

ASSESSING HEALTHCARE CAREER PATHWAYS

County Community Care Plans for Appanoose, Keokuk, Lucas, Monroe, Poweshiek, Tama, and Wayne Counties

Community and Public Health Nursing

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Appanoose County Community Care Plan

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Abstract

This report focuses on significant gaps and challenges within the healthcare system in Appanoose County, Iowa. In this report, we discuss the major shortage in healthcare professionals and the lack of educational resources to help encourage and provide opportunity for students and other community members to join the healthcare workforce. To get a better idea about the demographics within Appanoose we analyzed online resources provided statistical information related to population age, health disparities, and socioeconomic status. We conducted personal interviews with healthcare and educational professionals that currently work in the community to better understand areas of need. Alongside identifying gaps, we looked at numerous recommendations for expanding educational resources, improving healthcare programs, and effectively using technology to offer health improvements for this community. Collaborating with both the educational and healthcare institutions to integrate plausible interventions within Appanoose is key to addressing the community's challenges.

1. Introduction

The goal of this report is to better provide an in-depth analysis of the healthcare workforce in Appanoose County, Iowa. Identifying gaps and challenges within this system is key to identifying areas in need of improvement. Our research scope focuses on the resources found in healthcare institutions, educational programs, and community settings. Resources may span from opportunities for healthcare education to methods to improve job satisfaction. In addition to identifying the existing resources and areas of necessary improvement, we formulated potential interventions to improve the healthcare pathway as a whole within this community.

2. Gap Analysis: Healthcare Workforce Gaps

2.1 Opportunities

An in-depth analysis of Appanoose County revealed a gap in the healthcare workforce and substantial lack of resources for those looking to pursue a career in healthcare. Steven Haigh works for human resources at River Hills Community Health Center in Appanoose County and reported that the facility is currently having difficulties with staffing retention of doctors, nurse practitioners, dentists, and therapists (S. Haigh, personal communication, 3 October 2024). MercyOne is a hospital with a location in Centerville. MercyOne offers paid education and training pathways to individuals looking to begin a career in healthcare such as patient care technician, pharmacy tech, and student medical assistant training programs. However, the training takes place at a MercyOne location in Des Moines which is at least an hour and 45-minute drive (MercyOne, 2024). River Hills Community Health Center and MercyOne are just a couple examples of how the workforce gap that is being sustained within the county. The lack of resources extends to school age students. Haigh reported that they don't hire anyone below the age of 18 due to complexity of age and hour laws that surround having a minor at work. He also noted that most positions at the facility are full-time and would therefore interfere with school hours (S. Haigh, personal communication, 3 October 2024). Indian Hills Community College has a campus location in Centerville.

The college offers numerous healthcare and health science college level courses, but only 4 are available within Appanoose County. A certified nursing assistant (CNA) and emergency medical services courses are offered through the location. Health information technology and health insurance coding are the only other courses available within the county because they're taken asynchronously (Indian Hills Community College, 2024). Robin Spurgeon is a guidance counselor at Centerville High School in Centerville. She reported that she was aware of the CNA program available to high school level students interested in the healthcare field but was unaware of any other opportunities within the community at other facilities for students to gain experience in the field (R. Spurgeon, personal communication, 2 October 2024). There's a clear gap in the need for healthcare workers and available opportunities for individuals to begin their careers or continue education within Appanoose County. Students approaching working age have limited opportunity to work within the healthcare setting. Those same students in addition to all community members who would like to join the workforce have few pathways to gain experience or learn about the field locally.

Haigh reported issues with staffing retention at River Hills Community Health Center, so he shared some methods he uses to retain or gain staffing and increase overall job satisfaction. He utilizes competitive compensation, benefit packages, continuing education budget, celebration of employee birthdays, flowers for staffing for relative's funerals, annual Employee Appreciation Day, employee service awards and bonus payments, the "Above and Beyond" award, etc. To enhance recruitment to his facility, he would like to see an increase in medical student slots available and an increase in physician residency programs.

Focusing on the nursing professional pathway, we researched plausible opportunities that facilities could implement to both increase staff recruitment and retain current staffing. The American Nurses Association noted a few methods to recruit quality nursing staff including connecting with nursing schools and programs, staying current on technology, broadening search through social media, asking current staffing for insight, etc. (American Nurses Association, 2023). Keeping limited financial funding in mind, one of the best ways to increase staff retention and promote staff recruitment is by simply speaking with current staffing and making a point to listen to them and note what may increase their overall satisfaction.

Encouraging an adequate work-life balance that is reflected in contracts, for example, will keep staffing happy at work and motivate them to recommend their job to others currently searching. Also, partnering with local schools to offer education opportunities encourages the incoming workforce to remain local.

As Indian Hills Community College – Centerville Campus is the only college or community college campus in the entire county, we would like to expand further on healthcare education offered at the Centerville location and increase online class options for those with limited means to drive far. Local hospitals, such as MercyOne, should also offer training courses with opportunity for onboarding at the completion of the program. Offering courses and opportunities such as certified nursing assistant programs or nursing shadow days at local facilities for high school credit encourages students to begin their careers locally as they may be more familiar with the facilities, have in house connections, and find value in working for a quality healthcare facility.

Lack of mental health resources, substance abuse resources, and women's health was reported as a standing issue by Appanoose County locals that were interviewed (R. Pfannebecker, personal communication, September 26, 2024; R. Spurgeon, personal communication, 2 October 2024; S. Haigh, personal communication, 3 October 2024.) Considering Appanoose is a very rural community with limited ability to staff physicians or other healthcare workers with specialties such as these, the next best way to increase access to these resources is through online healthcare delivery methods such as Telehealth. Telehealth is an efficient method to provide baseline levels of care to those in need as it only quickly connects a provider with a patient without needing to leave the home. Healthcare institutions can promote the use of Telehealth to meet some of the community's needs by educating individuals who come in about the benefits of Telehealth, helping them to create an account, and showing them how to use it. Facilities could also offer the computer and secure internet access required for those without the personal means.

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

3.1 Opportunities

To enhance recruitment and retention efforts in Appanoose County, various strategies can be implemented. These may include offering incentives such as relocation bonuses, housing assistance, and student loan forgiveness options. Collaborating with educational institutions, including local colleges and high schools, can facilitate the development of internship programs, job fairs, and hands-on experiences. Additionally, community engagement initiatives—such as hosting events, providing networking opportunities, and establishing mentorship programs—can significantly strengthen recruitment efforts.

Opportunities to expand training and education programs within Appanoose County include collaborations with local businesses to develop tailored training initiatives that address specific workforce needs. Different opportunities such as internships, apprenticeships, or specialized courses allow for active engagement in the healthcare field. Additionally, working with community colleges and universities can enhance access to education, while distance learning programs can cater to a variety of interests and skills. To attract younger populations, after-school programs focused on STEM education and life skills, as well as educational summer camps, can be implemented to spark interest in healthcare careers. Furthermore, scholarship opportunities can incentivize individuals to pursue professions in the healthcare industry.

4. Healthy People 2030 Objectives

1. Increase the proportion of high school graduates in college the October after graduating — SDOH-06 (U.S. Department of Health and Human Services, n.d.-b).
 - a. Higher education may lead to better job opportunities as well as higher income which can help to reduce poverty levels in rural communities (U.S. Bureau of Labor Statistics, 2020). Higher education may also lead to higher access to resources due to higher employment rates.

