Insurance Enrollment, Physician Access, and Health Outcomes: A Health Profile of Perry County, Kentucky

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Abstract

This paper is a case study of health in Perry County, Kentucky, a rural county located in the southeastern region of the state. The paper explores the impact of the Patient Protection and Affordable Care Act (ACA) legislation and access to primary care physicians in the county, and asks whether those factors contribute to the county's poor health outcomes. Specifically, the Robert Wood Johnson Foundation (2014) ranks Perry as the least healthy county in Kentucky. It ranks lowest in health outcomes and ranks in the bottom ten counties for length of life and health habits. The paper finds that the adoption of the ACA and Medicaid expansion increases access to care for Perry County residents. A lack of area physicians contributes to the poor health outcomes and health rankings, but physician number constitutes only one influential factor. More critical indicators are tied to the economic and social practices of the area, including transportation, financial stability, health habits, and political or government mistrust. The paper explains how each of these subsequent indicators contributes to poor health outcomes and concludes with suggestions for improving the current local practices and more national systemic issues.

My personal experience in Perry County and interviews with community professionals provide the data used in the case study. Last summer I worked at the Little Flower Clinic in Hazard, Kentucky as a health intern. Further information was collected through interviews with the medical staff of local clinics, a physician recruiter, and an internship mentor.

The Obama Administration passed the Patient Protection and Affordable Care Act in March of 2010 with a goal of making health insurance in America more affordable and accessible for all citizens. The legislation introduced changes to the health insurance market in the United States but left the structural model of insurance provision largely the same. These changes affect communities across the United States in various ways. This paper explores the impact of the Affordable Care Act (ACA) legislation and access to primary care physicians in Perry County, Kentucky and whether those factors contribute to the area's poor health outcomes. I conducted interviews with staff at the Little Flower Clinic and other medical providers in the county to gather this information. I asked a series of questions pertaining to the changing insurance status of the uninsured population, whether providers have observed a difference in access to care as a result, and what challenges remain if insurance coverage is to be a useful step in achieving better health for low-income individuals in Perry County. Findings show that expanded health care coverage via Medicaid increases access to health providers and that a lack of practicing area physicians contributes to poor health outcomes. However, the greatest barriers to better health outcomes are economic and social factors, including transportation, financial stability, health habits, and political or government mistrust. It is critical to know what issues present the greatest challenges to better health in order to develop the most effective solutions to the problem in Perry County. Based on this knowledge, the paper concludes with suggestions for improving the current system and local practices in order to achieve better health outcomes.

First, the paper addresses the impact of insurance on health access and health outcomes in the area. Health Insurance in the United States operates publicly and privately. The public realm generally insures low-income families and individuals whose income or medical condition qualifies them for public insurance. The state and federal governments subsidize public

insurance and provide health insurance coverage to those who are unable to afford private health care plans. Individuals who can afford unsubsidized plans purchase their insurance through private insurance companies, without government financial assistance. Companies across the United States offer various plans; individuals can choose which plan best suits their medical and financial needs.

Public and private insurance plans are now purchased through Health Benefit Exchanges (HBE) established by the ACA. HBEs are online marketplaces where consumers can compare and shop for health insurance plans; private plans and public plans, including Medicaid and Children's Health Insurance Program (CHIP), are available. In Kentucky, five major Medicaid providers are available on the exchange, including WellCare, Humana Care Source, Passport, Coventry Care, and Anthem Blue Cross. Consumers who shop for such plans include low income individuals who have not previously been insured, recently unemployed individuals who have lost employer coverage, and those who opt out of employer coverage. The exchanges create a streamlined process for comparing and choosing plans and expand consumer access to coverage options.

The ACA introduced additional measures to guarantee a nationwide increase in health insurance coverage. One measure includes the individual mandate, which requires the majority of citizens to purchase health insurance or face monetary penalties if noncompliant. The second measure includes the option for each state to expand Medicaid, the public welfare program that provides medical care to low-income individuals between the ages of eighteen and sixty-four (Henry J. Kaiser Family Foundation, 2013). Prior to the passage of the ACA in 2010, Medicaid coverage was only available to individuals whose income was at or below 133% of the Federal Poverty Level (FPL). Coverage was also limited to adults with children. The new Medicaid

expansion provides insurance to individuals making up to 138% of the FPL, including childless adults. These changes allow a greater number of low-income individuals to qualify and enroll in public health insurance. Twenty-seven states and Washington, DC chose to expand Medicaid (Current, 2014). In these states, the expansion has the potential to change the healthcare landscape in areas with significant populations of low-income, uninsured individuals. The most significant changes to the landscape will be more affordable care and more regular care. Health insurance makes medical care more affordable because when medical needs arise, the insurance company takes on much of the cost of the procedure. Making health care expenditures less costly for the individual enables the individual to seek care because the cost is no longer prohibitive. Individuals are then able to see their physician more regularly, which ultimately lowers the country's medical costs through preventative medicine.

