# Serving the Underserved: Reconciling Healthcare Needs and Availability in Vermillion County, Indiana

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Abstract

Vermillion County, Indiana, suffers from a severe lack of healthcare resources that are essential in providing a healthy lifestyle for the people who live there. Healthcare is compromised by many factors including healthcare illiteracy, lack of healthcare affordability, accessibility, and availability. Vermillion County also lacks specialist doctors who are essential in providing care for specific diseases and conditions that cannot be treated in a short-term care facility. The poverty rate only exacerbates the inferiority of the healthcare status of the residents of Vermillion County. The cost of hospital and doctor visits without insurance, the lack of transportation to and from doctor appointments or the emergency department, and the lack of funds for medications and treatments as a result of the poverty rate makes healthcare even less obtainable. I plan to identify what can be done in Vermillion County in terms of availability, accessibility, and affordability to reconcile the healthcare system and to improve healthcare as a whole in Vermillion County, Indiana.

# Serving the Underserved: Reconciling Healthcare Needs and Availability in Vermillion County, Indiana

As a four-year-old girl, giddy to perform in my very first gymnastics recital, I never imagined that my life would forever be changed by the end of that day. During my recital, I proudly stepped up to show off my newly learned skill of a cartwheel, but as soon as my right foot hit the ground, I collapsed. After multiple days of doctor appointments, struggling to walk, and begging my parents to fix the pain, my family finally received the phone call from the radiologist at our county hospital telling us "something wasn't right." I live in a small town called Cayuga, Indiana. Cayuga is located at the Northern end of Vermillion County, which stretches only 10 miles wide at its widest point, but nearly 40 miles from north to south. The single hospital in our county is located on the southern border, meaning the closest emergency medical care in our county is nearly 35 miles away. Not only does this single hospital serve patients in the entirety of Vermillion County, but it also serves the neighboring county to the east, Parke County. With no hospital in Parke County, the Vermillion County hospital is also responsible for the care of Parke County residents. Because Vermillion County is rural, the hospital is severely understaffed and lacks resources and specialists who understand and have the ability to treat complex diagnoses. This proved to be true in my circumstance of something "not being right" with my leg. I was fortunate enough to be born into a family that was able to go to the lengths necessary to get me the diagnosis and treatment I needed, but for many families in rural communities, this isn't the case. Without my family's access to our car, to insurance, and my parent's understanding that the issue with my leg was one that could not be ignored, I quite possibly wouldn't be able to walk today.

In Vermillion County, there is a high rate of poverty, leaving many individuals without a car and health insurance, and fearful of hospitals because of the high price of healthcare.

Healthcare illiteracy also causes individuals to ignore signs and symptoms, and, consequently, they do not address their health concerns. Because many people don't address their healthcare concerns, the trend in chronic illnesses and deaths related to these illnesses has increased, not only in Vermillion County, but in rural communities across the United States (Weeks, 2018, p. 652-653). Over the past several years, the health of Vermillion County as a whole has steadily diminished due to lack of availability, accessibility, and affordability. Vermillion County, Indiana needs more readily available and affordable healthcare to improve the quality of life and health of all rural community members.

Rural healthcare is a complex issue for which many factors need to be considered. In almost all rural communities, there are specific factors that play a role in the inferior health status of community members. Poverty is one of the most apparent factors that plays a role in the rural healthcare crisis. Rural poverty is different than poverty in urban communities (Weeks, 2018, p. 651). Not only are rural poverty rates in the United States nearly double that of poverty rates in urban areas, but rural counties comprise nearly eighty-five percent of counties nationwide that are considered "consistently poor," meaning that "twenty percent or more of the population was living in poverty in three consecutive decennial censuses" (Weeks, 2018, p. 651). Poverty rates play a role in nearly every aspect of healthcare and have a major effect on the quality and quantity of healthcare rural individuals receive. In Vermillion County, Indiana, the poverty rate is 12.9% (Laws, 2018, see appendix 1). Although this figure is under the national average poverty rate, Vermillion County residents face many other barriers that play substantial roles in the poor health status as a whole.