- b. Increase the use of telehealth to improve access to health services , AHS-R02 (U.S. dept of health and human services.
 - c. Individuals living in rural communities would benefit from telehealth services which would reduce health disparities (Health and Human Services, nd.-d). Living in rural communities decreases access to timely medical treatment, so having the availability to meet with a healthcare provider virtually may enhance overall health outcomes.
- 2. Increase the number of community organizations that provide prevention services – ECBP-D07 (U.S. Department of Health and Human Services, n.d.-a).
 - b. Individuals living in rural communities have limited access to healthcare so facilities with prevention services can promote health awareness and address challenges. Preventative services can reduce the incidence of chronic disease and encourage healthier lifestyles.

5. Nursing Diagnosis for Appanoose County

Deficient Knowledge among individuals living in Appanoose County r/t inadequate access to healthcare professionals aeb community members' verbalization of concern.

6. Evidence-Based Recommendations

To fill the gaps in the healthcare workforce in Appanoose County, some recommendations include:

- Partnerships with Educational & Healthcare Institutions: A partnership between Indian Hills Community College and local healthcare facilities can join these two forces together to create a program that relates to the lack of healthcare jobs within this county.
- Internships/Job Shadowing: In addition to education programs being developed, it may be helpful to have hands on experiences within these jobs to get students interested in this field of work.
- Incentive Programs: Developing scholarships, tuition reimbursement programs, and pay incentives for working in rural communities if these individuals agree to work in this county after graduation can help to increase the healthcare workforce.
- Telehealth Service Promotion: Offering education and workshops to individuals in this community on how to access these services can help to improve mental health and women's health services.
- Social Media: This can have a huge impact on students and in some cases even influence them on which career path they end up choosing. Many times social media influence can have a negative connotation, but in this case it can help to improve the healthcare workforce here.

7. Explore Collaboration Opportunities

Collaborator: Local Schools

- **Potential Contribution:** Working with guidance counselors and other high school staff would allow the chance for students to have healthcare related classes incorporated into their general education classes. These could be dual enrollment that either can offer them experience or if taken through community colleges will help them get started early on a healthcare track.

Collaborator: Appanoose County Public Health Department

- **Potential Contribution:** Working with the public health department can allow students who are specifically interested in public health to shadow those involved in these roles and decide if that is something they wish to pursue.

Collaborator: Community Health Organizations

- **Potential Contribution:** Partnering with organizations that are focused on health for the community can give students in the community a chance to attend workshops or classes that promote careers within healthcare. For the community as a whole these organizations can lead seminars that discuss the health-related challenges and recommendations for change.

Collaborator: Local Businesses

- **Potential Contribution:** Potential Contribution: Community investment can be a major supporter in workforce development, so getting local businesses involved can allow them to support potential internships or scholarship opportunities for students interested in healthcare careers.

8. Conclusion

This report highlights critical gaps in healthcare workforce development within Appanoose County, particularly impacting high school students. Providing students with healthcare career exploration opportunities and structured educational pathways are vital to creating a prepared and capable future healthcare workforce. Local healthcare education resources also encourages students to remain within Appanoose County upon graduation because there is opportunity for a viable career. By implementing collaborative strategies and expanding educational resources, Appanoose County can address workforce shortages and improve healthcare access for its residents. This multifaceted approach will not only enhance community health outcomes but also ensure a sustainable future for healthcare services in the region.

Resources

American Nurses Association. (2023, September 6). The best ways to recruit top nursing staff.

<https://www.nursingworld.org/content-hub/resources/nursing-leadership/nurserecruitment/>

Indian Hills Community College. (2024). Health sciences.

<https://www.indianhills.edu/academics/health/index.php>

MercyOne. (2024). Training programs. <https://www.mercyone.org/careers/trainings/>

U.S. Bureau of Labor Statistics. (2020, May). Learn more, earn more: Education leads to higher wages, lower unemployment. <https://www.bls.gov/careeroutlook/2020/data-on-display/education-pays.htm>

U.S. Department of Health and Human Services. (n.d.-a). Increase the number of community organizations that provide prevention services (EBCP-D07). Healthy People 2030.

<https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/community/increase-number-community-organizations-provide-prevention-services-ecbp-d07>

U.S. Department of Health and Human Services. (n.d.-b). Increase the proportion of high school graduates who enroll in college in the October after graduating (SDOH-06). Healthy People 2030.

<https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/education-access-and-quality/increase-proportion-high-school-graduates-college-october-after-graduating-sdoh-06>

U.S. Department of Health and Human Services. (n.d.-c). Increase the use of telehealth to improve access to health services (AHS-R02). Healthy People 2030. [https://](https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/health-it/increase-use-telehealth-improve-access-health-services-ahs-r02)

odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/health-it/increase-use-telehealth-improve-access-health-services-ahs-r02

U.S. Department of Health and Human Services. (n.d.-d). Rural telehealth.

<https://telehealth.hhs.gov/providers/best-practice-guides/telehealth-for-rural-areas/>

Appendices

Appendix A: Interview Transcripts

Interview with Rebecca Pfannebecker

Q: What are the most pressing health concerns or challenges facing your rural community?

This could be a fairly subjective question. According to the Community Health Needs Assessment (CHNA) that we're currently working on, the top five community health concerns are:

- Mental Health
- Substance use/abuse
- Obesity
- Child abuse/neglect
- Cancers

The top services that could use improvement according to our most recent community assessment are: mental health, women's health, primary care, and substance use.

As a public health professional, my personal opinion is that a pressing concern is our increased level of poverty and all that comes with this, including food- and housing insecurity, child abuse and neglect, medical noncompliance, substance abuse to name a few, as well as we are a healthcare desert with no maternal/OB-Gyn services, extremely limited MDs and DOs, difficult to get in to see a HCP. We do not have a local Health and Human Services office to assist with medical and food assistance.

Q: Are there any ongoing or upcoming health assessments or community health surveys that help inform your public planning?

We partner with our hospital to complete a CHNA, then we do a public health specific community health improvement plan. We are currently working on this now, to be submitted in Spring 2025.

Q: How does your office prioritize the use of funding for rural health initiatives, and what additional resources or funding do you think would be most beneficial?

Our office does not receive discretionary funding for rural health initiatives outside of grants we apply for as a Public Health / Board of Health agency. Many of the grants, of course have strings attached that limit what we are able to utilize the funding for. We instead leverage relationships in our community to focus on “Rural Health initiatives” that are identified through our Community Health Needs Assessment (CHNA) and Community Health Improvement Plan (CHIP) (both located on our website). We work with a variety of agencies (non-profit, religious, community organizations, etc...) to improve our community and expand the impact of what they are doing to fit into our CHIP work that is also tied to the 10 Essential Services of Public Health.

Q. Are there specific areas where you feel the community lacks sufficient healthcare services or resources?

We have very limited MDs and DOs, so if you are able to be seen, it is specialist like cardiology and oncology come to our specialty clinic but are hard to get into because they are so busy. Many specialties are not available, requiring a person to drive approx. 1 hr 45 minutes to Des Moines or 2 hr 45 minutes to Iowa City.

Q. What do you see as the biggest barrier to improving health outcomes for the elderly or other vulnerable groups in your area?

Always funding, but besides that, getting providers to our area.

Interview with Steven Haigh

Q. Could you share insights on employee satisfaction and engagement within your institution?

We have a number of things that we do. Below is a list of items we do to help in this regard:

- Competitive compensation and benefit package
- Insurance, Life/Ad&D insurance, retirement savings with match, and short term disability
- Continuing education budget for professional careers
- Employee birthday recognition
- Retirement celebrations
- Flowers and memorials of up to \$50 after death of a direct relative
- Employment recognition each August during National Community Health Center Week
- Employee service awards to recognize career milestones
- The Above and Beyond Award to recognize service that exceeds expectations
- Exit interviews.