Statistics demonstrate that the healthcare landscape is changing across the country. Insurance enrollment has greatly expanded. As of May 1, 2014, 8 million American citizens had enrolled in an insurance plan via the HBE marketplace. In the last enrollment period from October to March 2014, 4.8 million enrollees were covered by Medicaid and CHIP (Enrollment, 2014). This represents an increase of 1.8 million enrollees, in addition to the 3 million already enrolled since February.

Coverage is successfully expanding, but the Affordable Care Act alone is not sufficient to improve health outcomes in Perry County. The rural environment and complications of poverty present unique challenges to improving health. The next section of the paper provides a background of my experience in Perry County and a history of the area to better understand what barriers to health remain.

I spent the previous summer in Perry County at the Little Flower Clinic in Hazard, KY as a health intern. In my internship, I shadowed two Advanced Practice Registered Nurses (APRNs), a case manager, and an enrollment specialist at the clinic when the administration and medical providers were reacting to the changes in their practice brought about by the Affordable Care Act. Through these interactions I learned about economic, social, and health challenges in the area. In the paper I draw upon my interests in insurance coverage and primary care medicine to explore their impact on health outcomes.

The Little Flower Clinic was established in 2005 as a Health Care for the Homeless clinic. It began as a free clinic that treated all patients regardless of their ability to pay. It is now a federally funded community health center and receives funding from the federal government to operate. While the clinic still provides care to its patients at low cost, new insurance rules and health care site requirements have changed the patient population and health care landscape in the past four years. Significantly, the patient population at the clinic has changed drastically from being approximately 60% uninsured to a current population of only 30% uninsured. Most of the patients at the clinic are chronically poor. As a Health Care for the Homeless site, 75% of the patient population must be qualified as homeless and up to 200% FPL. The homeless definition is expansive; it covers those living in substandard housing, those living doubled up with other families because of financial limitations, those living in the homeless shelter, and those who are in danger of facing homelessness. The drop in the number of uninsured resulted from covering individuals within this population; low-income, recently unemployed clients; and clients who qualified for subsidized private plans.

Health statistics and designations exemplify the poor health status of Perry County. The Robert Wood Johnson Foundation (2014) ranks Perry County as the least healthy county in

Kentucky; it receives an overall Health Outcomes score of 120 out of 120. It also receives low-ranking scores for length of life (118 out of 120), health behaviors (115 out of 120), and social and economic factors (101 out of 120). Perry County is categorized as a Medically Underserved Area (MUA) and a Health Professional Shortage Area (HPSA). The general definition of a MUA is an area that has limited access to primary care services (Medically Underserved Areas). Specifically, the MUA designation uses four variables: “the ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population age 65 or over” (Medically, 2014). Each of these variables is scored using the Index of Medical Underservice (IMU). IMU operates on a 0 to 100 scale, with 0 being completely underserved and 100 best underserved. The scores for each variable are weighted ad summed to a total score out of 100. Areas that receive a score of 62 or below are designated MUAs (Medically Underserved Areas). Entire counties, minor civil divisions (MCDs), and census country divisions (CCDs) may qualify for the designation. Hazard, Kentucky scores a 60.10 (Medically, 2014).

The county is also HPSA designated. The HPSA index uses different variables than the MUA, including “population-to-provider ratio, poverty rate, and travel distance/time to nearest accessible source of care.” These factors determine shortages in primary care, dental care, and mental health personnel (Duke, 2003). Additional factors supplement each category; for example, the infant health index is a fourth factor considered for HPSA primary care designations. Each factor is scored from 0-5, and again the scores and weighted and summed. Total scores range from 0-20, with 0 being the least underserved and 20 being the most. Perry County receives a score of 13. Individual care centers and rural health clinics within the county receives scores ranging from 5-12 (Find, 2014).

