping Physicians In Rural Practice," 2009).

The community of Manning, Iowa has also found success in recruiting professionals to their small town, both by cultivating a strong sense of connection and community among individuals who grew up in Manning, and by involving local economic leaders in the recruitment process. "Selling" Manning to an audience of graduates familiar with the town's strengths is not a difficult prospect, and the alumni association hosts an all-alumni reunion to engage that community and encourage successful individuals to move back to Manning. The town was recently successful in recruiting a general practitioner from Pennsylvania -- though the clinic took the lead, local economic leaders were instrumental in demonstrating the positive and

progressive culture in Manning, in the end making for a great fit both for the practitioner and for the community seeking general and maternity care (R. Reischl, personal communication, April 16, 2015).

Retaining physicians and providers is very important for health care organizations. Turnover of physicians, nurses, and providers can have a significant impact on an organization. According to HWIC, it is estimated that the loss of a healthcare professional could translate to a $200,000 to $2 million loss in revenue for a healthcare organization ("Health Professions Recruitment and Retention," 2013). Additionally, rural hospitals are often already understaffed. John O'Brien at Manning Regional Healthcare Center cited staffing as one of his largest challenges: "If I lose a pharmacist, how long will it take me to fill that position?...I recently lost a rad tech and I only had two to begin with. The tech who was still with us is on call 24/7 until I can fill the position." Not having an automated backup service like in big hospitals is a major issue for rural healthcare facilities. "I used to work at Henry Ford in Detroit and we had so many backups it was never an issue if someone resigned," O'Brien said. "When we had a physician resign at Manning Regional Healthcare Center, we had to bring someone in on the weekends to cover shifts. We did so through a Locums company as well working with our ACO Mercy Health Network," (personal communication, April 6, 2015). The use Locums companies to staff physician shortages is very popular, especially in rural healthcare facilities. Locums physicians will work part-time at the hospital to fill vacancies due to shortages, illness or leaves of absence.

Lack of Specialty Services

The majority of physicians in rural communities are family practice physicians or hospitalists who have a general medical education. Because of their more universal training and broader knowledge of medicine, they have a good ability to triage things such as emergency cases that come into these critical access hospitals. On the other hand, within rural communities, specialty services such as cardiac care, gynecology and obstetrics, and orthopedics, are not always available. Without a critical mass of patients to draw from for certain

specialty services, it does not always make financial sense to offer these services within a rural hospital. Not only is it expensive to employ the physician, but necessary technology and equipment is often prohibitively expensive. Therefore, many rural hospitals do not have the means to provide many specialty services or certain types of care to their patients.

Patients living in rural communities often must travel to see a specialist in a more urban area because of the lack of specialty providers in their more rural region. At Decatur County Hospital in Leon, CEO Suzanne Cooner mentioned that many of the residents in the community needing specialty care must drive an hour to Des Moines in order to get the care they need (personal communication, March 19, 2015). Similarly, John O'Brien at Manning Regional Healthcare Center in Manning said, many of the patients they serve would need to travel up to 90 minutes to Omaha or Des Moines for services such as cardiac and neurology (personal communication, April 6, 2015).

Another option from the side of the rural hospitals, is to contract with a specialist through a Locums group. Without a large need for certain specialties, hospitals may also be able to share providers of these services, "At Decatur County Hospital, we share a surgeon with the hospital in Ringgold County. He will bounce between our hospital and Ringgold County to cover all of the patient needs in both counties," (S. Cooner, personal communication, March 19, 2015). Decatur County is in communication with an Urologist, who on a contract basis would fly down from South Dakota for a week each month and do surgeries and follow ups with patients at their hospital and Ringgold County. This would be a cheaper option than trying to recruit an urologist to be in town 100% of the time and employed by the hospital, as they don't have a high demand (S. Cooner, personal communication, March 19, 2015).

Discrepancies with Reimbursement Rates

Lack of reimbursement is an issue within multiple facets of healthcare including, but not limited to, primary care, long term care, emergency, pharmacy and dental services ("Iowa Rural and Agricultural Health," 2015). These struggles are exacerbated when trying to deliver care in

a rural setting. In the state of Iowa, 140 facilities were categorized as rural health clinics in 2011 (“Iowa Rural and Agricultural Health,” 2015, p.29). The federal criteria to qualify as a rural health clinic are location in a health professional shortage area or medically underserved area. The numbers in Iowa demonstrate the lack of providers and consequently the lack of access to care, making these facilities more disadvantaged relative to their urban counterparts. These rural hospitals are also largely dependent on reimbursement from Centers for Medicare and Medicaid Services (CMS). Unfortunately, margins for reimbursement are lower in rural areas due to the smaller size of facilities, more modest assets and financial reserves, and a higher percentage of Medicare patients due to older populations residing in these areas (“Iowa Rural and Agricultural Health,” 2015, p.46). To compensate for the lack of funding, hospitals are often forced to cut services in order to prevent doors from closing. These low reimbursement rates also have other implications such as impacts on provider salaries (“Iowa Rural and Agricultural Health,” 2015). As stated earlier it is hard enough to recruit physicians based off of sheer geography, and if compensation is not competitive this is one more reason rural facilities have a hard time recruiting and retaining of providers.

It is hard to overcome or find ways to adapt to this inherent problem within the system. It is inevitable that rural health facilities, clinics and hospitals, will lag behind due to a lack of resources. The ability to provide services is directly tied to how profitable those services are in generating revenue for the facility. When looking from a financial standpoint, line items that would be considered specialty services or elective procedures may be more cost effective to eliminate. It is more expensive to provide these services in a rural area compared to an urban setting. Because it is more expensive the reimbursement rates are decreased for these rural areas, further contributing to the problem. An example of this challenge was described by Tom Mulrooney: “When looking at a system as a whole, high cost services like joint replacements need to be available at these critical access hospitals in order to be able to provide access to and finance other services,” (personal communication, March 19, 2015). So although the more

elective procedures, such as joint replacements are reimbursed at lower rates than in an urban setting, the revenue generated is still necessary to maintain the facility from an overall standpoint.

Approaching this issue from a statistical standpoint, in regards to reimbursement 17% of the state's population was on Medicare in 2007, and this number has since increased. In that year Iowa was the 8th highest in the nation for medicare enrollees, but it was the 44th lowest in terms of reimbursement per enrollee. This discrepancy may not have as large of an impact on a state who is not as dependent on gaining the reimbursements from Medicare ("Iowa Rural and Agricultural Health," 2015). The current landscape for health care reimbursements is within a transitional time period. Currently, the model is predominantly based off a fee-for-service model. With the adoption of the Affordable Care Act and an emphasis being put on positive health outcomes, reimbursements tied to quality are up and coming.