Q. Describe any programs you've developed with local schools.

We are working on placing therapists in our local schools to help with mental health access.

Q. Are there jobs available for students in your clinic?

No, we only hire people over 18 years old.

Q. Please identify any specific roles within your institution that are currently facing challenges in terms of recruitment or retention.

Professional careers such as doctors, nurse practitioners, dentists, therapists, and physical therapists.

Q. Could you provide information on any significant health concerns currently affecting your community, such as opioid use?

Hypertension, obesity, and substance abuse.

Q. What resources do you envision as ideal for enhancing the services and operations of your clinic?

Increased medical student slots and physician residency programs leading to more physicians available.

Interview with Robin Spurgeon

Q. Does the high school have any partnerships or offer any health education opportunities such as CNA course, phlebotomy course, etc? Does the school partners with other organizations?

We partner with our local community college (Indian Hills) to offer Health Academy classes.

Q. How common is a health career pathway among the students? What's the most popular health-related career path among your students?

We have ~10-15 students who participate in Health Academy every semester. Most are choosing nursing.

Q. What jobs are available for a high school level student within the community for those interested in pursuing healthcare?

We have opportunities for CNAs.

Q. Do you know if hospitals, clinics, or other healthcare organizations within the community offer healthcare education training to the community? If so, are these opportunities recommended to high school students?

No, I don't.

Q. Can you think of any community or school specific resource(s) that, in your opinion, would be beneficial to improving well-being?

We have constant need for mental health services, which is a big problem for all schools right now. We don't have enough school nurse time / coverage.

Appendix B: Excel Spreadsheet

https://iowa-my.sharepoint.com/:x:/r/personal/jgbuman_uiowa_edu/Documents/Appanoose%20County%20Excel.xlsx?d=w15ce4c829d074521aaeabe0f181f5f76&csf=1&web=1&e=g0gC0

Keokuk County Community Care Plan

Team members: Katelyn Goodchild, David Mares, and Brandin VerSteegh

Abstract

This community health assessment focuses on Keokuk County, Iowa with the aim of identifying key health needs, resources, and disparities that are affecting community members. Through data analysis, health reports, and interviews with community members/stakeholders this report seeks to provide a comprehensive review of the county's public health landscape. The report highlights several areas like healthcare access, education, and workforce development needs. The areas we identified include limited services to access healthcare, gaps in education related to healthy lifestyles, mental health and affordable housing. Additionally, social determinants such as income and transportation were also identified as contributors to poorer health outcomes across the county. This report is underscored by the role of local public health officials and community-based organizations addressing these challenges. Recommendations to combat these disparities include expanding access through telehealth, increasing education efforts in mental health and healthy lifestyles, and fostering partnerships between healthcare providers and institutions. This assessment hopes to inform future planning and resource allocation to better meet the needs of Keokuk County and improve health outcomes.

1. Introduction

The purpose of this report is to explore the healthcare needs and the resource gaps within Keokuk County, Iowa. In rural areas such as Keokuk County, healthcare access and quality can be limited due to reasons such as remote location, insufficient transportation options, and little to no choices for local providers. Our findings highlight several areas where there is a need for increased support such as mental health, women's health services, and education programs geared towards individuals who aspire to work in healthcare. In this report provide recommendations targeted at improving health outcomes for county residents and increasing partnerships to help bridge gaps in the areas discussed.

2. Gap Analysis: Healthcare Workforce Gaps

2.1 Healthcare Gaps

The county has a need for transportation services especially for the elderly/homebound/ disabled community members. There is often no family to support these individuals, so they are left unable to access healthcare services because they lack transportation. Affordable housing and the cost of living was identified as a top priority by county officials. Many community members are unaware of the resources available to them. Emergency preparedness is an issue for many communities. Residents are largely unprepared for natural disasters and lack basic supplies for their homes. Officials could be overwhelmed easily as there is only one sheriff and four deputies for the county (Keokuk County Public Health, 2023).

Another disparity that was identified was with one specific specialty, obstetrics care and maternal health, which is a huge problem across rural Iowa, Keokuk County being no different; unfortunately, they have never had OBGYN care within this county, even with all of the medical facilities and clinics. This means patients who need these services will have to travel to the next county (Mohaska, Wapello, or Poweshiek are closest) in order to get the obstetrics care that they need; which could not only cause harm to mom and baby in an emergency, but also may lead to other problems such as missing work, transportation needs, and increased costs (Iowa Department of Health and Human Services - Community Access Division – Wellness and Preventive Health, 2024).

Lastly, mental health and substance abuse services were seen as a disparity on the last community health report for Keokuk County in 2023. They saw one of the largest problems, wasn't exactly that there weren't services within the area, but that people either didn't know the resources existed and/or due to the stigma surrounding mental health and substance abuse chose not to seek their help (Keokuk County Public Health, 2023).

2.2 Opportunities

2.21 Healthcare Worker Opportunities

- Flexible scheduling for staff - *Some of the things that the University of Iowa Healthcare does to help with enhancing working conditions is allowing for flexible scheduling and self-scheduling. Occasionally these self-schedules need to be changed by supervisors; however, for the most part people can choose when they want to work other than their required weekends and night/day shift requirements (though on some floors this is flexible). I think something similar could be employed within this hospital to help provide more flexibility.*
- Financial compensation/incentives for staff - *One of the main things Annette Bell talked about during our interview was that Keokuk County Hospitals and Clinics has a hard time competing with the University of Iowa Healthcare as well as travel agencies to retain staff due to the difference in financial compensation (A. Bell, Personal Communication, 9/29/24). If the salaries for staff can't be improved due to the financial restraints of the hospital, maybe they could implement incentive bonuses, spot awards, professional recognition programs, daisy awards, helping hands awards, etc. for going above and beyond their job description. A little recognition can go a long way in terms of job satisfaction.*
 - Other financial incentives could be for completing specialized certifications such as CCRN for critical care nurses, CNRN for neuroscience nurses, CV-BC for cardiac nurses, etc.

2.22 Educational Opportunities

- **Career Development Opportunities for staff** - *There is high encouragement from the University of Iowa Healthcare to further your education via certificates such as ACLS, CCRN, CNRN, etc. and CEU opportunities (typically financially assisted or completely paid for), as well as financial assistance for further schooling such as MSN or DNP. I think if the Keokuk County Hospital was able to fundraise or collect donations in order to be able to give their staff these opportunities, it would help staff feel as though they are able to have some career development.*
- **Other opportunities for career development** may include providing financial assistance for CNAs to go on to nursing school who will then work at the hospital for a certain number of years after graduation may help fill some positions and retain staff who has been working within the facility. Another idea is to create partnerships with either Indian Hills Community College or the University of Iowa to have nursing students at their facility as could help with recruiting staff to work there after graduation.
- **Distance Online Learning** - There are many schools now such as Purdue Global Nursing program that is made for those who are still working while going to school. This is an online program that allows for the students to live wherever and do their clinicals within the Cedar Rapids/Iowa City area (Purdue Global, 2024). Another opportunity for staff who already have a nursing degree is the online DNP program through the University of Iowa, in which you only have to be on campus a few days a semester (Iowa College of Nursing, 2019). Advising staff on these opportunities to further their education may help with retention within the Keokuk County Hospital.