Vermillion County residents face a huge barrier in terms of adequate education. Although about ninety percent of residents graduate high school, only fifty-six percent continue their

education beyond a high school degree (County Health Rankings and Roadmaps). Beyond education in a formal sense, however, little attention is paid to education regarding health. Stephanie Laws, Health Care Administrator at Vermillion County's hospital, Union Hospital Clinton, said that healthcare illiteracy is a significant issue in treating individuals. Because Vermillion County residents are not educated adequately in school about factors that can critically affect their health status, as they continue into adulthood, they are unaware of warning signs of potentially life-threatening diseases and are unable to comprehend medical advice and information presented to them. They are also not taught that their health is a priority. The trend of health illiteracy can be seen generationally, as parents are not educated in maintaining proper health status, they are unable to educate their children on maintaining health. Because of the lack of education on health prevalent in Vermillion County, many treatable disease and disorders are overlooked simply becuase residents do not know that symptoms are the body's way of telling them something is wrong. Although living in an urban community does not miraculously fix this deficit in education, the availability of resources to obtain education on healthcare maintenance are much greater. (Laws, 2018)

Chronic illnesses also play a major role in the inferior health status of rural communities. Rural communities have a much higher ratio of individuals diagnosed with diseases such as cancer, heart disease, chronic lower respiratory disease, and stroke (Weeks, 2018, p. 652). In Vermillion County, Indiana, the stroke mortality rate is at 78.28 per one hundred thousand per year (Laws, 2018, see appendix 1). This is grossly over the national average of 36.47 per one hundred thousand per year. The cancer mortality rate is 216.83 per one hundred thousand per year, greatly above the national average of 166.22 per one hundred thousand per year. Cardiovascular disease mortality is at 315.5 per one hundred thousand per year, above the

national average of only 166.99 per one hundred thousand per year. Chronic lower respiratory accounts for 65.6 per one hundred thousand per year deaths in Vermillion County, above the national average of 49.6. Diabetes takes the life of 28.12 per one hundred thousand per year, compared to the national average of 18.68 per one hundred thousand per year. Overall, Vermillion County ranks significantly above the national average in deaths associated with chronic illnesses (County Health Rankings and Roadmaps). Obesity is another prevalent chronic illness, affecting thirty one percent of residents of Vermillion County (Laws, 2018, see appendix 1). Environmental factors play a significant role in the development of these conditions. Nineteen percent of residents of Vermillion County smoke cigarettes, while eighteen percent of residents drink excessively (Laws, 2018, see appendix 1). In the northern half of Vermillion County, there is only a single grocery store with a very small produce section, meaning that cheap, easy, and accessible fast food or processed frozen food choices take the place of balanced meals made at home. The lack of education in rural communities, both about preventative care and healthy life choices, is further hindering the health of these communities, and further exacerbates the problem of making these rural communities healthier. (Anderson et al, 2015, p. 3,6) (“Rural Healthcare”, 2000, p. 40,44)

Although there are many lifestyle choices of Vermillion County residents that could greatly improve the health status of the community, there is also a severe shortage of healthcare facilities available. The only hospital, Union Hospital Clinton, for all of Vermillion County does not have the resources to provide many areas of care that larger hospitals can provide. There is no labor and delivery unit, no cardiac unit, a very small surgery unit, which performs, on average, only fifteen surgeries a week, no behavioral health team, a severe lack of preventative care services, and a deficiency of care coordination with community partners. The hospital is

also short on specialist doctors, as only one Emergency Room doctor is in the hospital at a time. Older medical technologies are still in use because newer technologies cannot be afforded by a small, rural hospital. Small hospitals are not allotted as many medical supplies as larger, urban hospitals, often causing a shortage of supplies. Many doctors and nurses do not want to work in rural communities, assuming that rural hospitals will not provide them with as much opportunity or compensation as larger, more urban hospitals. All of these things affect how much and what kind of care can be provided in rural communities who lack so many resources that are essential in providing quality care. (Talley et al, 2011, p. 8)

Transportation also plays a role in the way healthcare is obtained. Nationally, individuals living in rural communities must travel an average of forty-six miles to reach a healthcare facility (Talley et al, 2011, p. 20). In Vermillion County, travel to the hospital can be up to forty-five miles, depending on the part of the county the person is traveling from. The high poverty rate in the county results in many individuals not owning a vehicle of their own, or not having a reliable enough vehicle to travel forty miles. Vermillion County also does not have a public transportation system of any kind, making traveling to the hospital even more difficult. Travel can become expensive, and when people do not see their health as a priority, spending money on gasoline to go to the hospital seems unnecessary. Of those who do travel to the hospital, many are referred to the nearest specialist doctors, some being in Terre Haute, Indiana, some in Lafayette, Indiana, some all the way to Indianapolis, Indiana, and some even further than that. Travel to see specialist doctors becomes a full-day task, often requiring people to take full days off of work to allow for travel time and time spent at the doctor's office. The distance to pharmacies in Vermillion County is also a barrier that often prevents residents from obtaining their medications because of the distance they must travel to obtain them. Although living a

secluded life away from the business of urban life can be wonderful at times, when it comes to accessing healthcare, the sparseness of healthcare facilities can be crippling to a community's health status overall. (Syed et al, 2013, p. 987-989)