The development of Kentucky and its economy provide the context for understanding the poor health rankings. The Appalachian region was settled by mountaineers who pushed westward into areas of the United States not previously explored. Individual settlers traveled to the area until the 1830s, when migration stalled and a steady population began to develop (Caudill, 2001). The market for timber and the large trees of the Appalachian forest brought spectators to the area in the 1870s, but no drastic changes to the land occurred until the 1900s when the railroads were built just prior to the start of the First World War (Caudill, 2001). The railroads were built by many small contractors, mostly from the South, who pieced together the railroad several miles at a time. Once the tracks were completed, big coal companies arrived to extract coal resources. They built settlement towns where miners, most native to the area, and their families lived. The companies profited from the development of the coal towns, but very rarely put any money back into the town's infrastructure. When the first boom of coal ended, there were no financial or material resources to support the development of schools, education of children, the health of the people, or financial stability of families. The early years in part contributed to the slow development of the area. Infrastructure was only rebuilt once wealth returned to the area and those with it were willing to help build up the towns.

For example, when Mary Breckinridge, a trained nurse-midwife, returned to Hyden, Kentucky there were still no roads or means of transportation other than by horse. Breckinridge returned to the southeastern United States to develop a primary health care system to care for infants and young children deeply in need. In Hyden, there were no institutions or educations to provide care or teach the families about the importance of immunization and public health issues. Breckinridge established Frontier Nursing Service in 1925 to care for the rural population of about 10,000 (How FNS Began). Nurses traveled on horseback through rivers and on unpaved

paths to reach homes and outpost clinics to deliver care. This was the first system designed to address specific barriers to distributing primary care in rural areas. Through home visits, clinic outposts, vaccination, and education, the Frontier Nursing Service drastically reduced the rate of maternal and infant mortality in Leslie County, a neighbor to Perry County (How FNS Began).

Today, the area still faces similar challenges in access to health care with respect to transportation, education, and financial cost. These barriers are no longer primarily a result of absent infrastructure, but of social and economic factors that limit some but not others from receiving medical care. During my summer internship and in my interviews, I found that other challenges to health, tied to economic and cultural circumstances, strongly influence the ability to improve health outcomes for residents in Perry County, Kentucky. Most of the medical providers acknowledge that expanded insurance coverage is of great benefit to patients and attribute a lack of area physicians as a cause of poor health outcomes. However, the most important barriers to achieving better health outcomes include issues concerning education, transportation, diet and exercise habits, and financial limitations.

Perry County residents benefit from expanded coverage. Since the ACA’s inception in 2010, more than 413,000 Kentuckians have enrolled for insurance coverage via the exchange (Wynn, 2014). Coverage throughout the state is increasing. The changes in the patient population at the Little Flower Clinic, the Hazard Clinic, and Big Creek Clinic demonstrate that this change is effective in expanding care opportunities in Perry County. The medical providers notice that new patients come to the clinics once they obtain insurance. With insurance, many individuals seek out primary care and regular doctor’s appointments knowing that they can afford to do so. At the Hazard Clinic, the patient load doubled after the insurance enrollment period, and nearly all were new patients (T. Preston, personal communication, November 3, 2014). At the Little

Flower Clinic, the number of insured patients doubled. Expanded coverage is a significant benefit to the residents of the area and increasing enrollment provides a means of greater access to care in Perry County. Low-income individuals can now qualify for insurance coverage and get the needed care for health issues that may have previously been neglected.

A benefit of regular and early care is that patients who see their physician regularly are less likely to need large-scale, high-risk interventions later (D. Pennington, personal communication, November 6, 2014). Regular appointments ensure that the care provider notices potential abnormalities or complications at earlier stages and begins appropriate treatment. This alleviates the need for serious intervention later. If a problem is not diagnosed until it becomes severe, health risks and cost of treatment are much greater. Regular care lessens the burden on the health care system and can help reduce cost (D. Pennington, personal communication, November 6, 2014).

Clinics are adapting to the new ACA requirements and opportunities. For example, the Little Flower Clinic simultaneously lost and gained patients due to expanded Medicaid coverage. Many patients left the clinic to receive care from a medical doctor (MD) instead of the two Advanced Practice Registered Nurses (APRNS) staffed at the clinic, primarily due to the perception that physicians provide better quality care and different medications. Little Flower is now struggling to compete with larger institutions and staffs that are able to offer more services to patients. The clinic worries that patients who have left the clinic no longer receive the holistic services that the clinic offers, such as housing assistance and the provision of food boxes. It is more difficult for the clinic to reduce poverty and prevent homelessness when it is no longer in contact with the patients in need of those supports.