Reimbursement also becomes challenging when incorporating changes in the delivery of health care and new mediums such as telehealth. Although some telehealth services are eligible for billing through Medicare Part B, there are still barriers and kinks to work out within the system. As discussed in regards to telemedicine parity, Iowa received a failing grade from the American Telemedicine Association in its 2014 Analysis (Thomas, 2014, p. 41). Dennis Tibben, State Government Affairs Director at the Iowa Medical Society, confirmed such practices are still in place, that "all telehealth services are paid at a lower rate" (D. Tibben, personal communication, March 28, 2015).

Healthcare and Communities Functioning Separately

Rural communities, as any other community, must be engaging in proactive development, accepting of diversity, and willing to welcome outside talent. From some of our interviews, we discovered that this is not necessarily the prevailing mindset within all rural communities. Citizens may demonstrate a resistance to change; especially older residents who may be less welcoming to outsiders or new ideas. In order to attract and retain more providers,

communities will likely need to embrace newer services and innovative programs like telemedicine.

In small towns, there is often resistance in accepting people who move and are new to town. John O'Brien, CEO of Manning Regional Healthcare Center stated this is part of the issue in recruiting physicians and providers to come to their community. "Manning is full of nice people, but if you didn't grow up here, it's hard to work yourself into the community," he said. "With physicians, [citizens are] more accepting and know these are the people who will be taking care of them. They want the physicians to succeed and feel more welcomed almost for their personal benefit." O'Brien commented that for administrators and other non-clinical leaders, it's harder for people to accept them because they don't see their face as often as the providers. "As an administrator, I think it's important you make yourself someone people need to know. You need to live in the community - it would be impossible to be successful at Manning Regional Healthcare Center, when you live in Carroll. You need to be involved," (J. O'Brien, personal communication, April 6, 2015).

Most of these communities have been able to survive in some aspects without the need to completely change their ways. Unlike establishments and trades such as family farms, where skills can be learned from the elders and passed on from generation to generation, hospitals need individuals with specialized skill sets that cannot always be learned within the confines of the community. Rural communities do not always recognize the necessity of recruiting talented personnel in order to improve the entire community, and the evolution of these attitudes is crucial in moving forward.

Static Economic Development Approaches

When most communities think of economic development, they imagine new businesses coming to town, changes in infrastructure and large budgets. According to an interview with Richard Stong, Instructor of Public Administration, economic development does not have to include huge budgets. Rural communities can find what makes them unique and then use these

as driving points to attract outsiders. (R. Strong, personal communication, April 1, 2015). We found this to be the case in our research. Some rural communities are not seeking to attract outsiders and most economic development efforts are solely left to city planners.

Many communities believe they do not have budgets to attract new development efforts, hence minimal opportunities for growth. Identifying features that make a community unique, even without spending any money, could be the key to physician recruitment and retention. An example of this was the physician mentioned earlier who was recruited to a rural Iowa community due to the large hunting area. Ultimately, attracting new citizens and physicians in particular are critical to a community's vitality. A study by the Robert Graham Center for Policy Studies evaluated the impact of family physicians on a state-by-state basis. "The study found that in Iowa, family physicians have an economic impact of $931,341 per doctor, per year. The total impact of family physicians in Iowa is estimated to be $837,275,159 per year" (AAFP Government Relations, 2007). Communities cannot afford to not focus on recruitment of young providers.

The challenge that exists within this stagnant mentality is the communities are not working to attract young professionals. Medical providers will only move if rural communities have thriving diversity, a plethora of activities as well as opportunities for their spouses. Although no community can thrive without healthcare, without also working to progress other areas of the community, all aspects healthcare included will suffer.

Top-Down Approaches

Addressing societal issues and systemic change are often made through policy efforts, initiated with a high-level overview of the system and applying that overview broadly to lower and more detailed views of the system. These seek to provide standardization across the system by applying a conceptual approach to a problem, working down to the details. This type of approach presents its own shortcomings, as the focus on intent can obscure the practical,

day-to-day application that a more detailed approach would have provided. These top-down approaches are readily apparent within telemedicine, managed care and Accountable Care Organizations, and electronic health records.

Telemedicine

Telehealth is the umbrella term that covers all use of telecommunications and information technology to provide healthcare services. Telemedicine is a real-time interaction between a patient and provider, under that umbrella of telehealth (D. Tibben, personal communication, March 28, 2015). The real-time, two-way interaction over HIPAA secure telecommunications link (including at least audio and visual capabilities), is considered a “cost effective alternative to the more traditional face-to-face way of providing care” (Centers for Medicare and Medicaid Services, 2015b).

Federally, guidance regarding telemedicine is purposefully more open-ended, as a way to encourage innovation.

> “Telemedicine is viewed as a cost-effective alternative to the more traditional face-to-face way of providing medical care (e.g., face-to-face consultations or examinations between provider and patient). As such, states have the option/flexibility to determine whether (or not) to cover telemedicine; what types of telemedicine to cover; where in the state it can be covered; how it is provided/covered; what types of telemedicine practitioners/providers may be covered/reimbursed, as long as such practitioners/providers are "recognized" and qualified according to Medicaid statute/regulation; and how much to reimburse for telemedicine services, as long as such payments do not exceed Federal Upper Limits” (Centers for Medicare and Medicaid Services, 2015b).

If a state does cover telemedicine but excludes certain types of providers or limits it to certain parts of the state, then the state must assure access to the types of providers in parts of the state where telemedicine is not available. In Iowa’s rural landscape, this is not a light

consideration. The intent is to foster modernization but there is a very clear gap in the system. The federal rules provide minimal requirements, leaving those states that do cover telemedicine with very little guidance, and patient-citizens with few resources.

Compared to other states, Iowa is struggling in regards to telemedicine. In a 2014 state-by-state comparison conducted by the American Telemedicine Association (ATA), Iowa received mixed grades in a variety of areas. The complete “report card” is available in Appendix C. Of particular note for our research topic was the parity of private insurance, Medicaid and the state employee health plan; coverage and conditions of payment for patient setting, distance or geography restrictions, eligible providers, mental/behavioral health services, and home health services; and innovative payment/service delivery models.

In evaluating parity, the ATA assessed comparable coverage and reimbursement for telemedicine services to that of in-person services, the state’s Medicaid plan based on service limits and patient setting restrictions, provider eligibility and type of technology allowed under the parity law (Thomas, 2014, p. 6). Iowa received an “F” for Private Insurance, a “C” for Medicaid, and a “F” for the state employee health plan.

In regards to patient setting, the ATA assessed the approach to cover health services to patients wherever they are like homes, offices, schools, as opposed requiring a specific type of health facility like hospitals or physician offices (Thomas, 2014, p. 9). Iowa received an “A” in this category.

