



Poweshiek County: Demographics, Healthcare Access, and Educational Pathways

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Abstract

Poweshiek County, Iowa is a rural county located in east-central Iowa and is home to 18,600 residents. The medical needs of the eight communities within the county are supported by a non-profit, 49-bed hospital in Grinnell, Iowa. However, the population has been declining; the fastest-growing age group in Poweshiek County is adults aged 65 and older. These older adults may face additional health challenges due to workforce shortages and barriers to healthcare access, such as transportation services. This report proposes collaboration opportunities to improve health outcomes and strengthen the healthcare workforce.

Limited access to mental healthcare, breast cancer screenings, and diabetes care is negatively impacting the health of Poweshiek County. Collaborations that address these workforce shortages should include the implementation of additional pathways for Poweshiek County residents to enter healthcare careers. Currently, healthcare career courses are limited at the Iowa Valley Grinnell campus; students must travel to the Marshalltown Community College campus to enroll in healthcare career programs.

Strengthening the workforce must also include the engagement of high school students in healthcare career exploration opportunities. Partnerships must work to expand job shadow opportunities for high school students due to the discontinuation of the Iowa Intermediary Network. Finally, financial incentives through scholarships and loan repayment programs may enhance recruitment and retention efforts.

1. Introduction

Purpose of the Report

The campus-wide, Iowa Initiative for Sustainable Communities aims to develop thriving communities in rural Iowa through community partnerships. Unfortunately, limited access to healthcare resources and workforce shortages significantly affect the health and well-being of residents in rural Iowa. Therefore, this report aims to identify collaborative partnerships to maximize healthcare workforce educational pathways for high school students in Poweshiek County, Iowa.

Poweshiek County is a rural county located in east-central Iowa. The county is home to 18,600 residents and includes the communities of Brooklyn, Deep River, Grinnell, Guernsey, Hartwick, Malcom, Montezuma, and Searsboro (Poweshiek County, 2024).

Grinnell Regional Medical Center has job openings for registered nurses, surgical technicians, ultrasound technologists, respiratory therapists, radiology technologists, and obstetrician-gynecologists (UnityPoint Health, n.d.-a). These workforce shortages may be reflected as poor health outcomes. Thus, this community and resource assessment analyzes health outcomes and healthcare workforce gaps in Poweshiek County and proposes community partnerships for the development of future educational pathways.

Poweshiek County is a thriving community that offers access to medical services, dental services, mental health services, and long-term care facilities. Existing educational pathways allow Poweshiek County residents to pursue careers as nursing assistants, registered nurses, pharmacy technicians, and dental assistants through Marshalltown Community College. However, the population has been declining; the fastest-growing age group in Poweshiek County is adults aged 65 and older (Data USA, n.d.; United States Census Bureau, n.d.). Although the 49-bed hospital in Grinnell, Iowa supports the medical needs of the eight communities within Poweshiek County, transportation access is a significant concern as many healthcare services are located within Grinnell.

Furthermore, Poweshiek County residents may wait months to see a provider or seek care elsewhere due to workforce shortages of mental health providers and pediatric dental providers (B. Holder, personal communication, September 27, 2024).

Preliminary recommendations include the implementation of low-cost transportation services and the expansion of healthcare career programs offered at the Iowa Valley Grinnell campus.

2. Gap Analysis: Healthcare Workforce Gaps

Healthcare Workforce Gaps

42.6% of Poweshiek County residents reported difficulties or delays receiving needed healthcare during the past year in 2022 (UnityPoint Health, 2022). It is important to note that this disparity affected women (53.4%), 18- to 44-year-olds (56.6%), and low-income (54.9%) individuals more often than men (28.5%) and adults older than 65 (23.9%) (UnityPoint Health, 2022). The primary barriers to healthcare access were appointment availability and difficulty finding a physician, reflecting the shortages of primary care providers and mental health providers within Poweshiek County (UnityPoint Health, 2022). Other notable workforce shortages include the number of dentists who accept Medicaid (UnityPoint Health, 2022). Poweshiek County also lacks hospice care services beyond Essence of Life Hospice (n.d.), which provides hospice services to Tama, Benton, Linn, Poweshiek, Iowa, Johnson, Keokuk, and Washington Counties. A map of rural healthcare facilities in Poweshiek County is included in Appendix A.