Secondly, there are challenges associated with Electronic Medical Record (EMR) requirements. EMR programs require providers to input data addresses that are not always relevant to the patient appointment. However, the EMR must be complete in the appropriate manner so that it can be submitted to regulatory bodies. This can be detrimental to the provider-patient interaction when too much attention is diverted to completing the EMR. New insurance requirements also make it more challenging for providers to prescribe medications. Insurance companies are able to change what generic or name brand drug medications they will cover as often as they choose. Providers, wanting to provide patients with the least expensive medication option, must spend time navigating drug options. Sometimes the best medical option conflicts with the best financial option for the patient.

Finally, charity and free programs that provide care at free or reduced costs are no longer operational. It is assumed that all patients acquire insurance coverage in the marketplace and no longer need charity program services. For example, pharmacies that used to provide free medication to Little Flower can no longer do so, and specialists that used to provide free consultations or care at reduced costs instead require proof of insurance (L. Ahrens, personal communication, November 3, 2014). While medical insurance effectively increases access for many patients, providers face challenges in adapting to new requirements (T. Preston, personal communication, November 3, 2014). Once care providers fully adapt and adjust the requirements to their practice, health care sites will be better able to serve the newly insured population, most of who are covered by Medicaid.

In addition to affordability, accessibility is a concern. One of the concerns particular to rural areas is that there are not enough physicians to provide care for all of the residents. Historically the region has struggled to bring not just medical personal to southeastern Kentucky,

but also building materials and resources, as the founders of Frontier Nursing Service experienced when building the first area hospital. I spoke with Deborah Pennington, a physician recruiter, who explained the health care landscape of the area when she first began working in Louisa, Kentucky. In the 1980s, the health care landscape was dire. Very few nurses or physicians practiced in the area. The National Public Health Service had recently pulled funding and many physicians left the area as a result (D. Pennington, personal communication, November 6, 2014). Very little attention was dedicated to well-medicine and prevention. Nearly 20 years later, Linda Ahrens, a nurse practitioner (NP) arrived in Hyden, KY to a similar situation. The edges of the roads in Hyden were not paved and everything was covered in coal-dust. Only two physicians practiced at the local hospital so it was difficult to provide adequate, timely care to patients, especially when one doctor was sick or needed time off (L. Ahrens, personal communication, November 3, 2014). Ahrens arrived to work at the Big Creek Clinic, which serves a very small population of only about a dozen families. Often Big Creek serves as the only available care site for residents of the town; other offices are located more than an hour's driving distance away. These experiences demonstrate the difficulties rural areas face in providing adequate physician care.

The challenges to bringing physicians and providers to the area centers around three issues: payment and salary, opportunity and education for physicians and their families, and cultural barriers and isolation of the area. First, primary care physicians earn a smaller salary in comparison to physicians who choose care specialties (D. Pennington, personal communication, November 6, 2014). Additionally, primary care physicians in rural areas typically earn less than those in urban areas. They work longer hours, complete more patient visits, and serve a greater number of Medicaid patients (Weeks & Wallace, 2008). There is little financial incentive for

recent medical school graduates to work in an area such as Perry County and earn less than they could elsewhere. Recent medical school graduates have student loans to repay and are strongly drawn to institutions that can offer them a means to do so. The National Health Service Corps provides loan repayment options for physicians who chose to work in rural areas, but some leave after fulfilling their service requirements. Many leave because they want to be closer to family or because they plan to return to school to specialize after having practiced medicine for a few years. Reimbursement is another financial disincentive to work in primary care. The majority of the patient population in Perry County is enrolled in Medicaid or Medicare. For example, at the Hazard Clinic, Trina Preston works in the pediatric and adult clinics and completes house calls for homebound patients. She estimates that 90% of her patient population has a form of government-subsidized health care. Physicians who care for these patients earn less per service because they are under federal government specified reimbursement rates. In contrast, physicians who treat privately-insured patients can charge more per service and make more money because the payment schedule is less regulated. Providers in the area note that those who work here have to have a lot of love and compassion for those that are less advantaged and be willing to take on the disadvantages associated with working with the population.