The ATA measured distance or geography restrictions within state Medicaid policies “for conditions of coverage and payment when telemedicine is performed” (Thomas, 2014, p. 13). Iowa received a “B” in this category.

Ratings in the topic of eligible providers were calculated by measuring “components of state Medicaid policies that broaden or restrict a physician’s ability to use telemedicine for conditions of coverage and payment” (Thomas, 2014, p. 16). Iowa received a “F” in this category.

The ATA measured “components of state Medicaid policies that broaden or restrict the types of providers allowed to perform the telemedicine encounter, telemedicine coverage for mental and behavioral health services” (Thomas, 2014, p. 18). The use of telehealth for mental or behavioral health services in Iowa is more advanced than other areas of medicine in the state, so Iowa received a “B” for this category.

Home health services was evaluated based on the practice of remote patient monitoring and the personalization for each patient and their care plan (Thomas, 2014, pp. 18-19). Iowa received a grade of “F” in this category.

“The ACA also includes a health home option to better coordinate primary, acute, behavioral, long-term and social service needs for high-need, high-cost beneficiaries” (Thomas, 2014, p. 23). Iowa’s health home proposal was approved by CMS and Iowa will provide services to individuals with two chronic conditions, and will include 24/7 access to the care team with a phone triage system and encourages the use of email, text, and patient portals (Thomas, 2014, p. 40). While grades were not assigned in the innovative payment/service delivery models, Iowa is only one of five states that have “incorporated some form of telemedicine into their approve health home proposals” (Thomas, 2014, p. 22).

Because there have been very few rules in regards to telemedicine, many gaps exist in Iowa. In short, “technology and telemedicine has outpaced the state’s regulatory environment, which is just now catching up” (Keenan, 2015).

The Iowa Board of Medicine (IBOM), which regulates the practice of medicine, surgery, and acupuncture under the authority of Iowa Code, recently issued new telemedicine rules that will go into effect on June 3, 2015. These new rules establish the standards of practice for physicians who use telemedicine, defining it as “the practice of medicine using electronic communication, information technology, or other means of interaction between a licensee in one location and a patient in another location with or without an intervening health care provider” (Iowa Board of Medicine, 2015). The new rule requires that physicians using telemedicine have

an active Iowa medical license and use "evidence-based telemedicine practice guidelines if applicable," as well as requirements relating to standards of care, professional ethics, the physician-patient relationship, medical history and physical examination, nonphysician health care providers, follow-up care, emergency services, medical records, privacy and security, and technology and equipment (Iowa Board of Medicine, 2015).

Prior to this rule, the IBOM did not have standards of practice in place regarding telemedicine but is involved in a lawsuit that is awaiting ruling from the Iowa Supreme Court regarding telemedicine abortions. In 2010, the IBOM investigated Planned Parenthood of the Heartland's telehealth delivery system of medication abortion, which includes in-person counsel and examination by medical professionals, interactions with the physician via video technology, and the taking of the first medication under the physician's observation. The 2010 IBOM concluded that the telehealth delivery system was safe and consistent with prevailing standards of care. However, the entire board was replaced by the Governor and the new board reversed the former board's decision in 2013, citing the same concerns about safety and a new rule regarding standards of practice for physicians who administer abortion-inducing drugs (Leys, 2015b). Planned Parenthood of the Heartland filed for judicial review of the board's vote in district court, and eventually filed an appeal with the Iowa Supreme Court after the district court upheld the IBOM rule (Leys, 2015b). The Iowa Supreme Court has not issued its opinion yet. The IBOM's new rule regarding telemedicine noted that nothing within the rule "shall be interpreted to contradict or supersede the requirements" established in its prior rule specifically relating to abortion. "'The problem with things like this is that you are intertwining issues – someone's views on abortion and the ability to receive good, clinical care.' said the American Telemedicine Association's [Jonathan] Linkous" (Keenan, 2015). Ultimately, the appearance of politics can significantly damage a governing body's authority and credibility, which is critical to effectiveness in providing standardization and a high level overview of systems.

There have been recent legislative attempts in Iowa to address the parity issue in particular. Below is brief summary of recent related legislation:

- Senate File 452: Would establish the Medicaid Transformation and Oversight Commission to provide for legislative oversight and guarantee stakeholder involvement in the transition to Medicaid managed care; also includes telehealth parity (Senate File 452. Iowa General Assembly. 2015-2016).
- Senate File 453: Would provide for telepharmacy (Senate File 453. Iowa General Assembly. 2015-2016).
- House File 317: Would allow for the use of telehealth services by mental health professionals and provides for insurance coverage; includes parity for mental health services via telemedicine under private insurance, Medicaid and state employee plans (House File 317. Iowa General Assembly. 2015-2016).
- House File 404: Would allow for the medical assistance program and telehealth professional licensures, insurance, reimbursement, including telehealth reimbursement (House File 404. Iowa General Assembly. 2015-2016).
- House File 600: Would allow licensed/registered/certified health care professionals to use Telehealth technology within their scope of practice and requires Medicaid reimbursement for such services; includes parity for private insurance, Medicaid and state employee plans (House File 600. Iowa General Assembly. 2015-2016).

However, none of these legislative attempts to fix the parity issue have been successful. All of the telehealth bills proposed this year are no longer active, or “dead,” and all except House File 317 “died” in the House Human Resources Committee or in a subcommittee there. House File 317 died in another House committee, Commerce. The House Human Resources Committee Chair Rep. Linda Miller (R) and Vice-Chair is Rep, Rob Bacon (R). Even House File 600, suggested by Rep. Dave Heaton (R), chair of the Health and Human Services Appropriations Subcommittee, was not allowed to advance by his own party leadership.

Ultimately, the legislature has been hesitant to pass bills relating to telemedicine due to the politically charged Iowa Supreme Court case regarding telemedicine abortions. This demonstrates another governing body that must be weary of the political elements, even if parity would allow more freedom in the marketplace. Politics can easily derail the high-level goal and intent of policy.

Delivery and Payment Models

Broad, systemic changes are hardly more apparent than the shifting delivery and payment models within the healthcare system. Providing more efficient and effective services through care coordination is the conceptual goal of each of the models below. The models discussed are the Patient Centered Medical Home (PCMH), State Innovation Model (SIM), Accountable Care Organization (ACO), and Managed Care Organization (MCO). Because most of these models were either new or evolving, and the ACO in particular, there was much uncertainty about feasibility and the sharing of risk and data as well as technical requirements. Below is an overview of several care delivery models utilized in Iowa, and the opportunities each provides in rural settings.