Affordability also determines whether or not an individual can obtain sufficient healthcare. Vermillion County has very few businesses that provide benefits along with a job. Small businesses often do not make enough revenue to supply employees with full benefits. Many jobs in small communities are also only part-time or as needed jobs, so the job is not covered by benefits (Evans et al, 2000). The jobs that do provide benefits are most often jobs that require a college degree, which nearly half of adults in Vermillion County don't have (County Health Rankings and Roadmaps). Because many jobs do not come with benefits, many individuals are left without health insurance. Nearly ten percent of the residents of Vermillion county do not have access to any kind of health insurance (County Health Rankings and Roadmaps). 7.1% of residents of Vermillion County are unemployed, compared to the state average of only 4.9% unemployment (Laws, 2018, see appendix 1). Medicare has allowed for financial relief for approximately 3,342 residents of Vermillion County, but benefit plans through Medicare disability are extremely difficult and time consuming to be accepted into, and often require a lawyer to successfully be accepted into, which adds another expense for individuals who are already struggling (Laws, 2018, see appendix 1). Tests such as x-rays, CAT scans, MRIs and colonoscopies, to name a few, are extremely expensive without the help of insurance. Medications can also be costly without insurance coverage. Many individuals who do not have health insurance avoid healthcare facilities at all costs because of the overwhelming prices of hospital stays and treatments. Although an individual cannot be turned away because they cannot pay, the hospital itself takes on a financial burden from treating that patient if

governmental aid is not implemented (Sharfstein, 2016, p. 255). The Affordable Care Act (ACA) was implemented as an attempt to make healthcare more affordable through supplemental Medicaid payments, but due to a lack of understanding of the ACA, and it being feared as "Obamacare," the act has not been as successful as it could have been, leaving many individuals without this governmental healthcare aid. Although the ACA was not a "cure all" solution, it was a step in the direction of making healthcare more affordable. Healthcare is extremely expensive, and reconciling affordable healthcare to a financially fragile population is difficult from both ends of the spectrum. (Evans et al, 2000)

Vermillion County has made one major stride to greatly improving healthcare. The development of Valley Professionals Community Health Center (VPCHC) has allowed Vermillion County to bring healthcare to rural communities in the Wabash River Valley. VPCHC is a Federally Qualified Health Center with 6 locations in the Wabash River Valley. They have also started a mobile school-based health center which visits school in Vermillion and Parke counties on a weekly schedule. VPCHC began in 2008 as a single clinic, but has now expanded to serve four different counties. The care provided at these clinics ranges from acute medical care, dental care, and behavioral healthcare. The clinics are present in locations that make access to healthcare much more accessible for many more individuals. Cayuga, Indiana, my home town, was the second location to acquire a clinic. The placement of this clinic took the travel time to the closest acute care facility from around thirty miles down to five miles. VPCHC also provides a sliding fee scale, which allows patients to work out payment plans that work for them. The clinics have provided Vermillion County, and surrounding counties, with a valuable resource that has improved access to healthcare in rural communities, but there are still several

key improvements that need to be made to make Vermillion County healthier. (ValleyProHealth.org)

Recruiting primary care providers and nurses to rural communities is one way to improve health in rural communities. In almost every rural healthcare facility nationwide, there is a shortage of both physicians and nurses. Many providers desire to work in more urban hospitals where they see more potential for opportunity and career development; however, there are now incentive programs that attempt to draw more providers to rural areas. Opening up opportunities for fellowships and clinical rotations in rural healthcare facilities allow physicians and nurses to build relationships with hospitals and provide the possibility of continued employment after completing the required schooling (Weeks, 2018, 654). One example of this technique being used is through the Washington School of Medicine. By working directly with rural states, such as Wyoming, Alaska, Montana, and Idaho, to place student doctors into rural hospitals, the hospitals are able to build relationships with the student doctors, which opens up the opportunity for doctors to stay and use their clinical knowledge in their career (Talley et al, 2000, p. 141-142).

Although opportunities are available for physicians to expand their career in rural communities, there is still a shortage of physicians in rural communities. One solution to this shortage is to expand the scope of practice for other primary care providers, such as nurse practitioners and physician assistants. Most rural healthcare facilities already suffer a financial crisis, and the money used to recruit and compensate for physicians to remain at the rural facility can become quite pricey, furthering the financial crisis. By allowing nurse practitioners and physician assistants the ability to practice on a wider scope, the need for physicians would greatly decrease, as other primary care providers would be able to provide adequate care in acute

care situations without the need of a physician overseeing them (National) (Weeks, 2018, p. 654). Although this is far from a universal solution to the inferiority of healthcare in rural communities, allowing nurse practitioners and physician assistants the ability to provide a wider variety of services would greatly improve the shortage of primary care providers who are able to provide life-saving diagnoses and treatments to patients.