Primary Care

Poweshiek County had 15 primary care providers in 2022. This equates to 80.4 physicians per 100,000 people, which is less favorable than the state ratio (105.3 per 100,000 population) and the national ratio (106.1 per 100,000 population) (UnityPoint Health, 2022). This workforce shortage is reflected in the percentage of residents who visited a physician for a checkup in the past year: 68.2% (UnityPoint Health, 2022). This percentage is significantly less than the state of Iowa average of 75.7% and the national average of 70.5% (UnityPoint Health, 2022). Despite these statistics, 84% of Poweshiek County residents have a specific source of ongoing medical care, which is greater than the national average of 74.2% (UnityPoint Health, 2022).

Mental Health

The lack of mental health providers in Poweshiek County is a concerning gap in the healthcare workforce. Access to mental healthcare was classified as a major problem by 67.7% of respondents who completed the online survey for the Community Health Needs Assessment in Poweshiek County in 2022 (UnityPoint Health, 2022). Community residents quoted inadequate access to crisis services, the lack of inpatient mental health beds, and an inadequate number of psychiatrists as reasons for rating mental health as a major problem (UnityPoint Health, 2022). Additionally, a community leader stated that some residents travel an hour away to find a therapist who accepts their insurance and specializes in a particular area, such as childhood trauma or PTSD (UnityPoint Health, 2022).

Transportation barriers and the availability of appointments were other significant barriers mentioned by community leaders (UnityPoint Health, 2022).

Further analysis of this issue revealed that Poweshiek County had 17 mental health providers

in 2022 (UnityPoint Health, 2022). This equates to 91.1 mental health providers for every 100,000 people (UnityPoint Health, 2022). This is less favorable than the state of Iowa, which has a ratio of 111.8 mental health providers per 100,000 population, and the nation, which has a ratio of 138.2 mental health providers per 100,000 population (UnityPoint Health, 2022). Unfortunately, 11% of Poweshiek County residents were unable to access mental health services when needed (UnityPoint Health, 2022). Still, it is important to recognize that the number of people receiving treatment for a mental health condition was 31.6% in Poweshiek County, nearly double the national average of 16.8% (UnityPoint Health, 2022). This may indicate that residents are traveling out of the county to seek mental healthcare, or that mental health providers in the area are working extra hours to meet the needs of community.

Cancer

Residents of Poweshiek County rated cancer a moderate problem in the community, especially since cancer treatment is only offered in Grinnell (UnityPoint Health, 2022). Grinnell Regional Medical Center offers the Auxiliary Chemotherapy and Infusion Suite for cancer treatment (UnityPoint Health, n.d.-d). However, residents of Montezuma and Guernsey must drive twenty-five to thirty minutes to access the cancer infusion center.

Additionally, some residents are referred to Des Moines or Iowa City due to appointment availability and an inadequate number of oncology specialists (UnityPoint Health, 2022).

3 . Opportunities

Technological Advancements

Technological advancements provide an opportunity to improve healthcare access and quality for residents of Poweshiek County. Mental health services through telehealth, internet-based tobacco cessation interventions, and text message-based health interventions could specifically improve the health outcomes of residents in Poweshiek County. Telehealth interventions improve healthcare access by minimizing the negative consequences of healthcare workforce shortages. For example, a Poweshiek County resident may be able to schedule a virtual visit with a mental health provider sooner than with the local psychiatrists and psychologists (Rural Health Information Hub, 2024b).

Healthcare facilities may also expand the ability to provide specialty services, such as mental health and substance use services, through telehealth (Rural Health Information

Hub, 2024b). Concerning smoking, 14.1% of Poweshiek County residents currently smoke (UnityPoint Health, 2022). This statistic does not meet the Healthy People 2030 objective, which is 5.0% (UnityPoint Health, 2022). However, Poweshiek County residents who are motivated to change their behaviors may benefit from internet-based tobacco cessation interventions. Effective internet-based tobacco cessation programs are interactive and specific

to the participant's demographic characteristics (County Health Rankings & Roadmaps, 2024a). The facilitation of direct interaction with healthcare providers or the combination of pharmacological therapies, such as nicotine replacement therapy, may further increase efficacy (County Health Rankings & Roadmaps, 2024a).