2.23 Patient Opportunities

- **Telehealth Opportunities** - Telehealth has shown that it can help provide services to those that may not have access to a hospital, clinic, rehabilitation services (speech therapy), tele behavioral health, counseling services, etc., whether that be due to transportation, disabilities, and/or another reason. This also may allow for better management of chronic conditions by using remote patient monitoring or m-health (mobile health) to remotely monitor medical devices with health-related information (Rural Health Information Hub, 2024b). The tele behavioral health also gives people an opportunity to get help without the fear of judgement from their peers seeing them go into a therapist office.
- **Electronic Health Records** - Electronic health records (EHR) allow patients to participate more in their own health care now than ever before. Whether that be by looking at test results, speaking to their provider via a chat message, or renewing their own prescriptions. EHR also allows providers to more easily access information about each patient if they don't normally see them faster, such as in an emergency situation (Rural Health Information Hub, 2024b).

2.24 Healthcare Access Opportunities

- **Implementing a Transportation Service** - Limited transportation is one of the leading causes of reduced access to care and care of chronic conditions for those who live in rural areas. One way to reduce this disparity is to set up some kind of transportation program that would allow for those patients to be transported to their appointments. Whether this be through partnerships with rideshare programs, starting a medical transport service, utilizing public health partnerships, etc., in order to help those without rides (Rural Health Information Hub, 2010).

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

3.1 Opportunities

- **Implementation of Career & Workforce Seminars** - Implementation of mandatory monthly career & workforce seminars for high school students can lead to the establishment of partnerships with local hospitals, clinics, and other professional occupational settings. Individuals from respective careers can speak with students and may be required to job shadow 3 different careers, emphasizing healthcare to be one specific career path. Collaborations can be fostered with institutions such as Keota Health Care Center and Keokuk County Hospital & Clinics. Students may job shadow specific occupations of their interest to foster a connection with their desired healthcare career.

- **Partnering with Local or Regional Colleges** - Offering dual credit course options may expand educational opportunities for students to explore careers in healthcare and bridge their entrance into the healthcare workforce. Collaborative efforts can be made with Indian Hills Community College to promote programs such as the Associate Degree Nursing (A.A.S.) and the Registered Nurse Program.
- **College Day Seminars** - Partnering with local or regional colleges to have a college day seminar for high school students to learn of the vast opportunities offered at college can drive students to enter the higher education setting. Admissions professionals from Indian Hills Community College may come to speak directly to students and provide information on navigating college application and learn first-hand of the programs offered at Indian Hills, including careers in healthcare.
- **Offering Hybrid or Online Learning Settings for Students** - Allowing students the opportunity to learn in a hybrid setting or online learning setting can result in an increase of student admission for those who have varying work schedules or are unable to physically be present in the classroom. Providing flexibility for students in the academic setting can allow them to continue their education without having to compromise their work-life and overcome challenges for those enduring transportation barriers (Rural Health Information Hub, 2010).

4. Healthy People 2030 Objectives (OR Global Sustainable goal)

- **Increase the proportion of pregnant women who receive early and adequate prenatal care.** - This healthy people objective is relevant due to the lack of OBGYN within Keokuk County. Unfortunately, this is not a new thing, as there never has been one within the county. Patients currently have to travel to a different county in order to get obstetrics care, the closest being Mohaska, Wapello, or Poweshiek counties (Iowa Department of Health and Human Services - Community Access Division – Wellness and Preventive Health, 2024). If there were closer options, the chance of women receiving adequate prenatal care would likely increase.
- **Reduce the proportion of people who can't get medical care when they need it — AHS-04**
One of the disparities that we have identified within Keokuk County is transportation to healthcare appointments, specifically the elderly, disabled, and homebound residents of the county. Due to this, the risk of people not receiving the medical care they need when they need it may be higher (Keokuk County Public Health, 2023). According to Rural Health Information Hub (2024b), lack of transportation is the cause of most missed or delayed healthcare services or chronic treatments for rural residents, and also increases the risk for poorer health outcomes because of this.

- **Increase the proportion of high school graduates in college the October after graduating -**
SDOH-06 Below are the current demographics for educational attainment after graduation within Keokuk County. Though more start college than end with a degree, I still think that there is room to improve in this area. Finding different ways to help high school students get the correct information about different colleges or trade programs will likely help increase the number of students moving on to further schooling.
 - 44.2% High school diploma or equivalent
 - 20.3% some college, no degree
 - 12.6% associate's degree
 - 11.7% bachelor's degree
 - 4.7% graduate/professional degree

5. Develop a population focused Nursing Diagnosis (that is supported by the Healthy People 2030 goal)

Risk for Impaired Health r/t limited access to healthcare due to geographic location, limited transportation, limited services within the area, and not enough providers within the area. As discussed above within the healthcare gaps and Health People 2030 Goals sections, this community has limited access to healthcare due to a variety of reasons. To deem healthcare as accessible it needs to be both available and easily obtained within a reasonable amount of time (Rural Health Information Hub, 2024a). By this definition, there are some disparities within Keokuk County; some of these are due to access such as not having the specialty or enough providers, and some are due to things such as lack of transportation due to being homebound/ disabilities/elderly (Keokuk County Public Health, 2023). This limited access can put them at risk for mismanagement of medications and chronic conditions as well. All of these challenges make it difficult for many people within Keokuk County to be able to access healthcare, thus putting them at risk for impaired health.

6. Community Engagement (If more are conducted) - N/A

6.1 Summary of Interviews Conducted - N/A

6.2 Insights on Healthcare Access – N/A

6.3 Insights on Education and Workforce Needs, Insights on Partnerships – N/A

7. Evidence-Based Recommendations (Community/Population Intervention)- MDH Intervention Wheel

To address the healthcare workforce shortage in Keokuk County, specifically in nursing, we believe the following interventions align with the MDH intervention wheel emphasizing community outreach, education, and empowerment. These interventions focus on motivating interested high school students and aim to create more accessible pathways to becoming a nurse which will increase the available workforce while simultaneously addressing a disparity in the community.

Recommendation #1: Increase healthcare access by providing mobile health clinics. Mobile clinics are a valuable way to provide a wide range of services to rural populations (Malone, et al., 2020). Mobile clinics are often associated with larger health systems, but still rely on philanthropy and federal funding. Mobile clinics can also be combined with telehealth services for individuals that lack access to technology.

Recommendation #2: Implement Early Warning Indicators (EWIs) to identify students at risk of not graduating. EWI systems are data driven and use indicators like attendance, behavior, and course performance to identify students and then provide personalized support to address the student's individual needs. Examples of interventions include tutoring, counseling, mentorship, and family engagement (Allensworth, et al., 2018).

Recommendation #3: Mentorship partner program with high school and healthcare institutions. Early exposure to nursing has been shown to be an effective strategy for generating interest in the field and encourages young people to pursue healthcare careers by increasing showing them what the profession will entail, building confidence and providing positive role models (National League for Nursing, n.d.). In these programs students can take health related courses and participate in simulations with mentors who can provide insight into the nursing profession.

Recommendation #4: A work study program to help reduce the need for students interested in nursing careers to take on student loans. Federal work study programs are often available to most schools for students that qualify for financial aid. Besides the financial benefit students also develop more skills and have a greater sense of self confidence (Curtis and Shani, 2002, Robotham, 2009).

8. Explore Collaboration Opportunities

Abby Benjamin (Admissions) at Indian Hills Community College - Partnering efforts can be made to enhance student engagement with students within the Keokuk County area to promote early exposure to college-level courses and navigate the process of applying for college courses and discussing college curriculum. Admissions may also offer college visits for students to explore the Indian Hills Community College Campus, simulation labs, and the classroom setting.