A PCMH is a team-based model of care, where treatment is coordinated through primary care physicians "to ensure patients receive the necessary care when and where they need it, in a manner they can understand" (American College of Physicians, 2015). The primary care physicians (PCPs) are "responsible for coordinating and tracking care across specialist and other providers" (Glenn, 2012) to ensure communication, efficiency, and quality for the patient. This is indicative of the transformation of healthcare: patient centered. PCMHs are widely used nationwide, and the American Academy of Family Physicians (AAFP) has recommended that all members become PCMHs (Glenn, 2012). Nationally, Iowa ranks sixth with 1,816 individuals per family medicine/general practice physician (Iowa Medical Society, 2014). Throughout all the selected specialties included in the data, Iowa's smallest ratio (and largest number of physicians to individuals per Iowan) is family practice/ general practice (Iowa Medical Society, 2014). The

next smallest ratios in Iowa is reflected in Internal Medicine, with 3,526 individuals per physician, and Pediatrics, with 6,642 individuals per physician (Iowa Medical Society, 2014). Because most individuals visit their family medicine or general practice physician far more than a specialist, and because there are more family physicians and therefore more access, family physicians have a unique opportunity in general care coordination, and in rural settings particularly.

The SIM is a way to test new payment and service delivery models in select states, customizing for state specifics and rewarding innovation. Made possible through the CMS Innovation Center in the Affordable Care Act, the model seeks to test new models "to reduce program expenditures …while preserving or enhancing the quality of care" for those individuals who receive Medicare, Medicaid, or Children's Health Insurance Program (CHIP) benefits" (Centers for Medicare and Medicaid Services Innovation Center, 2015). Iowa is one of 16 states that received Model Design awards for the first round of this initiative, with Iowa receiving $1,350,711 to design and prepare a test proposal for a State Health Care Innovation Plan (SHIP). The goals were to reduce the state's overall rate of growth in health care costs to the Consumer Price Index within three years and reduce the health care costs for ACOs by 5-8% within three years (D. Tibben, personal communication, March 28, 2015). "Specific activities included expansion of the multi-payer ACO methodology to address integration of long term care and behavioral health services; designing strategies that encouraged personal health and well-being; and assured an adequate workforce." (Centers for Medicare and Medicaid Services Innovation Center, 2015). Iowa was awarded a Phase Two Testing Grant in December 2014, which seeks to determine "whether new payment and service delivery models will produce superior results when implemented in the context of a state-sponsored [SHIP]" (Iowa Department of Human Services, 2015a).

An ACO is new care delivery system and was a key component for the Affordable Care Act. Simply, it is a "group of health care providers in a care delivery system who agree to accept

joint responsibility for the medical care and management as well as the cost and quality outcomes of a designated population of patients to achieve shared goals of better care at a lower total cost" (Gorman, 2014). ACOs are similar to PCMHs, but are more expansive and holistic. ACOs provide two aspects that PCMHs do not: shared financial incentives with hospitals and/or specialists, and contractual partnerships around utilization, referral, and care-management patterns with those entities" (Glenn, 2012). In regards to payment methods, both ACOs and PCMHs utilize fee-for-service payments, but also provide additional incentives for quality, efficient care as means to overall health. In ACOs, this is a pay-for-performance component; in PCMHs, it is a per-patient care management fee (Glenn, 2012).

Another major difference between ACOs and PCMHs is the ability to participate. PCMHs are more independent and allow PCPs to receive payment for their services (coordination of care) regardless of their affiliation. Joining an ACO is not that simple. ACOs are possible because due to strength in numbers. "With fewer financial resources, small staffs and no bargaining power with payers, many of these independent-minded physicians know they're missing out on game-changing affiliations with [ACOs]" (Porter, 2015). The past trajectory of the healthcare system necessitated consolidation and centralization as a means to absorb the fluctuations in cost and risk. That move toward affiliations and large healthcare systems is still at play. In rural Iowa, there are few rural providers that have been able to maintain their independence. But the Heartland Rural Physician Alliance, an Independent Physician Association (IPA), has provided stability and resources through a commitment to independence *and* collaboration (Heartland Rural Physician Alliance, 2015). The group was able to "become part of a national Medicare shared savings ACO…The ACO differs from the traditional model that usually is limited to on hospital system, one practice group or a defined geographic location.. This ACO started with participants in eight states and now has grown to include people in 13 states…" (Porter, 2015). Both Heartland Rural Physician Alliance and the ACO

they participate in are representative of the high-level policy goals of innovation and collaboration.

Another emerging opportunity and challenge in Iowa's healthcare landscape is through the shift to Medicaid managed care, referred to as Medicaid Modernization by Governor Terry Branstad and the Iowa Department of Human Services (DHS) who is overseeing the initiative. Essentially, in an effort to improve coordinated care, the state will contract with private Managed Care Organizations (MCOs) to help run the state's Medicaid program (Leys, 2015a). "A MCO is a health care provider or a group/organization of medical service providers who offers managed care health plans. It is a health organization that provides care for members at reduced costs using a specific provider network and specific services and products" (Gorman, 2014). One of the loudest criticisms of the initiative is the extremely short timeline that was established for the transition. All parts of the state's Medicaid program will be transferred to two – four MCOs prior to the January 1, 2016 implementation timeline. Interested MCOs are due to submit proposals by May 8, 2015 and bids will be awarded around July 1, 2015. This only leaves six months for the MCOs and DHS to prepare for implementation (Iowa Department of Human Services, 2015b).

In addition, there is very little direction within the request for proposal (RFP) and from DHS in regards to requirements for the MCOs. DHS is expecting a health and wellness component, quality case management, wrap-around holistic service, health examinations, etc. (Palmer, 2015). Charles Palmer, Director of DHS mentioned the integrated health homes in all 99 counties, and expects the MCOs to continue to work with this group and build its system. Additionally, he hoped that the MCOs will bring new services to the state, with some innovation and creativity (Palmer, 2015). This may be an opportunity for a provider organization to enhance the quality and save some money, which is one of the reasons the RFP was written broadly and openly. MCOs will have an opportunity to do this because they will not operate under the same rules as Medicaid (Palmer, 2015).

Electronic Health Records

An example of an innovative solution being implemented in healthcare systems across the country is Electronic Health Records (EHR). The goal of EHR is to improve healthcare quality and efficiency, while focusing on being patient-centered, evidence-based, prevention-oriented, efficient and equitable (“Health IT,” 2014). Although these electronic systems are becoming more and more utilized and prevalent, problems still exist at the implementation level in individual hospitals and clinics.