Similarly, text message-based health interventions provide reminders and education to support the self-management of chronic diseases (County Health Rankings & Roadmaps, 2024b). Programs that provide individualized coaching have effectively improved physical activity levels, which is important for residents of Poweshiek County; 27.4% of Poweshiek County adults report no leisure-time physical activity and only 22.6% of Poweshiek County adults met the 2013 physical activity guidelines for Americans (County Health Rankings & Roadmaps, 2024b; UnityPoint Health, 2022). Furthermore, text message-based interventions have proven effective for adolescents with oral health and sun safety (County Health Rankings & Roadmaps, 2024b). Since Hartwick lacks access to appropriate healthcare facilities, text message-based interventions may promote positive health outcomes in the large adolescent and young adult population. Although technology can improve healthcare access and health outcomes, equity concerns are notable. Individuals must have access to the internet and an appropriate electronic device to access these programs. Unfortunately, a 2017 census of Agriculture determined that only 78% of farms in Poweshiek County had internet access (National Agricultural Statistics Service, 2017). Thus, if implemented, policies must promote equitable access to the internet and technology.

Job Satisfaction

Heavy workloads, administrative duties, and emotional exhaustion contribute to the burnout experienced by rural healthcare professionals (Temple, 2020). If the stress level is great enough to prompt a physician to leave, the cost to recruit a new physician is nearly 88,000 dollars (Temple, 2020). To minimize costs and ensure local healthcare access, rural healthcare facilities must implement appropriate strategies to improve working conditions and job satisfaction. For example, telehealth services can connect a rural provider to specialists at a large academic hospital, allowing rural providers to care for more critically ill patients. Telehealth also promotes a sense of collaboration for rural providers. Although Grinnell Regional Medical Center offers many specialists, a telehealth partnership with the University of Iowa may provide additional support that reduces stress levels and improves job satisfaction.

Recruitment and Retention

Concerning recruitment and retention efforts, financial reimbursement is a critical recruitment strategy; 64% of respondents for the 2022 Jackson Physician Search survey stated that higher compensation, bonuses, and benefits would prompt consideration of practicing in a rural area. 47% of respondents desired the ability to work part-time or flexible hours to transition to a rural location (Jackson Physician Search, 2022). Therefore, opportunities to enhance recruitment and retention efforts should focus on financial incentives and flexible work hours.

Current financial incentives offered through UnityPoint Health include the UPH Career Launch program and the Senior Student Promise program. The UPH Career Launch program provides a monthly stipend for students in eligible career programs (RN, LPN, Medical Imaging, CMA, and EMT/Paramedic) for up to 6 months prior to the UnityPoint Health employment start date (UnityPoint Health, n.d.-b). Grinnell Regional Medical Center should advertise this program to students enrolled in eligible career programs at the local community college, Iowa Valley Grinnell. Similarly, Finley Hospital in Dubuque, Iowa offers 20,000 dollars to health science students during the final two semesters of school through the Senior Student Promise program (UnityPoint Health, n.d.-c). Program participants must agree to a 24-month commitment to employment at Finley Hospital.

Although funding may be limited, this program should be expanded to include Grinnell Regional Medical Center and Grinnell Montezuma Medical Clinic. These local financial incentives may improve recruitment efforts in Poweshiek County.

The state and federal government also offer numerous recruitment programs and loan repayment programs for health professionals who work in a service commitment area (Iowa Rural Healthcare Workforce Connection, n.d.). Healthcare facilities in Poweshiek County must partner with the University of Northern Iowa, the University of Iowa, Des Moines University, and Marshalltown Community College to promote these financial incentives. These partnerships with healthcare career programs must also establish nursing and medical student rotations; by practicing in a rural environment, students may develop an interest in entering the rural healthcare workforce. Similarly, nursing schools and medical schools should collaborate with rural healthcare facilities to develop curricula to prepare the healthcare workforce for rural medicine. For example, the University of Iowa's Medical School integrates rural medicine through shadowing opportunities, field experiences, and a seminar series (Carver College of Medicine, n.d.). This curriculum ensures that graduates are prepared to serve the rural communities in Iowa.