Continued education of nurses could also play a role in improving rural healthcare. In rural healthcare facilities, an individual nurse must fulfill many roles, ranging from working in pediatrics to geriatrics, and emergency nursing to hospice care, along with many other roles. Not only does that put a lot of responsibility on a single nurse, but it also causes nurses to not be able to specialize in one area of nursing. Nurses are required to know general information about all forms of nursing to become a registered nurse, but as nurses begin a career in nursing, they begin to focus their knowledge and further learning on one particular patient population. In rural healthcare facilities, however, the opportunity to develop expertise in one area of nursing is much more difficult because the nurse must fill the role of many nurses. Continuing education classes are also very expensive and usually only given at larger, urban hospitals. Nurses have to travel long distances to attend these conferences, often having to take off an unpaid day of work, and must pay to attend the class out of their own pocket. Nurses often do not take the opportunity of these classes because of the travel and expense of attending classes. Hendrickx (2017) suggests improved use of nurse educators in rural hospitals. Nurse educators are nurses who attend large conferences to obtain knowledge on a given topic and returns to the hospital to relay the information to the hospital staff. By using the nurse educator, only one person is required to travel to and pay for conferences and classes, leaving floor nurses at the hospital to care for patients, and valuable information is still brought back to rural hospitals. Although conferences

are expensive, allowing one designated nurse to attend these conferences and relay information back to the staff nurses at the hospital is much cheaper than each individual nurse having to travel to and attend these conferences. Hendrickx (2017) also suggests that more applicable classes be given specifically for rural nurses. Many classes are focused on one particular area of nursing, but rural nurses must have knowledge of every area of nursing. By creating classes that consider the needs of rural nurses, more accurate and knowledgeable care could be provided to an already fragile patient population. (Hendrickx, 2017, p. 68-70)

Another technique that is being used to improve healthcare in rural communities in the United States is Telehealth. Telehealth is a system of accessing healthcare via teleconference. This can be telephone communication or video conference which can connect patients to a service "hub" where specialist doctors can assess the patient's needs and treat them by giving orders through the nurses or emergency room doctors at the hospital (Stingley et al, 2014, p. 337-340). Telehealth uses a system of telemonitoring to track many different devices, such as medication pumps, devices that measure blood pressure, pulse oximetry, glucose levels, weight, temperature, and many others (Talley et al, 2000, p. 170). Through this technology, specialist doctors are able to monitor patients without the need for the patient to be transported to a hospital where they can be seen by the specialist in person. Telehealth has recently made an appearance in Vermillion County at North Vermillion Elementary School in Cayuga, Indiana. Through the Indiana Rural Schools Clinic Network, the elementary school was funded with a telehealth system that will be used within the school to connect with an off-site primary care provider, who can diagnose and treat the student with the assistance of the school nurse. This will allow students access to healthcare at school without the need to leave to go to a doctor appointment (Parker, 2018). Union Hospital Clinton also uses telehealth communication for

many specialties, such as stroke care, behavioral health, cardiology, hematology, and others (Laws, 2018). The use of this technology has the potential to allow greater access to doctors, but the treatments the doctors at larger hospitals are used to might not be possible at rural hospitals. Many rural hospitals do not have new technology to perform advanced procedures. Spotty internet connections in rural communities can also affect the way in which telehealth is used. When considering the use of telehealth, factors such as internet connection, medical supplies, and other technologies must be taken into consideration. Even if telehealth is available, the resources to perform the ordered care must be accessible. (Weeks, 2018, p. 654)

In urban hospitals, transportation is not nearly as critical to healthcare as it is to rural hospitals. Due to rural landscapes, travel to healthcare facilities is much further than in urban locations. It is also important to consider, though, ambulance access in rural areas. In Vermillion County, many people describe their location based on non-geographical terms, such as “in Dead Man’s Holler” or “down by the river” or based on the owner of the nearest house they see. Although small-town living does have its downfalls, one benefit is that EMTs, for the most part, know where everyone in the community lives, making it easier for them to find people based on these location markers. Bringing in EMTs who are unfamiliar with the area, however, can cause even more issues in terms of transportation. EMTs knowledge of rural areas is detrimental to EMS having access to whoever calls in asking for medical services. In many parts of Vermillion County, cell phone service is not reliable, so GPS is often not an option. Even if there is not a solution to providing every person in Vermillion County with a car to allow them access to healthcare, in times of emergency, it is essential that the EMS personnel hired in rural communities be knowledgeable enough about the area to provide these services to whoever needs them. One solution to this would be providing EMS training courses at high schools in

rural communities that encourage high schoolers to use their abilities to provide medical assistance to people in the community in which they grew up and know. Their knowledge of the lay out of the community is essential to providing timely care in emergent situations. (Syed et al, 2013, 987-988)

Access to medications is another barrier in healthcare for which transportation is responsible. In Vermillion County, there is only one pharmacy, located at the southern end. Medication is often very expensive, and individuals who do not have access to transportation also often cannot afford their medications. Because they know they will not be able to afford the medication, they do not make any attempt to find transportation to the pharmacy. This only further feeds into the deteriorating health of an individual. Issues of both finances and transportation play into this scenario, making an achievable solution difficult to even suggest. Something must be done, however, to address the fact that many individuals in rural communities are unable to better their health because they do not have access to or a way to afford medications.