In order to attempt to ease the transition to EHR, there have been programs launched through the federal government that provide financial incentives to facilities, but it is not sufficient funding to solve problems associated with the current economic burdens of health care across this country (“Health IT,” 2014). According to an article titled “Federal Mandate for Electronic Medical Records,” the federal government mandated that by January 1, 2014 all public and private health care providers and others who are eligible must have implemented electronic record systems and prove “meaningful use” of these systems (University Alliance, 2013). The criteria for “meaningful use” is outlined in three different stages: data capture and sharing, advanced clinical processes, and improved outcomes (“Health IT,” 2014). All eligible practitioners and hospitals are required to report on clinical quality measures to demonstrate compliance in these areas. According to an article in Information Week Healthcare, titled “IT-Enhanced Care Coordination Really Works,” “while care coordination efforts won’t always reduce costs, there’s little doubt they save lives (Cerrato, 2014)." Improving the care of patients is obviously the ultimate goal in health care, but this cannot be done without improving sustainably of the current overall health care model. Tom Mulrooney, former CEO at Story County Medical Center within the UnityPoint Health system stated, “Technology is here, but the challenge is getting people to embrace it in their workflow” (T. Mulrooney, personal communication, March 19, 2015).

This implementation of EHR demonstrates a top-down approach to help improve healthcare delivery. Although the process may help to streamline and solve problems associated with health care paperwork and workflow, is not necessarily benefiting those working on the front lines and the care they are able to provide to patients. At times it is creating more barriers and hoops to jump through than it is assisting with smoothing processes out and alleviating system flaws. Often health care professionals are inadequately trained on new EHR systems and honestly have bigger problems within their facilities than how they are carrying out documentation. With documentation being a vital component of providing healthcare it is essential to strive for innovation in this area, but keep in mind that it will not change a system that is inherently flawed or suffers from lack of personnel or financial resources.

Rural Physician Loan Repayment Programs

In an effort to incentivize medical students to choose a career in rural health care, there are a number of loan repayment programs available. While each program is somewhat unique, each of them requires that when licensed, new physicians will practice in a rural or underserved community for a specific period of time. Here in Iowa, the Iowa College Student Aid Commission (ICSAC) administers a Rural Iowa Primary Care Loan Repayment Program (ICSAC, 2015). According to the Iowa College Student Aid Commission, there are four agreements students must meet to be eligible:

- Matriculate in and graduate from Des Moines University College of Osteopathic Medicine or the University of Iowa Carver College of Medicine;
- Complete an Iowa-based residency program (an accredited medical residency located in Iowa);
- Become licensed and employed in the practice of medicine and surgery or osteopathic medicine and surgery, specializing in family medicine, pediatrics, psychiatry, internal medicine or general surgery within nine months of completing residency;

- Work for a minimum of five consecutive years in an eligible service commitment area following completion of residency.

The student may then find employment in a city within Iowa that has less than 26,000 people and is more than 20 miles from a city with a population of at least 50,000 (ICSAC, 2015). As soon as the student is licensed and employed, they could receive up to $40,000 annually to go towards repaying their federal loans. In addition to this ICSAC stated, “Service commitment areas must provide a $20,000 matching contribution to a trust fund held by the state of Iowa that will fund future recipient awards” (ICSAC, 2015). Physicians could receive up to $200,000 if they remain in the rural community for five years.

On a broader spectrum, the U.S. Department of Health and Human Services offers a program for a larger variety of healthcare professionals. This specific program allows a number of health clinicians the chance to get up to $50,000 for a two year commitment. The standards for this program differ a little in comparison to the Iowa specific program. First of all, this program has approved locations for employment in rural areas as well as under-served urban areas (NHSC.HRSA, 2015). The areas are still determined by the Department of Health and Human Services, just like in the ICSAC program. Unlike the state funded program, this program has a broader scope and may include nurse practitioners, certified nurse midwives, physician assistants, dentists, dental hygienists, social workers, counselors, and therapists, in addition to medical doctors and osteopathic physicians (NHSC.HRSA, 2015). Just like in the Iowa specific program, these individuals must be licensed, but they may be licensed in whichever state the professional plans to practice.

Grassroots Efforts

In addition to large-scale policy initiatives and other top-down approaches, strategies at the local level also bubble up organically to positively influence the healthcare landscape in rural areas. Although the term “grassroots” efforts is commonly used in regards to political advocacy, we seek to expand this term within this section to not only included policy efforts, but also other

initiatives stemming from public interest. Efforts such as academic and community incentives, localized policies, and community collaborations can serve as powerful catalysts for effective community building and have a positive impact on physician recruitment and retention.

Academic and Community Incentives

Academic institutions themselves may also offer incentives to encourage students to consider practicing in rural areas following medical school in an effort to reduce the urgent shortage of health professionals in rural areas. Through its Health Professional Recruitment Program (HPRP), Des Moines University offers loan repayment for graduates in osteopathic medicine, podiatric medicine, physical therapy and physician assistant programs, who agree to practice in a medically underserved community with a population of 10,000 or less for four years (Des Moines University Health Professional Recruitment Program). Students who join this program are considered to be a part of the Rural Health Track. In recent years, this track has broadened to include larger communities up to 20,000 in population, and to also include psychiatry in the list of recognized specialties providers may pursue. Des Moines University students in the Rural Health Track graduate without a significant loan to repay, and these individuals may also take advantage of incentives and bonuses provided by communities they find work in (personal communication, A. Harris, April 3, 2015).

A potential disadvantage of this program is that students must opt in when they begin their education. At this point in time, students may be uninformed about both the positives and/or negatives of practicing in a rural community. For example, students who are recruited from outside Iowa or the Midwest many not have any prior exposure to rural healthcare and therefore not look into this option. In addition to this, for many medical residents, loan repayment, salary, and monetary bonuses stand second to community environment in determining where to settle following graduation. Factors such as cultural activities, strength of local schools, health and progressiveness of the community and opportunities for outdoor

activities such as cycling play a significant role in what communities can offer to physicians considering settling in the area (personal communication, A. Harris, April 3, 2015).

Localized Policies

A “grassroots” approach is very relevant when discussing policies and political initiatives. Oftentimes policies are implemented at a top level and not altered to reflect the needs of the community they are impacting. When exploring the best ways to be effective through the avenue of policy for healthcare improvements, The Rural Policy Research Institute (RUPRI) arose as a leader in research in this area, as well as in making recommendations for rural communities. As the institute is housed within the University of Iowa’s College of Public Health, many of the perspectives are more appropriate for the environment in Iowa (“About RUPRI,” 2015).

In an article sponsored by RUPRI, titled “Place-based Policies and Public Health” Dr. Mueller and Dr. MacKinney dive into the topic of localized policies. Place-based Public Policy is described as follows: “Policies designed for ‘places’ rather than for ‘programs’ result in complementary, not duplicative, public programs. Thus place-based policies more effectively integrate health and human services in rural areas. Place-based policies strengthen communities while promoting individual and population health” (Mueller, 2011). The idea emphasizing the importance of “economic prosperity, a safe environment, and an informed and educated public” within the realm of improving public health is not a new concept, but it has not yet taken root in many areas (Mueller, 2011). A major barrier to carrying out efforts in this capacity is that available funding is mainly based on program initiatives and without ties to a specific program, more ‘ambiguous efforts’ are not as likely to get backing (Mueller, 2011).