4. Gap Analysis: Healthcare Workforce Development for High School Students

Opportunities

- **Dual-Credit and Distance Learning:** The dual-credit program at Iowa Valley Grinnell is an asset and expanding it to offer more healthcare-related courses or provide remote instruction options for students could increase participation. This could be facilitated by adding online or hybrid courses to reduce travel requirements for students.
- **Transportation and Support Services:** Providing transportation options to training sites and clinical placements may encourage higher enrollment in healthcare programs. Additionally, developing affordable local training opportunities could

help attract non-traditional students, such as working adults seeking to transition into healthcare.

- Community-Based Learning: Incorporating community-based learning programs, such as internships at local health facilities or mentorships with healthcare professionals, could give students practical experience and foster a stronger connection to the community.

5. Healthy People 2030 Objectives

- MHMD- 05: Increase the proportion of adults with depression who get treatment. Poweshiek County percentage diagnosed with depression: 31.6% (UnityPoint Health, 2022) Iowa percentage diagnosed with depression: 17.4% (UnityPoint Health, 2022)

Treating mental health illnesses, such as depression, can help to improve their overall quality of life. When discussing the perceptions of mental health in the community of Poweshiek, 67% of people said that they saw mental health as a major problem (UnityPoint Health, 2022). Unfortunately, Poweshiek County is experiencing a lack of access to mental health services locally and a limited amount of mental health providers. This community also lacks the financial ability to recruit new providers. Many people also lack the education to be able to identify the mental health issues that exist within the county and do not have enough public support to increase the number of resources. There is a dire need to increase the amount of mental health services available in Poweshiek.

C-05: Increase the proportion of females who get screened for breast cancer.

- Poweshiek County Proportion in 2022: 73.7% (UnityPoint Health, 2022)
- Healthy People 2030 Goal: 77.1% or Higher (Office of Disease Prevention and Health Promotion, n.d.).

Screening for breast cancer early on can help reduce the number of women who die from breast cancer. In Poweshiek County, 19.3 per 100,000 women die from breast cancer a year, whereas in the state of Iowa, 17.9 per 100,000 women die from breast cancer (UnityPoint Health, 2022). Women in the community face transportation barriers when needing to receive breast cancer screenings; although some women access specialty services in Grinnell, many women must travel to Iowa City to get the treatment they need. Thus, many patients experience longer wait times due to the lack of local specialty providers and physical distance to Iowa City. Along with this, cancer treatment requires patients to go back and forth to their provider for continuous checkups, leading to a financial burden and an excessive amount of travel time.

D-01: Increase the proportion of people with diabetes who get formal diabetes education.

- Poweshiek County diabetes age-adjusted death rate in 2022: 41.6 (UnityPoint Health, 2022)
- Iowa diabetes age-adjusted death rate: 22.3 (UnityPoint Health, 2022)

Diabetes education is important to help people obtain the skills and knowledge to manage their diagnosis. In Poweshiek County, 14.9% of people have diabetes, whereas in the state of Iowa, 10.2% of people are diagnosed with diabetes (UnityPoint Health, 2022). Among the community of Poweshiek County, their perception of diabetes being a major problem is due to the lack of community programs and healthcare for people with diabetes and prediabetes (UnityPoint Health, 2022). Healthcare providers in Poweshiek

County also reported low medical IQ and lack of motivation as barriers for residents with diabetes. Unfortunately, there is a lack of resources within the community of Poweshiek when it comes to diabetes self-management. Therefore, educating Poweshiek County residents on the effects of unmanaged diabetes and the importance of a healthy diet, exercise, and medication adherence is important for improving the overall health of the community.