Research has been done, however, on providing cost efficient hospital visits. One suggestion is a global budget approach to healthcare (Sharfstein, 2016, p. 255-258). Global Health Budgets allow a hospital to receive a set amount of government funding in advance to treating patients. This guarantees the hospital to have enough revenue to remain in business as well as being able to adequately stock the hospital with necessary supplies. In return for the governmental funding, hospitals would be required to have a preventative care focus on patient care. By requiring hospitals to provide ways for individuals to improve their health, not only would the community be healthier overall, but because individuals would be better educated on if and when medical treatment was needed, unnecessary hospital visits could be avoided, which

would also aid in saving money. In Vermillion County, each year, there are approximately 105.4 per one thousand preventable hospitalizations in the older adult population, compared to the national average of 71.2 per one thousand (Laws, 2018, see appendix 1). By budgeting governmental funding for hospitals that allow them to serve rural populations that often do not have access to jobs that provide adequate health insurance, but requiring them to educate patients on preventative care, could encourage a healthier community that understands if, when, and how to use the healthcare that is available to them. (Sharfstein, 2016, p. 255-258)

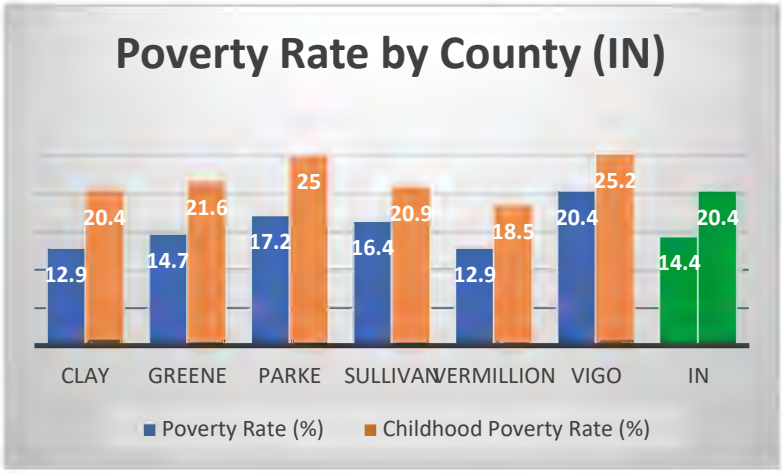
Another attempt at more cost-efficient healthcare is the implementation of shared appointments. Within a shared appointment, patients with similar medical conditions or diagnoses would be grouped together into one appointment to allow for cost and time efficient healthcare. Patients are placed in groups of eight to ten people and meet with a licensed independent practitioner, as well as a team of multidisciplinary care givers who would educate and monitor patients placed into their group. Bringing shared appointments to rural communities would allow for specialists to treat multiple people in a shorter amount of time, and by bringing in multidisciplinary team members would provide all around care to patients. This would allow for specialists to be able to come to rural communities and provide care that would otherwise have to be provided by primary care practitioners. Having doctors who specialize in a certain chronic disease come to rural communities would allow individuals to have a more accurate diagnosis and a more effective care plan put into place. This could potentially lower the occurrence of chronic conditions in rural communities. Shared appointments would also allow for a greater sense of education on a certain disease and how other individuals in the community handle the same disease and how they make use of the resources available to them. By discussing lifestyle adjustments that could benefit their health and providing resources to

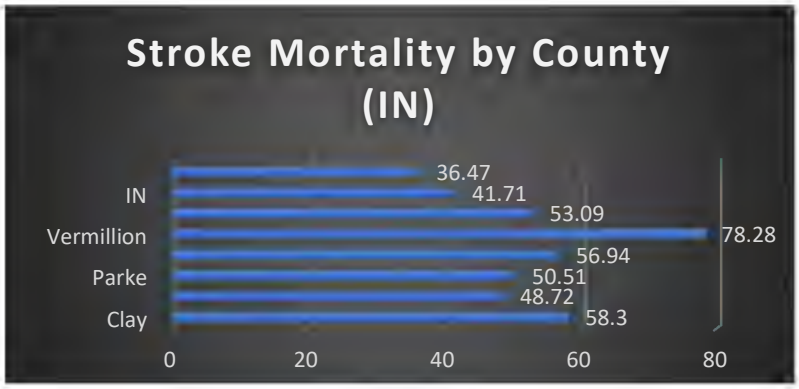
multiple people who all deal with the same condition would greatly reduce the number and severity of chronic illnesses in a given area, evidenced by urban hospitals who have used the shared appointment technique and seen positive results (Casey et al, 2018, p. 5). One aspect that healthcare providers must be conscious of is the risk for privacy violations. Although the shared appointments would be for education and resource purposes exclusively, healthcare providers must be careful not to violate healthcare privacies during education sessions. Providing this option in rural communities could greatly benefit individuals who struggle with chronic illnesses simply because they are uneducated on what resources are available and how to access them. (Casey, 2018, p. 3-5)