Lack of educational opportunities is a second disincentive to practice in the area. Physicians earn more money as a result of additional training and schooling. Kentucky has only one premiere medical school, at the University of Kentucky in Lexington. There are not enough local opportunities for physicians to specialize, so they enroll in out of state programs. Physicians moving to the area also consider the quality of education for their children. In her work as a physician recruiter, Deborah Pennington notes that there are fewer high quality institutions in the county than parents expect to be available for their children. While there are

pockets of high quality education and opportunity, many schools face difficulty in giving high quality education to children, whether because of a lack of teachers, financial resources, or other barriers. Physicians can be hesitant to move their children to an area where they perceive the educational quality to be of lower than expected quality. If there is an opportunity for better education even twenty or thirty miles away, families are more likely to take that option (D. Pennington, personal communication, November 6, 2014). This problem also affects native residents; many who choose to go to college must leave the county and matriculate at University of Kentucky or go out of state. Professionals and community leaders worry that students who graduate from college will not return to the area but instead leave the state for employment opportunities (L. Wooton, personal communication, November 7, 2014).

Cultural barriers and isolation present additional difficulty in recruiting physicians. The area attracts tourists and residents by its natural beauty, state parks, and outdoor activities, but it is simultaneously a small, rural area that does not have as much activity to offer as a city does. Traditional activities such as hunting, fishing, and four-wheeling are typically unfamiliar to individuals not native the area, and it is hard for those new to the area to adapt to unfamiliar circumstances immediately. The southeastern region of Kentucky is still relatively isolated. There are major roads and highway systems that allow for travel, but major airports are about 2 hours away. These two factors, coupled with lower pay and fewer educational opportunities, make the region less appealing for medical providers to establish practices in Perry County.

County health rankings in clinical care, MUA and HPSA designations, and provider experience provide a holistic picture of the current physician supply in Perry County. The Robert Wood Johnson Foundation ranks Perry County the 54 out of 120 in the state for clinical care. The ratio of residents to primary care physicians is 846:1, which falls within the top ten percent

of U.S. performers, who supply at least 1 physician for every 1,051 persons (County Health Rankings, 2014). The MUA ranking of 60.10 falls below the 62 or fewer points required for MUA designation (Find, 2014). These indicate that physician shortage plays a significant role in influencing health outcomes, but also that other forces are involved. Linda Ahrens, NP, and Deborah Pennington, physician recruiter, stress the need for an increased physician force in the area. Big Creek Clinic, for example, serves a small patient population, and when it closed for a year, the clinic's patients did not have any source of care within an hour's driving distance. Greater numbers of physicians are needed to ensure that care is accessible and can be regularly provided, especially to those in more remote areas of Appalachia.

It is important to note that some regions within Perry County suffer more dire shortages than others. Hazard, the county seat of Perry, experiences faster development and physician expansion because it has more substantial resources than the surrounding, more rural areas, that are still largely underserved (T. Preston, personal communication, November 3, 2014). Little Flower and the Hazard Clinic, both located in Hazard, have enough providers to care for the patient populations. Trina Preston, APRN, explains that recent advances, including Pell Grant sand the establishment of University of Kentucky affiliated clinics, have spurred an increase in the number of area physicians (T. Preston, personal communication, November 3, 2014). The Pell Grant offers loan repayment in exchange for nursing, medical technician, or medical provider work in the area. The UK clinics, found throughout Kentucky, provide more access points for patients. Two of those clinics, the Appalachian Health Center and UK North Fork Valley Community Health Center, are located in Hazard (UK HealthCare, 2014).

The problem of physician shortage has been partially alleviated through changes to the provider model. Specifically, the increased use of mid-level providers and the internet and social

media, contribute to this improvement (D. Pennington, personal communication, November 6, 2014). Mid-level providers, also known as physician extenders, include medical professionals like nurse practitioners (NP), advanced practice registered nurses (APRNs), and physician assistants (PA). These professionals work, with supervision of a physician, and perform most of the work traditionally performed by a physician. In Perry County, most health concerns are related to obesity, hypertension, diabetes, respiratory illnesses, and chronic pain. At the Little Flower Clinic these issues are effectively managed and treated APRNs. The use of mid-level providers is of great benefit to Perry County, and rural areas generally, because it expands the medical provider force. More individuals have the ability to earn a mid-level certification and provide care as an extender, because there is less of a financial and education burden when compared to medical school requirements. Secondly, the internet and social media help create a greater body of medical knowledge available to patients (D. Pennington, personal communication, November 6, 2014). Patients can find information about where to seek care or identify what symptoms they have using internet sources. More exposure to medical terminology may help individuals more comfortable in the health care system and empower them to take more responsibility for their health care. Via social media, the public can learn from other's experience and find support from those going through similar health situations. Dissemination of medical information and support networks are helpful to patients, as long as patients do not rely too heavily on sources that may be inaccurate or unaccredited.