6. Population-Focused Nursing Diagnosis

Risk for decreased mental healthcare access among residents of Poweshiek County related to mental healthcare provider shortages as evidenced by the 17 mental health providers in Poweshiek County for 18,600 residents.

Risk for unstable glucose among residents of Poweshiek County related to limited diabetic specialty care as evidenced by a local health provider reporting that Poweshiek County residents must travel to Des Moines or Iowa City to receive diabetic care.

Ineffective health maintenance among residents of Poweshiek County related to the lack of breast cancer screening resources for women as evidenced by the elevated age-adjusted death rate of breast cancer for Poweshiek County compared to the state of Iowa.

7. Community Engagement

Summary of Interviews Conducted - One additional interview was conducted to assess access to healthcare resources and healthcare career pathways in Poweshiek County. Terri Hungerford, the College and Career Transition Advisor at Iowa Valley Community College District provided valuable information about the job shadow opportunities for high school

students in Poweshiek County. This interview took place on October 21, 2024.

Insights on Healthcare Access - One of the major issues that Poweshiek is facing right now is the lack of mental health resources and the lack of providers in the county. Around 31% of Poweshiek residents have been diagnosed with depression, whereas the state of Iowa has 17% of residents that are diagnosed with depression (UnityPoint Health, 2022). The current wait time for mental health appointments with providers is up to six months. Due to these long wait times, the people in Poweshiek County are not getting the proper care that they need to treat their mental health diagnoses. Along with this, many providers are only doing online appointments with patients, which creates a problem for those who do not have access to the internet or a stable Wi-Fi connection. Brooke Holder, the manager of the Public Health Office in Poweshiek County, also sheds light on this issue. When talking with her she reiterated that their county is seeing a major increase in the number of residents who are experiencing mental health crises, but not getting the care they need due to the lack of resources. There is a lack of providers, therapists, services, and beds, and an increased amount of stigma surrounding mental health disorders in Poweshiek County.

Insights on Education and Workforce Needs, Insights on Partnerships - Terri Hungerford was formerly the Iowa Intermediary Network Coordinator for the counties served by the Iowa Valley Community College District. The Iowa Intermediary Network connected students to classroom speakers, job shadows, internships, and worksite tours to encourage career exploration. Unfortunately, according to Terri Hungerford, the Iowa Intermediary Network is no longer available. The state of Iowa chose to move in a different direction with the grant. Although she continues to match students with job shadow opportunities at the Grinnell Regional Medical Center in her new position, she only works with the Grinnell-Newburg School District. This creates inequities for students interested in healthcare careers who are enrolled in the other two high schools in Poweshiek County.

8. Evidence-Based Recommendations

Nurse Shadowing Programs for High School Students

- **Evidence-Based Rationale:** Research supports early exposure to healthcare careers as a method for increasing interest and reducing attrition in nursing and healthcare professions, especially in underserved areas (Brook et al., 2021).
- **Intervention Design:** Collaborate with local high schools, hospitals, and nursing programs to develop a shadowing curriculum. Rotate students through various departments, exposing them to different specialties and allowing them to experience the day-to-day role of nurses and other healthcare providers. Providing mentorship and hands-on experience can inspire students and encourage local recruitment.

- **Addressing Gaps and Challenges:** By introducing high school students to healthcare careers, particularly nursing, this program can create a more sustainable local workforce. Engaging students early may increase their likelihood of returning to work within their community post-education.

Incentive Programs for Primary Care and Mental Health Providers

- **Evidence-Based Rationale:** Studies show that financial and professional incentives, such as loan forgiveness, residency rotations in rural settings, and hiring bonuses, improve recruitment and retention in shortage areas (Rural Health Information Hub, 2024a).
- **Intervention design:** Advocate for county-specific scholarships and loan repayment programs in collaboration with educational institutions, private healthcare organizations, and local government. Offering continuing education, professional development opportunities, and accessible licensing processes can support retention.
- **Addressing Gaps and Challenges:** Targeting the shortages with financial and professional growth incentives addresses the economic barriers that deter providers from rural areas. A structured support system with reduced financial burden can encourage providers to work and remain within Poweshiek County.