The mindset is often that to solve healthcare problems we need healthcare solutions. Within the more population-based health model the first step is “acknowledging that policies that lie outside of the conventional province of health policies may offer the greatest prospects” (Mueller, 2011). Community well-being no longer has to do with just health care and

approaching problems from a clinical perspective. It now also includes human services such as behavioral health, child welfare and social services (Mueller, 2011). A key to prolonged success is the continual assessment of these policies, both from the perspective of health measures as well as community well-being. By looking at determinants in both of these areas, it is hoped to highlight the interactions and promote continued coordination and collaboration (Mueller, 2011).

The Affordable Care Act has had and will continue to have a large impact on healthcare delivery across this county. Paring this down, Title IV (Prevention of Chronic Disease and Improving Public Health) has several sections to specifically aid in the support of improvements in public health through offering financial support to various entities (Mueller, 2011). Broadening the scope enables the more efficient use of resources as well as more involvement from the citizens themselves (Mueller, 2011). Efforts at the national level are just one aspect of the myriad of opportunities available to support local efforts. Programs at the state level or through other smaller agencies may be more accessible for these rural communities.

This moment in time is a unique juncture that may be viewed as either a barrier or an opportunity. Public policy efforts should seek to integrate various aspects of life in rural communities. In this capacity, communities with smaller populations and fewer stakeholders may be able to see maximal benefits if tactical approaches are taken. Broadening the scope enables the more efficient use of resources as well as more involvement from the citizens themselves (Mueller, 2011).

Community Collaboration

Engaging in collaboration is becoming increasingly critical to rural communities. The city of Manning is a great example of a community thriving in this area by identifying and meeting needs of citizens. For example, community leaders in Manning, Iowa identified childcare as a significant stumbling block in persuading alumni -- those who grew up in the community, have gone away to university, and are at a point in their careers deciding a next step -- to move back. In response, the Manning Betterment Foundation addressed the need aggressively and

subsidized the building and growth process, of a facility specifically for the purpose of childcare, which now provides care for 80 children, with many more on a waiting list. The community is currently fundraising to double the size of the facility (personal communication, R. Reischl, April 16, 2015). Community leaders in Manning see alumni as a prime target for their growth and development efforts, because they need not convince them that Manning is a quality place to live; they must simply provide for housing and employment that these young individuals expect.

Manning is a community rooted in the committed involvement of citizens: a tradition stretching back generations. Within this culture of involvement and addressing issues as they arise, the city has undertaken a number of cultural and economic development projects, including the securing and relocation of a 1660s era German Hausbarn to the community, transforming an unused high school building into a 24-hour community recreation center, significant enhancements to a city park (adding sand volleyball, horseshoes, canoeing and rafting access) and the development of an extensive trail system for walking, bicycling, and winter sports (personal communication, R. Reischl, April 16, 2015).

Recommended Strategies to Develop a Holistic System

According to the World Health Organization, a healthy community makes an important contribution to economic progress, as healthy populations live longer, are more productive, and save more (World Health Organization, 2015). Rural communities risk a poorer quality of life by failing to adapt their communities in a manner that attracts physicians and other healthcare practitioners. Through our research and speaking with professionals throughout Iowa with expertise in the areas of both healthcare and economic development, we determined five strategies we would recommend to improve not only access to healthcare in the community, but the community overall. We believe that by creating a desirable community for people to live in, this may slow the trend in rural to urban migration, creating a more dynamic urban-rural continuum. As a result, this may lead to better physician recruitment and better healthcare outcomes, both being critical to a community’s long term viability and sustainability.

Strengthening Resources

As discussed earlier, rural communities are shrinking in population as people move from their rural roots to urban areas. Additionally, with people moving out of their small towns, retail stores and restaurants end up closing their doors as they are unable to be sustained by the smaller population. While many rural communities are shirking, there are still a number of them that are thriving. Most of the time, those thriving communities have great community involvement in the economic development of their town. Gerald Edgar, a city administrator in Charles City, Iowa, stated in an interview that in most communities, the development efforts are carried out by a few strong personalities who everyone knows. These people are able to spark some ideas for funding to better the community and work with others to get funding (personal communication, April 10, 2015).

In order for a project to take off to better the community, buy-in is necessary from both the community leaders and residents. Andy Coe with Convergent Nonprofit Solutions stated that economic developers cannot exist without partnerships with different sectors of the community. According to Coe,

> A critical component of successful capital campaigns for Chambers and Economic Development Organizations is making sure that all stakeholders have a seat at the table and have an opportunity to communicate with each other on a regular basis. Each organization's needs should be considered and addressed while finalizing each strategic plan due to the interdependence of each group ("Fundraising for Economic Development," n.d.).

It's important to continue to work together for the betterment of the community, whether through a capital campaign, or through a private, state or federally funded grant program. Capital campaigns are a great way for the community to feel as if they have a part in the advancements of their community. It is important when soliciting the community members, those asking for the funds are being attentive to their donors. According to Mal Warwick, in a study from the Center

of Philanthropy at Indiana University, the number one reason a donor didn't want to give was they didn't feel connected to the organization or the cause: people want to feel appreciated (Warwick, 2009). Communities may also take advantage of grants acquired locally, statewide and nationally.

Creating Partnerships

The theme underlying healthcare transformation is holism; much like the need to assess a complete person when providing care to a human being, the healthcare system does not exist as a set of isolated, separate parts. But the healthcare system is still a part of the larger societal system, made up of complex and ever-changing forces, institutions, groups, and individuals to form a coherent whole. The action (abrupt or glacial) of one part affects the whole in some manner, no matter how miniscule. It stands to reason then, that two far-reaching parts (healthcare and human migration) will greatly impact the whole (society). Isolation, division, or refusal to acknowledge the connectedness of our society will not foster the results desired to address the issues facing the whole system, and its many parts. Only collaboration across forces, institutions, groups, or individuals will provide lasting solutions.

Collaboration is the key to adjusting to the transformations in healthcare and in population movement. Partnerships across sector and geographic location can foster incredible progress. The success of the Rural Health Investment Program is a prime example of the advances that can be made by strategic partnering. The hallmark of its success, and other successful partnerships, is the symbiotic relationship, which provides a benefit to each party. The Rural Health Investment Program is beneficial to the school by providing additional support and a new area of specialty; beneficial to the medical students and young medical professionals by alleviating student debt; beneficial to the local communities by providing a needed medical professional; and beneficial to the state by reducing the cost of providing care in rural settings.