Dixie Holden (Department Chair of Nursing & Simulation) at Indian Hills Community College - The Department Chair of Nursing & Simulation can speak with students in Keokuk County and recruit graduates from the Indian Hills Community College Nursing Program to speak directly with students and share patient-care experience with students to promote their program and the career of nursing.

Allie Helmuth, Director of Public Health in Sigourney, Iowa - Collaborations within the department of public health in Keokuk County can result in job internship opportunities for students to enter the area of public health, job shadow specific positions within the department of public health and enhance interest in the career of public health for students in Keokuk County.

9. Conclusion

In conclusion this report identified significant areas where there are gaps in healthcare and education within Keokuk County. Specifically, with limited access to healthcare this includes, mental health services, women health services, limited transportation services and poor access to specialized services. In education and workforce development there are significant gaps regarding limited education pathways, and geographic isolation, as challenges. Addressing these issues requires collaboration between the educational institutions, healthcare providers, and community organizations.

This report discussed the need for strategic interventions like developing pathways for interested high school students to find programs and mentorship in the nursing profession as well as offer flexible work-study initiatives. Through these types of engagement high school students can explore the nursing profession which can help address workforce shortages and provide skilled providers to Keokuk County. Additionally, interventions like expanding telehealth, implementing mobile clinics, and creating transportation programs can help bridge the gaps for patients in need and ultimately improve health outcomes.

References

- Allensworth, E. M., Nagaoka, J., & Johnson, D. W. (2018). High School Graduation and College Readiness Indicator Systems: What We Know, What We Need to Know. Concept Paper for Research and Practice. University of Chicago Consortium on School Research. <https://eric.ed.gov/?id=ED589733>
- Curtis, Susan & Shani, Najah. (2002). The Effect of Taking Paid Employment During Term-Time on Students' Academic Studies. *Journal of Further and Higher Education*. 26. 10.1080/03098770220129406.
- Iowa College of Nursing. (2019). College of Nursing | The University of Iowa Programs. <https://nursing.uiowa.edu/>

Iowa Department of Health and Human Services - Community Access Division – Wellness and Preventive Health. (2024). Access to Obstetrical Care in Iowa: A Report to the Iowa State Legislature – Calendar Year 2022. Des Moines: Iowa Department of Health and Human Services.
<https://www.legis.iowa.gov/docs/publications/DF/1442205.pdf>

Keokuk County Public Health. (2023). Keokuk County Public Health Community Health Assessment.
<https://hhs.iowa.gov/media/8728/download%3Finline%3D>

Malone, N. C., Williams, M. M., Smith Fawzi, M. C., Bennet, J., Hill, C., Katz, J. N., &

Oriol, N. E. (2020). Mobile health clinics in the United States. *International journal for equity in health*, 19, 1-9.
<https://link.springer.com/article/10.1186/s12939-020-1135-7>

National League for Nursing. (n.d.). Hallmarks of excellence. <https://www.nln.org/education/teaching-resources/professional-development-programsteaching-resources/hallmarks-of-excellence-%C2%A9-dffb05c-7836-6c70-9642-ff00005f0421>

Purdue Global. (2024). Come back and move your nursing career forward.
https://onlinedegrees.purdue.edu/purdue-global/nursing/?adpos=&creative=424843409233&device=c&matchtype=e&network=g&source=SF55042&ve=62295&utm_source=Google&utm_medium=CPC&utm_campaign=pgo_sem_gsa_pros_inq_br_global_nur_prog_nd-VQ2-g-VQ6-424843409233-VQ16-c-Target-kwd-429177351838&adid=&gad_source=1&gclid=Cj0KCQjw1Yy5BhD-ARIsAl0RbXaGrQcrXhq6fEGho2OgLY19Q8MCs7NGTsu2OfZ-OZbZV-nxNaXBrg4aAtduEALw_wcB&gclsrc=aw.ds

Robotham, D. (2009), Combining study and employment: a step too far?, *Education Training*, Vol. 51 No. 4, pp. 322-332. <https://doi.org/10.1108/00400910910968337>

Rural Health Information Hub. (2024a). Healthcare access in rural communities introduction. Rural Health Information Hub. <https://www.ruralhealthinfo.org/topics/healthcare-access>
Rural Health Information Hub. (2024b). Telehealth and Health Information Technology

Rural Health Information Hub. (2010). Transportation to Support Rural Healthcare Introduction - Rural Health Information Hub. <https://www.ruralhealthinfo.org/topics/transportation>

U.S. Census Bureau. (n.d.). Keokuk County, Iowa.
https://data.census.gov/profile/Keokuk_County,_Iowa?g=050XX00US19107

Lucas County Community Healthcare Workforce Development Care Plan

Claudia Morales, Sophie Young, Manuel Zertuche

Abstract

This report focuses on the strengths of the community of Lucas County, Iowa. Like many rural areas, it faces challenges related to limited access to essential resources such as workforce shortages, limited access to healthcare and school resources. However, this report delves deeper into the various resources available for the residents living here, including medical, educational, and workforce development efforts, as well as partnership opportunities that contribute to the community's well-being and potential economic growth. Insights gathered from Ryan Murphy of Labor Workforce Development, Nicki Schultz from the Chariton Community District, and Mary Grismore from Lucas County Public Health, have empowered us to explore the community's health resources, educational programs, and workforce initiatives. We aim to highlight how these opportunities not only provide essential support and skills training but also empower residents to improve their overall health and quality of life in Lucas County.

Introduction

Based on our findings in Part A, it was evident that the community of Lucas County faces challenges that are common in rural communities due to the limited access to resources available for the residents living within this area. With the information given to us by Ryan Murphy, the Director of Labor Market Information at Labor Workforce Development, as well as Nicki Schultz, the school nurse for the Chariton Community School District, and Mary Grismore, the nurse administrator for Lucas County Public Health we decided to further investigate and highlight the strengths of Lucas County and what local, federal and state resources are offered for this community.

Healthcare Workforce Opportunities

When considering overall health, it is often linked to economic stability. A lack of job opportunities, low wages, and high unemployment rates significantly impact individuals' ability to meet basic needs, such as access to healthy sources of food, healthcare, and stable housing. In Lucas County, addressing healthcare workforce conditions can significantly improve economic stability, job satisfaction and improved health outcomes. Since most of the population is at high retirement risk, the need to retain and attract young workers is essential to maintaining a stable healthcare workforce (Lightcast Data Set, 2024).

According to data from Ryan Murphy, Director of Labor Market Information at Labor Workforce Development, there were 1,792 total job postings in Chariton, IA from August 2023 to July 2024, with 858 requiring specific skills. From these postings, 308 postings were for registered nurses with 135 of those requiring specialized skills, making it the most in-demand position, followed closely by postings for home health and personal care aides, dietitians and nutritionists, licensed practical and licensed vocational nurses, and nursing assistants (Lightcast Data Set, 2024). The high demand for registered nurses and other healthcare-related occupations highlights the need for improving working conditions that can attract and retain qualified workers (Lucas County Health Center, 2024).

When comparing wages with other counties, the average hourly pay for nurses at Lucas County Health Center in Chariton is approximately \$31.58 per hour, which is 12% below the national average. In comparison, nurses in Cedar Rapids, IA earn an average base salary of \$42.13 per hour (Indeed, 2024).