Healthcare in rural communities across the United States faces barriers that affect the way in which healthcare can be provided. Some of these issues cannot be resolved simply because of the geography of rural communities. One of the reasons many people move to rural communities is to distance themselves from the busyness of urban life. Good health, however, is not something individuals should have to forfeit in order to live a more secluded life. Healthcare facilities need to be more accessible, through improved transportation to hospitals and pharmacies, more available, in number and amount of care a particular facility has the resources and expertise to provide, and in affordability, either by global budgeting, shared appointments, or other techniques which use resources and time effectively. Although healthcare facilities do need to take steps to make healthcare more obtainable in these rural communities, education of community members in crucial in making improved health a reality. Unlimited healthcare access could be available for free to an unlimited number of people in a rural community, but if patients are not educated on how to live a healthier life, their health is never going to improve. Patients in rural communities do face barriers in access to resources that urban patients do not have to face,

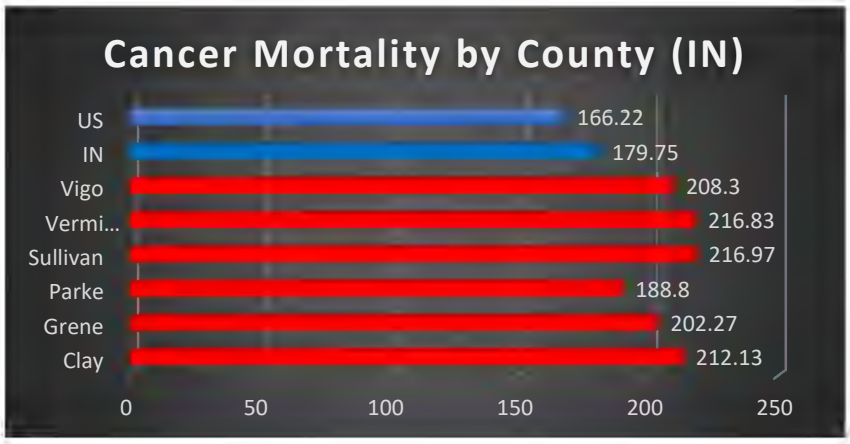
but there are ways to overcome these barriers. One issue that many rural individuals are not educated on is the importance of good nutrition. Understanding that fast food and processed food cannot be the main source of food intake would decrease the instances of diabetes and heart disease. The understanding that hospitals are required to provide care regardless of ability to pay would allow rural individuals to seek medical attention before a condition escalates to life-threatening severity. Educating people that medications are prescribed strictly to help the patient, and payment plans can be implemented to afford medications, would benefit those who do not take their medication and wonder why their condition is not improving. Luckily, my parents were educated on the importance of being persistent in seeking medical attention and got me the care that I needed, but in rural settings, this often is not understood. Teaching individuals that their health is important, and healthcare facilities are in place to encourage a healthier life, is crucial, but true reconciliation of health in Vermillion County, and every other part of the world, starts with individuals knowing that they are the biggest influencer of their health. Understanding that health has to be a priority to every person is what will truly reconcile individuals with the healthcare they deserve.