Wellmark's partnerships with provider systems in ACO structures is a more straightforward example of collaboration. Wellmark benefits through the lowered cost of care

that ACO structures foster; the ACOs benefit by receiving value-based reimbursement from a large payer. One example between non-profits is the much closer collaboration between the Iowa Department of Public Health and local health departments to align resources (T. Evans, personal communication, April 27, 2015).

At the more rural level, many interviewees were not aware of partnerships between local government and local businesses. One small Iowa town that has been successful in fostering partnerships is Osceola in Clarke County. Through Clarke County Development Corporation, made up of community and business leaders in both public and private sector, Osceola has been very proactive in building partnerships over time. The Lakeside Hotel & Casino, the Clarke County Hospital, and partnerships with the local community college has provided job opportunities for several different skill levels, recruited working families to the area, and even recruited young providers to the area (W. Trickey, personal communication, April 15, 2015). Through their investment in the community, STEM initiatives, equipment donations, professional development and higher achievement opportunities are provided to students. The benefits to the corporations are a cultivating a skilled, local workforce pipeline, growing support through their investments in the community, and higher employee satisfaction from the parents and neighbors of the students.

Ultimately, these partnerships work because there is a very real value to each involved party. The broader value is that improvement of the community strengthens the corporation, as part of a holistic view. More practically, there is unique, tangible value that can and should be exhibited to the corporation. Identifying what the potential partner values, cultivating and demonstrating how a local community can provide it, and being persistent, pro-active "salespeople" is a winning formula for rural communities.

Cultivating Diverse Communities

There are multiple facets that make a community diverse; age, race, sexuality, gender, and interests of residents are just a few examples. In order to be a vibrant growing community, it

needs to be attractive to new people who can bring in some diversity, and being welcoming to new people with interests that differ is vital. A physician and other healthcare practitioners deciding which community to join, will want one where they feel they will belong and not be judged. A successful hospital requires not only healthcare practitioners but also a customer base of patients big and diverse enough to serve as the patient population. The community therefore needs to be at the center of cultivating a diversity in an effort to sustain their own health access.

There are innovative ideas that have been adopted by some rural communities that have helped to attract visitors from urban areas. Train dinners are being held by various small towns once had vibrant train cars that have now ceased to be used. Baldwin City in Kansas is a great example of this. They use their fifties style train cars to provide a five course two hour dinner on the train as it travels to a nearby town and back. This attracts people from all over to experience this one-of-a-kind dinner experience. Moving feasts are also an upcoming idea. These are restaurants that move from small town to small town each week. Instead of trying to build multiple restaurants in a small town, the restaurants come to town in turns. Restaurants make money but the locals also get to dine at exquisite places without needing to drive. Some small towns have made it easier for artists to come showcase their work and provided free theater space. Adding to a community's cultural amenities is key in attracting health care personnel (R.Strong, personal communication, 1 April 2015).

Transitioning to True Care Coordination

Accountable Care Organizations (ACOs) as discussed earlier are becoming more prevalent as a means to coordinate care as well as deliver and be reimbursed for health services. As care is beginning to become more integrated across different settings, care coordination is beginning to become a reality. Under an ACO model there is a benefit to efficient delivery of care and improving healthcare outcomes for patients. Both of these things will also serve as mechanisms to cut down on costs. Since care will be coordinated, the extra money

and benefits can be spread between all parties within the ACO. Advantages from the patient's perspective include less paperwork, fewer repeated lab or medical tests and an increased level of involvement in making decisions about their own health care ("Accountable Care Organizations," 2015).

Looking to the future ACO models are bound to make up the majority of healthcare delivery. So even though today there are still physicians who are practicing independently, this may not be a sustainable method for much longer. With the increased amount of paperwork and documentation required, it is almost necessary at this point to be a member of a larger entity to remain viable. Independent practices or even smaller groups of physicians will eventually get absorbed as these larger more corporate-minded ACOs begin to demonstrate prosperity. The Heartland Rural Physician Alliance (HRPA) has been successful in walking the fine line of independent, individual providers and demonstrating strength in numbers. One needs look no further than their recent successes with a national Medicare shared savings ACO. "Klitgaard said HRPA leadership wanted to get as many practices as possible into an ACO model 'to learn and grow and figure out how they could participate and survive in this world of payment change but still stay independent'" (Porter, 2015).

Dr. Keith Mueller, an expert in rural healthcare policy, states that the single most important impact of ACOs developing in the rural setting is the access to Medicare claims data, enabling more effective management of care for these patients. In addition to this he alludes to the positives impact that bringing organizations together in rural communities can have, including a focus on overall health, translating to lower utilization of clinical services and increases shared savings (K. Mueller, personal communication, April 6, 2015)

ACOs have traditionally functioned in more of the private sector for insurance purposes. Now there are models being adopted within government provided health care in hopes that the aforementioned benefits will help to decrease costs. The federal government funds around 70% of the country's healthcare, so it makes sense from an economic standpoint to embark on

efforts to reduce spending. When applying these projected benefits to a rural Iowa population, the move to ACO models would be very beneficial. Especially since the majority of the rural Iowa population is aging and currently or will be on Medicare in the future the cost savings for this group should be noted. In order to continue to provide care, physicians and facilities in rural settings will need to be prepared to jump on board the ACO model for delivering services.

Engaging Voices Across the Community

Some communities in Iowa stood out through our research as examples of rural areas navigating the challenges of providing healthcare to residents in innovative ways. In Pella, Iowa, the public relations representative at the hospital holds strong ties to the community and attends economic development committee meetings, which allows for shared goals and strategy between community and Pella Regional Hospital (P. Cody, personal communication, 27 April 2015). Hospital administration team (known as the A-Team) has been sharp and aggressive in recruiting doctors and getting needed equipment to the area; Patsy Cody of Pella Community Development Committee said “Pella Regional Hospital has equipment that most small communities would dream of.” In addition, large employers in Pella such as Vermeer and PellaCorp take part in meetings to discuss health access for their employees, raising the standard of care for all residents. These two corporations recognize that without good medical care in the community, recruiting the talent they need would be difficult or impossible, which encourages the town of Pella and the companies to work hand-in-hand toward shared goals. With a diversity of job opportunities, an openness and pride in the community, and a close-knit feeling even among those who do not have family in the area, Pella’s strength in community translates well to its strength in healthcare access for residents (P. Cody, personal communication, 27 April 2015).

In Manning, Iowa, a tradition of commitment among involved citizens stretches back generations, with a history of cultivating a progressive community and addressing issues head-on. This hard-charging attitude extends into the town’s approach to acquiring healthcare access

for its residents. In recent years the community has put in an extensive trail system, converted an unused high school building into an affordable 24-hour community recreation center, and added enhanced features (sand volleyball, horseshoe courts, canoeing and rafting access) to a local park. In this town of 1500, local economic development groups consider health care an integral component to fostering growth-- most communities this size do not have a hospital, but Manning just built a new hospital, clinic, and family recovery center, which is the largest employer in Manning. Ron Reischl, President of Manning Main Street described healthcare and the hospital as “a key part of our community and a key part of our growth” (personal communication, April 16, 2015).