The expanded provider model supplies greater patient access to health care, but significant challenges remain in improving Perry County health outcomes. These include transportation, financial stability, health habits, and political or government mistrust. Transportation is a critical issue for in care access. Most families live within city limits and have

access to clinics via car transport, but a few families still live up in hollers, or narrow road stretches which dead end at the house. It is difficult for these people to leave their homes and more difficult for medical personal to reach them, if needed. On home visits, Trina Preston can travel for half an hour to an hour to reach patient homes outside of Hazard limits. A long commute into town for medical care hinders a patient's ability to meet other obligations, such as caring for young children at home. Sometimes the cost of going to an appointment can outweigh the benefits. As most patients are on Medicaid, Medicare, or Social Security, their fixed income can be consumed with rent and utilities quickly, leaving them little discretionary spending for food. For some, going to work to earn money to spend on food, clothing, or utilities is more critical than a doctor's appointment. Some individuals may not have the flexibility to take the day off to attend an appointment. The limited budget does not often allow for medical care to be a priority, especially if copays are required at the time of appointment.

Other individuals do not have access to personal transportation. Perry County has a few options for those who need transportation to their appointment, but they must first meet requirements to be eligible for the service. The transportation service is largely reserved for those on Medicaid (L. Ahrens, personal communication, November 3, 2014). Some services cost 5 dollars per ride, which constitutes a significant amount of spending if rides are needed regularly. Irregular work schedules may make it difficult for individuals to give the company enough advance notice of their transportation needs. Some medical providers in the area adapt to this challenge by offering home visits for homebound patients. The case manager at the Little Flower Clinic goes on home visits regularly to have health maintenance appointments with patients. Despite these options, it is still difficult to achieve regular attendance at visits. For example, the

Little Flower Clinic currently has a 42% rate of non-attendance to appointments, but it is offset by at 44% walk-in rate.

Health habits present the most significant challenge to better health outcomes, especially because food consumption and preparation have deep cultural and familial ties. The diet in Perry County includes plentiful carbohydrates and meats with vegetables, but often the vegetables are prepared using unhealthy cooking methods. Traditional breakfast foods include biscuits and gravy with sausage and bacon, and items such as fried chicken, meat loaf, and lard-cooked green beans are common other meals. Heavy fats and oils are used to prepare most dishes. In moderation these food are able to be enjoyed, but I observed that many diets continually consisted of unhealthy food options not balanced with healthier choices. In addition to traditional cooking, fast food and frozen foods are consumed regularly. The grocery stores are stocked with many frozen meal options, such as pizza, lasagna, and chicken nuggets. Fresh produce selection is limited, in part because it is more expensive to transport produce to the area and stock it. Healthier options are expanding in the area. The farmer's market accepts SNAP benefits and the Little Flower Clinic offers a free vegetable garden, but those options are not yet widely popular. Financial incentives again influence decisions. Most families prefer to buy easy-to-prepare meals at the store, especially if on a limited budget. Processed foods are less expensive than healthier options. Sugary drinks also cost less than bottled water, and soda is consumed frequently. Sugary drinks and a high fat diet contribute to high rates of hypertension, obesity, and diabetes. Physical inactivity and smoking also contribute to poor health outcomes. Fitness and activity are not part of daily habits. Fitness trends such as group exercise classes, running or walking groups, or gym memberships are not part of the local collective culture and so it is very challenging to encourage patients to participate in such activities. Some sports leagues are attempting to develop at area

middle schools, but organized leagues for sports such as soccer have not been popular in the area. Additionally, it is difficult for patients to be consistent with lifestyle changes especially when change is more subtle than immediate. Similarly, smoking is still widely prevalent and it is difficult to discourage patients from engaging in the activity, both because it is a social activity and an addictive habit. Communities in general are resistant to changes in their way of life. There are current efforts to promote these changes, such as a growth of the community garden program and support for smoking cessation via weekly classes, but improvement manifests slowly. Promoting a different way of life, especially when introduced by individuals not native to the area, meets significant resistance. Therefore a major barrier to improving the health outcomes of Kentuckians in the area is a change in personal and community habits.