The significant wage gap between Lucas County and other counties contributes to job dissatisfaction, making it difficult to maintain a stable healthcare workforce in this area. To improve workforce conditions and opportunities, information gathered from the Iowa Rural Healthcare Workforce Initiatives aims to support the healthcare workforce by developing competitive salary and incentive programs to motivate healthcare workers to stay in these positions (Iowa Workforce Development, 2022).

Also, expanding scholarship programs aimed at attracting new healthcare professionals to rural areas. These efforts not only encourage people to come work in Lucas but also support those who choose to remain within the community (Iowa Workforce Development, 2022). During a recent community presentation on rural health, Brian Sims, CEO of the Lucas County Health Center, outlined its strategies for fundraising to reinvest back into facility equipment and programs, ultimately aiming to improve the experience for patients, families, and healthcare workers at the hospital. One key opportunity to enhance recruitment and retention efforts includes “Shirley’s Promise,” a scholarship established by Brian Sims to award scholarships to Lucas Health employees seeking to further their healthcare education. To date, this program has awarded \$7,500 in scholarships, with plans for additional awards in the upcoming year (Lucas County Health Center, 2024). This is a great initiative and opportunity to attract new and retain current healthcare, making it appealing for anyone who wants to continue their education.

Beyond increasing financial incentives, addressing healthcare workforce challenges in Lucas County involves understanding the needs of the community. During a recent community presentation on rural health, Mary Grismore, nurse administrator from Lucas County Public Health, provided great information about the ongoing community health needs assessment conducted in partnership with the Lucas County Health Center (LCHC) (Lucas County Health Center, 2023). The assessment aims to identify and address the top health concerns the community is facing, such as mental health, insurance gaps, transportation needs, skin cancer, and blood pressure management. Mental health being the number one concern, their goal is to host three community education events each year over the next five years.

These events will include mental health first aid training with programs like “Handle with Care” an Narcan training, along with outreach efforts to healthcare professionals and law enforcement (Lucas County Health Center, 2023). This proactive approach to understanding and addressing local healthcare needs fosters a collaborative environment which can help attract healthcare professionals who want to work in a community-based environment while also addressing the community health needs.

In response to COVID-19, Lucas County Health Center (LCHC) Medical Clinic introduced telehealth services, providing patients with a safe and convenient way to schedule and attend appointments through phone or video calls with the help of LCHC representatives helping patients in setting up telehealth appointments. This service not only improves access to healthcare but also creates more job opportunities, strengthening and growing the healthcare workforce in Lucas County, IA (Lucas County Health Center, 2020).

Collectively, these efforts from the Iowa Rural Healthcare Workforce Initiatives, the scholarship program led by Brian Sims, CEO of the Lucas County Health Center, and Lucas County Public Health's focus on mental health reflects Lucas County's mission to address healthcare needs. By investing in the healthcare workforce and addressing community health challenges, these efforts support both improved health outcomes and healthcare workforce stability.

Healthcare Workforce Development for Highschool Students

Lucas County, Iowa, is a rural community that faces unique challenges in preparing its high school students for future careers. With a population that relies heavily on healthcare, social services, and local industries, the county's workforce development programs must address immediate employment needs and long-term community health goals. Aligning these efforts with the Healthy People 2030 objectives helps Lucas County set benchmarks for success in both workforce readiness and public health outcomes.

One objective, AHS-R01: Increases the ability of primary care and behavioral health professionals to provide high-quality care and highlights the necessity of a well-prepared workforce in healthcare sectors, particularly in underserved areas (Healthy People 2030, 2024). Workforce initiatives in Lucas County focus on increasing the availability of qualified healthcare providers and ensuring that high school students gain exposure to and training in fields where demand is high, such as primary and behavioral healthcare. Additionally, with a recognized State Apprenticeship Agency (SAA) designation, the Iowa Office of Apprenticeship (IOA) supports high school students in accessing registered apprenticeship programs that can lead to certified qualifications upon graduation, providing a robust entry point into critical sectors like healthcare (Iowa Workforce Development, 2024).

Lucas County offers several programs designed to support high school students in career development and encourage a pipeline of skilled professionals to meet the county's specific workforce needs. The Lucas County Health Center (LCHC), for example, provides various resources aimed at career development and healthcare skill acquisition for young people (Lucas County Health Center, 2024). Through work-based learning opportunities, students gain hands-on experience in healthcare settings and can benefit from mentorship by practicing professionals, a practice that not only enhances job readiness but also fosters an interest in healthcare fields among local youth.

As Iowa increasingly invests in apprenticeships, Lucas County can leverage programs through the IOA that introduce high school students to career pathways in high-demand industries, such as healthcare, which includes primary and behavioral health roles. With the IOA's state recognition, registered who aren't in school or working (Healthy People 2030, 2024). This is particularly important in Lucas County, where attracting and retaining healthcare workers is an ongoing challenge due to rural location and wage disparities. Programs that offer students competitive salaries, scholarships, or loan repayment incentives for postsecondary education can serve as effective tools to not only attract youth to healthcare careers but also retain them in the community long-term.

Apprenticeship programs are overseen and regulated to meet industry standards, providing quality learning opportunities that prepare students to meet the high demand for healthcare professionals locally. This correlates with objective AH-09: Reduce the proportion of

adolescents and young adults. In Lucas County, workforce development programs for high school students are increasingly aligned with Healthy People 2030 goals, particularly around providing access to mental health services.

The SU-18 objective, which focuses on reducing opioid use disorder, drives local initiatives that integrate mental health education and substance use prevention into student programs (Healthy People 2030, 2024). The county provides resources in surrounding areas to ensure its residents can receive the help they need. Collaborating with Iowa Health and Human Services (Iowa HHS), local schools introduce Narcan training and opioid awareness programs for students. This initiative educates youth on recognizing signs of overdose, using Narcan effectively, and understanding the broader impacts of opioid misuse (Iowa HHS, 2024). Such programs prepare students not only to assist in emergencies but also to consider careers in behavioral health, fostering a potential future workforce to meet local mental health demands. By engaging students in mental health awareness and substance use prevention, Lucas County aligns with Healthy People 2030 objectives and builds a more informed, resilient community prepared to address critical health challenges.

Workforce development programs for high school students in rural areas like Lucas County are essential to achieving broader public health and community goals. Through strategic partnerships, such as those fostered by the IOA, and support for healthcare-focused training initiatives, the county can address critical objectives within Healthy People 2030. By expanding access to high-quality healthcare training and mental health awareness programs, Lucas County is investing not only in the future of its youth but also in the overall health and resilience of its community. These efforts underscore the importance of a targeted approach to workforce development, particularly in underserved, rural communities where the health and well-being of residents depend on a robust, well-trained, and locally rooted workforce.

Healthy People 2030 Objectives

AHS-R01: Increase the ability of primary care and behavioral health professionals to provide more high-quality care to patients who need it (Office of Disease Prevention and Health Promotion, n.d.). In Lucas County, IA, the high demand for healthcare professionals, wage disparities, and increased mental health needs within the community highlight the need to improve workforce conditions. Improvements through competitive salaries and scholarship programs for continued education for employees can increase job satisfaction and retention. By attracting and retaining healthcare professionals, these improvements support the ability of healthcare providers to deliver high-quality care to patients in need.

SU-18: Reduce the proportion of people who had opioid use disorder in the past year (Office of Disease Prevention and Health Promotion, n.d.). Reducing the number of people with opioid use disorder is one of the objectives for the Public Health Department in Lucas County, IA. To achieve this goal, the Public Health Department aims to focus on increasing mental health screenings and services, which includes community education on Narcan use and collaborating with school systems to raise awareness about the dangers of opioids for the next five years. These efforts provide support for those at risk but also contribute to a more informed community that is better prepared to address opioid issues, ultimately reducing the prevalence of opioid use.