Appendix 1

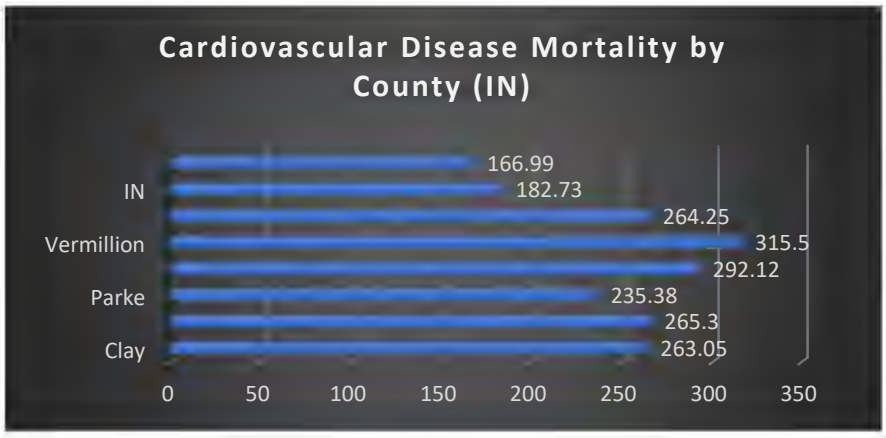


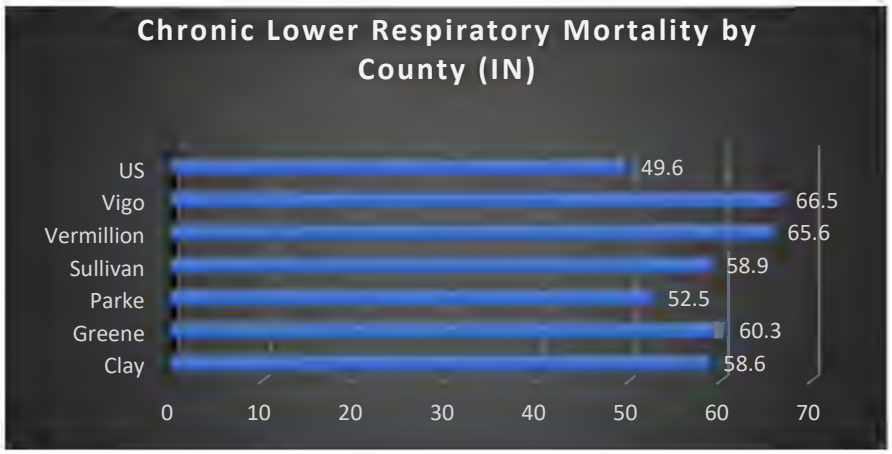

| | Clay | Greene | Parke | Sullivan | Vermillion | Vigo | IN | US |
|---|---|---|---|---|---|---|---|---|
| Stroke | 58.3 | 48.72 | 50.51 | 56.94 | 78.28 | 53.09 | 41.71 | 36.47 |




| | Clay | Greene | Parke | Sullivan | Vermillion | Vigo | IN | US |
|---|---|---|---|---|---|---|---|---|
| Cancer | 212.13 | 202.27 | 188.8 | 216.97 | 216.83 | 208.3 | 179.75 | 166.22 |




| | Clay | Greene | Parke | Sullivan | Vermillion | Vigo | IN | US |
|---|---|---|---|---|---|---|---|---|
| Cardiovascular | 263.05 | 265.3 | 235.38 | 292.12 | 315.5 | 264.3 | 182.73 | 166.99 |




| | Clay | Greene | Parke | Sullivan | Vermillion | Vigo | US |
|---|---|---|---|---|---|---|---|
| Chronic Lower Respiratory | 58.6 | 60.3 | 52.5 | 58.9 | 65.6 | 66.5 | 49.6 |