Finally, a health improvement challenge to better health outcomes results from political and government mistrust. Perry County is a conservative county. President Obama does not have much support from area residents (L. Wooton, personal communication, November 7, 2014). While many families and individuals benefit from expanded Medicaid coverage, the ACA's association with Obama makes the health care reform less popularly supported. There are also a small percentage of residents that are hesitant to apply for insurance coverage because of government mistrust and uncertainty (L. Ahrens, personal communication, November 3, 2014). Linda Ahrens has several patients at her clinic that choose to pay 95 dollars for each appointment because they do not want to apply for government-subsidized insurance. This fear is not entirely unfounded; some states are reluctant to accept the optional Medicaid expansion because they fear the federal government will rescind its promise to subsidize the program expansion until 2020. Addressing these issues in the hopes of improving health outcomes in the area is extraordinarily

difficult because of their complex ties to socioeconomic status, cultural values, and traditional practice.

Because of these integrated complexities, the most effective methods to introduce change must take a multifaceted approach. The practitioners I spoke with provide different suggestions for improvement based on their area of expertise. One suggestion calls for a restructuring of the health care model to one that places greater emphasis on patient-centered care (D. Pennington, personal communication, November 7, 2014). The trend for the revenue-driven health care system is to prioritize hospital profits ahead of patient care, and this, for numerous reasons, leads to poor health outcomes. A second suggestion calls for an increase in primary care salaries as a way to encourage more physicians to choose primary care roles. This may help increase the number of general providers, but more than likely Perry County will expand the use physician extenders as care providers (D. Pennington, personal communication, November 6, 2014).

Additional suggestions for improvement focus on the physical location of clinics and care providers. Linda Ahrens, NP, suggests that a greater number of clinic locations might help improve health care access, especially in more remote areas, such as near Big Creek Clinic. A shorter transportation time to provider locations will increase the likelihood of seeking care. A mobile treatment center offers a second option. A mobile center would need to be capable of traveling to more remotes areas and providing more regular medical care for those that go without it. Providing simple, yet important medical procedures such as vaccinations and general overall health screens is a good initial step in raising health awareness. In an effort to address the issue of transportation and access, Leslie County placed clinics in its schools for students to access during and after school hours. Parents strongly supported the clinics. The convenient location eliminated the need for additional transportation and time spent at a doctor’s office (L.

Wooton, personal communication, November 7, 2014). The clinics also took part in health education and oral hygiene. They specifically addressed the issue of tooth decay, which affects many students who overconsume sugar drinks and snacks. The clinics are currently not operating this school year because the school has not found a company willing to operate the clinics. While there are ideas to increase access points, more development, planning, and stable funding are needed to integrate these care options into the local health care system.

Increasing primary care physician numbers and access points will increase the likelihood that those looking for accessible, nearby care will be able to find it. Regular physician appointment care is critical to managing health status because chronic conditions and lifestyle are monitored longitudinally. The presence of physicians and physician extenders in Perry County cannot guarantee better health of their patients without patient responsibility and action, but they do enable the development of conversations about better health practices and familiarity with health care settings. More critical than the role of providers in improving health outcomes for Perry County is changing personal and community health habits. The “fatal four” health risks of smoking, poor diet, physical inactivity, and excess drinking are widely prevalent in the county and are a significant cause of nearly all chronic health issues (Burd-Sharps, Lewis, & Borges Martins, 2011). Obesity, hypertension, diabetes, and respiratory conditions due to smoking are largely preventable, but the food culture and economic status of low-income residents hinders the ability to improve Perry County’s overall health status. Organizations in the area, like farmers markets, new fitness centers, community garden movements, and health literature provided by clinical sites are helping to promote cultural change and bring awareness to the area. In most cases, residents are aware that better heath options should be practiced, but are either unwilling or unable to institute change. Many cities across the nation struggle with this issue as well, but in

Perry County the problems are magnified by transportation issues, financial limitations, and a lack of resources. Without improvement in all of these areas, achieving better health outcomes is unlikely to be a county-wide priority.

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