AH-09: Reduce the proportion of adolescents and young adults who aren't in school or working (Office of Disease Prevention and Health Promotion, n.d.). This objective focuses on connecting young people to education and job opportunities, which are crucial for long-term well-being and economic stability. By addressing barriers like mental health challenges, lack of access to training, and economic hardships, AH-09 seeks to help more youth stay in school or secure meaningful employment. This not only supports individual growth but also contributes to healthier, more resilient communities and a stronger workforce.

Nursing Diagnosis Supported by the Healthy People 2030 Goal

Readiness for enhanced community coping related to efforts to improve healthcare workforce shortages and access to quality healthcare services as evidenced by increased community engagement in health initiatives, support for local healthcare education programs, and the implementation of workforce development programs for high school students that foster interest in healthcare careers.

Evidence-Based Recommendations

There are a few ways we can use the MDH intervention wheel to help build a pipeline for future nurses and address the need for high school nursing education pathways in small counties in Iowa like Lucas County. The first recommendation is collaboration to establish dual enrollment healthcare courses so students can earn college credits while still in high school. Dual enrollment programs can effectively prepare students for higher education and provide an early introduction to healthcare careers, reducing time and costs for degree completion (Doyle, 2012).

Another intervention involves advocacy to secure funding for nursing scholarships specifically targeted at students in rural areas. Financial barriers are often significant obstacles to overcome when pursuing higher education. However, evidence shows that scholarships and financial aid significantly increase enrollment in nursing programs (Rober Wood Johnson Foundation, 2014). By collaborating with local healthcare facilities and community organizations, advocates could establish scholarship funds that support students who commit to returning and working in the county after graduation.

Lastly, and the third recommendation is case management through dedicated career counseling and support services that help students navigate the complexities of nursing pathways, from application processes to understanding financial aid options. High school counselors trained in healthcare career pathways can provide individualized guidance, which research shows is effective in supporting students' educational goals and improving retention in nursing programs (American Association of Colleges of Nursing [AACN], 2020). Counselors could meet regularly with interested students, helping them set realistic goals and stay informed about the prerequisites and requirements for nursing education.

Collaboration Opportunities

Collaborator: Lucas County Health Center

Potential Contribution: Work with LCHC to develop job shadowing, internship, and volunteer opportunities for high school students. This direct exposure to healthcare roles will provide students with hands-on experience, allow them to learn from healthcare professionals, and help them understand the career opportunities available in their community.

Collaborator: Lucas County Public Health Department

Potential Contribution: Collaborate with the Public Health Department to offer educational sessions on public health and job shadowing opportunities for students interested in community health. This partnership will help students gain a better understanding of public health's role and explore careers in fields like epidemiology, health education, and environmental health.

Collaborator: South Central Iowa Workforce Development Board

Potential Contribution: Collaborate with the local workforce board to secure grants and funding for healthcare training programs, which may include apprenticeships or paid internships. This support should be focused on students from Lucas County who are interested in pursuing careers in healthcare, making these pathways more accessible and financially feasible.

Conclusion

In conclusion, while Lucas County faces significant challenges related to limited resources, workforce shortages, and access to healthcare and educational support, the community demonstrates resilience through various available programs and initiatives. By leveraging the insights provided by Ryan Murphy, Nicki Schultz, and Mary Grismore, this report highlights the strengths within Lucas County, including workforce development, health resources, and educational programs that aim to uplift the community. These resources not only meet immediate needs but also create a foundation for long-term improvement in health, education, and economic stability. Through continued collaboration and support from local, state, and federal resources, Lucas County is well-positioned to enhance the quality of life for its residents, encouraging a stronger, more connected community.

References

- American Association of Colleges of Nursing (AACN). (2020). Guiding future nurses: AACN's support for career counseling and mentorship programs.
- Doyle, W. R. (2012). The benefits of dual enrollment: How programs improve college readiness and success for all students. *Community College Journal of Research and Practice*, 36(11), 806-809.
- Indeed. (2024b). Nurse hourly salaries in Chariton, IA at Lucas County Health Center. Indeed. <https://www.indeed.com/q-Lucas-County-Health-Center-l-Chariton,-IA-jobs.html>
- Iowa Workforce Development. (2022, October 9). Iowa Rural Healthcare Workforce Initiative. Iowa Workforce Development. <https://workforce.iowa.gov/>
- Lightcast Data Set. (2024, September). Economy Overview. Lucas County.
- [Job_Posting_Analytics_Lucas_County_IA_385.pdf](#)
- Lucas County Health Center. (2024, July 9). LCHC Foundation Awards Shirley's Promise Scholarship.
- Lucas County Health Center: Chariton, Iowa. <https://www.lchcia.com/news/lchc-foundation-awards-shirleys-promise-scholarship-to-kaylee-whitley/>
- Lucas County Health Center. (2020, May 7). LCHC Medical Clinic now offering appointments from Home.
- Lucas County Health Center, Medical Center: Chariton, Iowa, <https://www.lchcia.com/news/lchc-medical-clinic-now-offering-appointments-from-home/>
- Lucas County Health Center. (2024, March 20). National Rural Health Day Community Presentation.
- Office of Disease Prevention and Health Promotion. (n.d.). Increase the ability of primary care and behavioral health professionals to provide more high-quality care to patients who need it. Healthy People 2030. U.S. Department of Health and Human Services. <https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/health-care/increase-ability-primary-care-and-behavioral-health-professionals-provide-more-high-quality-care-patients-who-need-it-ahs-r01>
- Office of Disease Prevention and Health Promotion. (n.d.). Reduce the proportion of people who had Opioid use disorder in the past year. Healthy People 2030. U.S. Department of Health and Human Services. <https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/drug-and-alcohol-use/reduce-proportion-people-who-had-opioid-use-disorder-past-year-su-18>
- Robert Wood Johnson Foundation. (2014). Nursing's role in building a culture of health.

Monroe County Care Plan

Team Members: Haley Dickey, Stephanie Pedersen, & Leah Simerson

Introduction

This report consists of research regarding opportunities for workforce and educational improvement within Monroe County. We selected three goals relevant to Healthy People 2030 goals and applied these to Monroe County, while also taking into account challenges and ways to achieve these goals. Lastly, relating is back to nursing, we supplied three nursing diagnoses for each goal for Healthy People 2030.

1. Gap Analysis: Healthcare Workforce Gaps

Opportunities to improve working conditions and job satisfaction for healthcare professionals:

- Monroe County Hospital is currently looking for 2 RNs for their medical clinic, and 1 for outpatient clinic and surgery. For their emergency department, they need a paramedic and a physical therapist position that they have not been able to fill for over a year due to the increasing growth in their rehabilitation department.
- Employing travel nurses may increase work satisfaction among staff as it can help fill gaps in staffing and lighten their workload.
- Offering massages or lounges for staff to spend time in during breaks could allow for healthcare providers time to relax and get away from a busy work area.

Opportunities to enhance recruitment and retention efforts:

- Currently the hospital works with IHCC, DMU, and University of Iowa to have students complete internships and clinical hours at their hospital.
- The hospital also works with high schools in the community for student observation hours and traveling for presentations on career days.
- Currently the hospital is also offering tuition reimbursement for staff.
- Partnering with Indian Hills Community College would be beneficial to try and recruit more healthcare providers. The community college offers a Licensed to Practice Nurse program and an Associate's Degree in Nursing. This could allow more students to experience the hospital environment for clinicals and job shadows.
- Monroe County Hospital could also partner with online nursing programs and be a site where nursing students can come to achieve clinical hours and experience.