| County | Clay | Greene | Parke | Sullivan | Vermillion | Vigo | IN/IL Region (County Avg) | Indiana | U.S. |
|---|---|---|---|---|---|---|---|---|---|
| **DEMOGRAPHICS** | | | | | | | | | |
| Population | 26,503 | 32,441 | 16,901 | 20,928 | 15,692 | 107,896 | 273,774 | | |
| Percentage Change from 2010 | -1.4 | -2.2 | -2.6 | -2.5 | -3.2 | 0 | -2.277777778 | | |
| Preschool | 1,595 | 1,689 | 1,015 | 1,105 | 881 | 6,364 | 21,536 | | |
| School Age (5-17) | 4,478 | 5,516 | 2,625 | 3,121 | 2,625 | 15,816 | 35,210 | | |
| College Age (18-24) | 2,133 | 2,470 | 1,320 | 1,813 | 1,176 | 16,668 | 28,434 | | |
| Young Adult (24-44) | 6,408 | 7,412 | 4,165 | 5,713 | 3,559 | 26,368 | 53,625 | | |
| Older Adult (45-64) | 7,403 | 9,371 | 4,774 | 5,695 | 4,450 | 26,590 | 68,034 | | |
| Seniors (65 and older) | 4,446 | 5,983 | 3,002 | 3,481 | 3,001 | 16,090 | 36,003 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Median Age | 41.0 | 43.0 | 41.8 | 40.7 | 43.3 | 36.0 | 41.7 | | |
| Married with Children | 2,235 | 2,419 | 1,056 | 1,347 | 983 | 6,247 | 14,287 | | |
| Married without Children | 3,610 | 4,668 | 2,335 | 2,896 | 2,158 | 11,631 | 27,298 | | |
| Single Parents | 796 | 1,010 | 307 | 668 | 642 | 4,070 | 7,493 | | |
| Living Alone | 2,454 | 3,618 | 1,483 | 1,822 | 2,004 | 12,085 | 23,466 | | |
| Per Capita Income | 34,300 | 35,806 | 31,434 | 31,546 | 34,742 | 34,922 | | 41,490 | |
| Poverty Rate | 12.9% | 14.70% | 17.20% | 16.40% | 12.90% | 20.40% | 15.46% | | |
| Childhood Poverty Rate | 20.40% | 21.60% | 25% | 20.90% | 18.50% | 25.20% | 21.73% | | |
| Free and Reduced Lunch | 2,220 | 2,370 | 1,254 | 1,553 | 1,256 | 7,904 | 16,557 | | |
| Births | 306 | 346 | 195 | 247 | 150 | 1,315 | 2,559 | | |
| Deaths | 291 | 383 | 168 | 244 | 209 | 1,118 | 2,413 | | |
| Unemployment Rate | 5.3 | 6.8 | 5.7 | 6.2 | 7.1 | 6.1 | 5.8 | 4.8 | 4.9 |
| Medicare Beneficiaries | 5889 | 6539 | 3041 | 3989 | 3342 | 19999 | | 1,106,547 | 55,504,005 |
| Medicaid | | | | | | | | 1,489,648 | 74,550,529 |
| Dual Enrollment | | | | | | | | | |
| **Disease/Condition Mortality** | | | | | | | | | |
| Cardiovascular | 263.05 | 265.3 | 235.38 | 292.12 | 315.5 | 264.25 | | 182.73 | 182.73 |
| Cancer | 212.13 | 202.27 | 188.8 | 216.97 | 216.83 | 208.3 | | 179.75 | 166.22 |
| Lung Disease | 58.25 | 61.42 | 49.68 | 63.33 | 59.4 | 65.74 | | 54.02 | 40.45 |
| Stroke | 58.3 | 48.72 | 50.51 | 56.94 | 78.28 | 53.09 | | 41.71 | 36.47 |
| Accidents | 47.37 | 51.47 | 50.62 | 53.33 | 46.87 | 37.14 | | 43.88 | 40.51 |
| Alzheimers | 37.86 | 21.99 | 14.87 | 41.85 | 18.16 | 30.48 | | 29.42 | 25.44 |
| Diabetes | 33.04 | 25.06 | 23.34 | 30.16 | 28.12 | 25.58 | | 24.4 | 18.68 |
| Nephritis/Kidney | 19.07 | 13.86 | 14.11 | 19.66 | 23.78 | 21.47 | | 18.67 | 13.21 |
| Suicide | 14.37 | 14.16 | 19.68 | 20.94 | 16.57 | 16.87 | | 14.28 | 12.97 |
| Hypertension/Renal | 4.8 | 5.43 | 4.78 | 8.61 | 6.22 | 7.47 | | 8.77 | 8.17 |
| Chronic Lower Respiratory | 58.6 | 60.3 | 52.5 | 58.9 | 65.6 | 66.5 | | ND | 49.6 |
| Chronic Kidney Disease | 14.8 | 17.2 | 17.4 | 20.5 | 26.3 | 21.9 | | ND | 17.5 |
| **Health Factors** | **61** | **78** | **85** | **90** | **80** | **86** | | **92** | **NA** |
| Premature Death | 9,100 | 9,100 | 7,300 | 10,300 | 7,700 | 8,900 | | 7,600 | 5,200 |
| Female Life Expectancy | 79 | 79 | 80 | 79 | 78 | 79 | | ND | 80 |
| Male Life Expectancy | 75 | 74 | 74 | 73 | 74 | 73 | | ND | |
| Adult Smoking | 20% | 20% | 22% | 22% | 20% | 24% | | 23% | 17% |
| Adult Obesity | 33% | 32% | 32% | 33% | 31% | 33% | | 31% | 27% |
| Teen Births | 40 | 43 | 39 | 52 | 46 | 42 | | 37 | 33 |
| Uninsured | 15% | 16% | 18% | 17% | 15% | 16% | | 16% | 15% |
| Cost Barrier to Care | 9.4% | 14.4% | ND | ND | 16.3% | 14.5% | | ND | 15.6% |
| Older Adult Preventable Hospitalization | 85.7 | 99.6 | 96.8 | 104.3 | 105.4 | 95 | | ND | 71.2 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Primary Care Providers | 2,060:1 | 3,640:1 | 3,440:1 | 2,360:1 | 3,180:1 | 1,150:1 | 1,490:1 | 1,040:1 | 1,240:1 |
| Dentists | 4,430:1 | 2,730:1 | 4,310:1 | 3,010:1 | 3,920:1 | 1,770:1 | 1,930:1 | 1,340:1 | 1,410:1 |
| Mental Health Providers | 1,660:1 | 1,720:1 | 1,570:1 | 3,510:1 | 2,240:1 | 710.0:1 | | 710.0:1 | 560.0:1 |

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