Telehealth and Collaborative Care Models

- **Evidence-Based Rationale:** Telehealth has effectively improved healthcare access in rural areas, especially for mental health services, by reducing travel time and broadening access to specialized care (Rural Health Information Hub, 2024b).
- **Intervention Design:** Invest in telehealth services, possibly through local primary care clinics, to extend the reach of mental health and primary care providers. In cases where in-person visits are necessary, using telehealth for follow-ups can enhance continuity of care.
- **Addressing Gaps and Challenges:** This intervention would mitigate access issues while optimizing the workload of providers. Telehealth can bridge the geographic barriers in Poweshiek County, ensuring that patients receive timely care despite provider shortages.

9. Explore Collaboration Opportunities

Collaborator: Marshalltown Community College and Iowa Valley Grinnell satellite campus

Potential Contribution: Partner to expand dual-enrollment healthcare courses for high school students, including increasing the enrollment maximum for nurse aide courses and adding short-term career training programs for pharmacy technicians, phlebotomists, dialysis technicians, and emergency medical services personnel.

Collaborator: Poweshiek County Public Health Department

Potential Contribution: Collaborate to offer internships or job shadowing opportunities for high school students interested in public health careers.

Collaborator: UnityPoint Health – Grinnell Regional Medical Center

Potential Contribution: Collaborate to offer career exploration days for high school students and young adults interested in healthcare careers. In addition to the currently offered job shadow opportunities, career exploration days support large groups of students interested in many different careers.

Potential Contribution: Collaborate to offer nurse summer internship opportunities for nursing students and nurse residency programs for new graduate nurses. Currently, nurse summer internship opportunities are only offered at UnityPoint hospitals in Cedar Rapids, Iowa, and Madison, Wisconsin. Nurse residency programs are currently offered at multiple UnityPoint Hospitals, including Marshalltown Hospital. However, the Grinnell Hospital does not offer a nurse residency program.

Collaborator: University of Iowa and Des Moines University

Potential Contribution: Collaborate to establish curricula designed to prepare students to enter the rural healthcare workforce. Include clinical experience days in community and rural hospitals in the curricula.

Collaborator: University of Iowa Health Care

Potential Contribution: Collaborate to provide telehealth services to support rural providers with complex or critically ill patients. Access to specialists through telehealth will provide psychological support to improve retention efforts.

10. Conclusion

Poweshiek County residents experience notable barriers to healthcare access, including access to mental health treatment, breast cancer screenings, and chronic diabetes care. Addressing the workforce shortage of mental health providers is a critical initial step to improving health outcomes for Poweshiek County residents. However, healthcare career pathways in Poweshiek County are limited to dual-credit CNA programs at the local community college satellite campus. Students interested in pursuing other careers in nursing must enroll in courses at Marshalltown Community College. Additionally, the Iowa Intermediary Network, a state-wide job shadow program, was recently discontinued, limiting opportunities for Poweshiek County high school students to engage in career exploration opportunities. Fortunately, collaborations and technological advancements can strengthen the healthcare workforce and improve healthcare access and health outcomes.

Engaging current rural healthcare providers, current healthcare students, and high school students will ensure a robust and prepared future healthcare workforce in Poweshiek County. Partnerships with large academic hospitals, such as the University of Iowa Health Care, can facilitate telehealth services that reduce the burden of complex patients on rural healthcare providers.

Telehealth services may also improve access to mental health providers. Furthermore, collaborations with nursing and medical educational programs should include rural healthcare curricula to prepare students to enter the rural healthcare workforce. Similarly, career exploration days at Grinnell Regional Medical Center may ensure high school students continue to engage in healthcare career exploration despite the discontinuation of the Iowa Intermediary Network. Although current providers, medical and nursing students, and high school students are three populations that must be targeted to facilitate positive health outcomes for the Poweshiek County residents, high school students are the future of the healthcare workforce. Collaborations must facilitate the engagement of high school students in career exploration opportunities to continue the development of the future healthcare workforce.

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Appendix A: Map of Healthcare Facilities in Poweshiek County, Iowa