Conclusion

The only way that rural communities can improve healthcare outcomes is by broadening their scope and seeking to establish a thriving community as a whole. The success of the healthcare facility, the health of community residents, and the economic viability of the community as a whole are intertwined and interconnected. Much like the need to assess a complete person when providing care to a human being, the healthcare system does not exist as a set of isolated, separate parts. Rural communities need to include the voices and input of local, rural health leaders within their communities in planning and decision-making. The entire community stands to benefit from a thriving local healthcare system. Healthcare facilities not only could serve as significant employers in rural communities and draw individuals to towns for work, but also improved health delivery will translate to better outcomes for the residents of these areas. At this critical point in determining the future of these rural communities, integrating health care into community development discussions will set up these communities for success.

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Appendices

Appendix A: List of Interview Questions

Questions on Health Care Access:

- What are your biggest challenges in providing medical care in your geographic area?
- What types of care and/or services are the most difficult to provide in rural areas?
- In what ways do you see technology as assisting or inhibiting providing quality care to rural areas?
- What issues do you run into on a day-to-day basis? Has this been aided or exacerbated by the changes as a result of the ACA?
- What innovative strategies do you use to try to better serve your patients as individuals and the population as a whole in your area?
- What do rural practitioners need from administrators, lawmakers, insurance companies, medical schools, the public in order to provide care more effectively?
- If our group wanted to provide a useful deliverable at the end of our project, what would you recommend? What would be most valuable to you?
- Do you have colleagues/administrators that you'd recommend I contact for another perspective?
- Are we asking the right questions?

Questions on Economic Development:

- *Community Development/ Economic Development*
    - How did/does your community determine what aspects of their culture/history to highlight and cultivate? In other words, how did you determine what makes you unique?
    - What strategies do you use to encourage community buy-in and engagement from local residents when rolling out a new initiative or program?
    - Do community leaders consider health care providers as a way to foster economic growth/community development?
- *Community's Role in Improving Healthcare Access*
    - Have you seen or heard of any efforts in schools or in the broader community to encourage students to pursue the medical field?
- *Coordination and Collaboration*
    - Are you aware of any coordination between rural providers to provide quality care? (ie: creating a symbiotic (mutually beneficial) relationship like sharing a mammogram machine and an ultrasound machine)
- *Physician/Provider's Role in Community Development*
    - What ways have you seen providers attract and foster new providers in the rural areas?
- *Community Needs*
    - What resources or deliverable would help local communities become engaged/pro-active?

- What would you like to see from policy makers regarding improving access to health care in rural areas?

Appendix B: List of Contacts

Carroll County
John O'Brien – CEO, Manning Regional HealthCare Center*
Ron Reischl – President/Business Improvement Chair, Manning Main Street*

Cherokee County
Dr. Stephen Veit – Family Practice Physician, Cherokee*

Clarke County
Brian Evans – Clarke County Hospital*
William Trickey – Executive Director, Clarke County Development Corporation*

Dallas County
Matt Wille – CEO, Dallas County Hospital*

Decatur County
Suzanne Cooner – CEO, Decatur County Hospital*

Guthrie County
Danielle Narvarro – Chief Nursing Officer, Guthrie County Hospital

Hamilton County
Mona Everson – Life and Health Care*

Jefferson County
Michael Halley – Committee Member, UI College of Public Health's Business Leadership Network*

Johnson County
Charles Fluharty – President & CEO, Rural Policy Research Institute
Dr. Keith Mueller – President, Iowa Rural Health Association*

Kossuth County
Maureen Elbert – Kossuth/Palo Alto Economic Development*

Madison County
Marcia Hendricks – CEO, Madison County Hospital

Marion County
Jill Baze – Van Gorp Co.
Patsy Cody – Chair, Pella Community Development Committee*

Richard Strong – Professor of Economic Development, Drake University*

Plymouth County
Dr. Allison Schoenfelder – Physician, Akron Mercy Medical Clinic

Polk County
Sara Allen – Lobbyist, Iowa Hospital Association
Mark Bowden – Executive Director, Iowa Board of Medicine*
Amanda Harris – Resident, Rural Healthcare track, DMU*
Leah McWilliams – Executive Director, Iowa Osteopathic Medical Society*

Shelby County
Dr. Don Klitgaard – Family Practice Physician, Harlan

Statewide
David Adelman – Lobbyist, Iowa Academy of Family Physicians*
Gerald Edgar – Committee Member, UI College of Public Health's Business Leadership Network*
Dr. Tom Evans – President/CEO, Iowa Healthcare Collaborative*
Mike Falkstrom – General Counsel, Planned Parenthood of the Heartland*
Indira Karic – Executive Director, Heartland Rural Physician Alliance*
David Plundo – DMU Rural Health Track
Dennis Tibben – State Government Affairs Director, Iowa Medical Society*
Pam Williams – Executive Vice President, Iowa Academy of Family Physicians*

Story County
Tom Mulroney – Former Administrator, Story County Hospital*

Winneshiek County
Randy Uhl – Economic Development Director, Decorah

*Individuals interviewed

Appendix C: Iowa's Report Card from American Telemedicine Association

Telemedicine in Iowa

PARITY:		
Private Insurance	F	• Bordered by MO which has a private insurance parity law. In 2015, numerous bills were introduced to ensure telemedicine parity coverage for private insurance and Medicaid.[83]
Medicaid	C	
State Employee Health Plan	F	
MEDICAID SERVICE COVERAGE & CONDITIONS OF PAYMENT:		
Patient Setting	A	Medicaid
Eligible Technologies	F	• IA Medicaid will cover some mental health services via telemedicine offered through their contracted plan.[84]
Distance or Geography Restrictions	B	
Eligible Providers	F	
Physician-provided Services	F	
Mental/behavioral Health Services	B	Innovation
Rehabilitation	F	• IA's health home proposal was approved by CMS. IA will provide services to individuals with 2 chronic conditions including 24/7 access to the care team that includes but is not limited to a phone triage system with appropriate scheduling during/after regular business hours to avoid unnecessary ER visits and hospitalizations. Use of email, text messaging, patient portals and other technology as available to the practice to communicate with patients is encouraged.[85]
Home Health	F	
Informed Consent	A	
Telepresenter	B	
INNOVATIVE PAYMENT OR SERVICE DELIVERY MODELS:		
State-wide Network		
Medicaid Managed Care		
Medicare-Medicaid Dual Eligibles		
Health Home	✔	
HCBS Waiver		
Corrections		
Other		

(Thomas, 2014, p. 40)