Opportunities that leverage technology to improve healthcare access and delivery:

- Monroe County Hospital is currently making changes to accommodate MRI machines in house to provide better quality of care.
- The hospital has updated their inpatient rooms to zero pressure rooms for patients with respiratory illnesses.

- The hospital uses Language Lines for patients with a different primary language. I would suggest having one or two in-person interpreters as it is easier to communicate longer and more intricate instructions and information.
- Telehealth could be a great way to improve healthcare access to more people within the community.

2. Gap Analysis: Healthcare Workforce Development for High school students

Opportunities

Opportunities to enhance recruitment and retention of healthcare workers could be to provide pay differentials and salary incentives for those working at Monroe County Hospital or any other community health resources in the county. A partnership with an educational institution, such as Indian Hills Community College, would boost nursing staff at Monroe County Hospital and allow students to gain experience at a rural hospital. A program such as a summer 10-week internship program allows for students to expand their nursing knowledge while also helping them make connections for future employment at the hospital. Another opportunity currently being adapted at the University of Iowa to boost recruitment and retention is offering paid internships with a hiring bonus on the units for students.

Lori Kielkopf, the Associate Dean of Health Sciences at Indian Hills Community College, states that health care courses are offered through the community college. Kielkopf also explained that CNA courses are limited and unable to be offered over the summer as the college has had difficulty finding a professor to teach the course. An online distance CNA course with in-person clinical and skill days would cover this gap. Other continuing education courses available for students are offered through Indian Hills Community College and require students to travel for courses. Distance learning and online classes would allow students to take the courses from home and only travel for practicum.

3. Healthy People 2030 Objectives

- Reduce the proportion of people who cannot get medical care when they need it
 - Objective Number: AHS-04 (U.S. Department of Health and Human Services, n.d.).
 - Access to healthcare in rural communities is a social determinant of health that has a large impact on health outcomes. In Monroe County, there are a limited number of healthcare facilities that specialize in management of chronic illnesses, mental health, and substance abuse. With the aging population of Monroe County, there is an increased demand for health care services for chronic illness management. Without these services, there is decreased access to healthcare services when citizens need them. Citizens in Monroe County experience barriers to accessing health care such as lack of insurance. By providing resources for these people, access to healthcare can be increased.

- Reduce the number of diabetes cases diagnosed yearly.
 - Objective number: D-01 (U.S. Department of Health and Human Services, n.d.).
 - 12% of the population in Monroe County have diabetes, which is 2% higher than the state average. Reducing the number of people diagnosed with diabetes through healthy diets, education, and physical activity will improve overall health and reduce the comorbidities of people living in Monroe County. Education will also aid in the management of those already diagnosed with diabetes.
- Increase the proportion of people with substance use and mental health disorders who get treatment for both (U.S. Department of Health and Human Services, n.d.).
 - Objective Number: MHMD-07
 - Monroe County has increasing rates of mental health and substance use disorders with limited resources available to people in the community. Increasing the number of individuals who are treated for mental health and substance use disorders would decrease the rates occurring in the county. This would also reduce the strain that is being placed on the existing resources.

4. Develop a population focused Nursing Diagnosis (that is supported by the Healthy People 2030 goal)

- Risk for delayed diagnosis and treatment among residents of Monroe County related to limited access to specialized healthcare services, such as chronic care, end-of-life care, and geriatric care as evidenced by increased hospital readmission rates and reliance on emergency department services for non-urgent conditions (Flynn Makic & Martinez-Kratz, 2023).
- Impaired glucose regulation among residents of Monroe County is related to lack of education for preventative care as evidenced by the increased prevalence in Monroe County (Flynn Makic & Martinez-Kratz, 2023).
- Ineffective health maintenance behaviors post-injury/post-operatively as evidenced inadequate rehabilitation services related to an understaffed department and increased demand for physical therapy services at Monroe County Hospital and Clinics (Flynn Makic & Martinez-Kratz, 2023).

5. Community Engagement

Summary of Interviews Conducted

- Lori Kielkopf, Associate Dean of Health Sciences at Indian Hills Community College. Email interview conducted on October 31st, 2024.

Indian Hills Community College offers high school students healthcare programs and certification options to prepare them for local workforce demands. Programs include Medical Lab Assistant and Phlebotomy, with introductory courses in Occupational Therapy Assistant and Physical Therapy Assistant. Five regional Health Sciences Academies further support students by providing general health science foundations. High school students can earn certifications in Phlebotomy, Medical Lab Assistant, and Certified Nurse Assistant (CNA).

Local workforce needs are driving the college's emphasis on healthcare related careers due to the high demand. To help students transition from high school to college programs, the college provides admissions guidance, orientations, tutoring, and study skills support.

Partnerships with local healthcare providers allow for clinical placements, career fairs, and guest speaking opportunities, which strengthen the student's career development. While local healthcare providers show high, steady interest in hiring program graduates, there are some barriers to program availability. Challenges include difficulties in finding instructors for CNA courses, which limits the program's reach, and funding constraints that prevent offering CNA courses in the summer.

The college views itself as a crucial resource in training rural healthcare workers. By making healthcare education accessible, it helps students begin affordable career paths in healthcare, with the hope they will remain in their local areas after graduating, supporting rural community health needs.

Insights on Healthcare Access

Residents in Indian Hills Community College service area face challenges related to healthcare access and workforce shortages. The demand for nursing professionals is particularly high, suggesting a gap in local healthcare services where trained professionals are needed. Barriers to accessing healthcare education include a shortage of instructors for CNA programs, which limits program availability outside specific regional health academies. Additionally, funding issues have restricted the expansion of summer healthcare courses, impacting student's ability to take these programs year-round. These challenges highlight a need for more resources to address the local demand for healthcare training, which impacts the overall availability of healthcare services in these communities.

Insights on Education and Workforce Needs, Insights on Partnerships

The community needs to recognize the importance of healthcare education for sustaining a skilled local workforce which is in high demand. Seeing the value Indian Hills Community College healthcare education pathways and partnerships provide to local students is key to community buy-in for these programs. Opportunities like these directly link students to local employment. To improve healthcare workforce development, suggestions include addressing the instructor shortage to expand CNA course offerings and securing additional funding to support summer courses. Increasing access to training and certification opportunities for high school students would build the healthcare workforce needed in Monroe County.

6. Evidence-Based Recommendations (Community/Population Intervention)- MDH Intervention Wheel

- **Collaboration Wedge** - Collaboration with high schools for career days to provide education about healthcare careers. Research shows that when students have earlier engagement in nursing or healthcare careers paths it will increase recruitment for education programs and hospitals (Davis, 2023). Glenda Archer, a Human Resources Generalist at Monroe County Hospital and Clinics, states they are active in career days at local high schools and are currently looking to expand to middle schools soon. Indian Hills Community College also offers an annual career fair to expose students to possible health care careers.
- **Counseling Wedge** - Counselors can help students determine a pathway depending on their interests. Academic advising for high school students has been shown to increase preparedness and motivation for high school students advancing to post-secondary education (Oripova, 2022). When incorporating college credit courses into the high school curriculum, it is very beneficial in increasing retainment and success in these courses (Oripova, 2022). Specifically, Indian Hills utilizes an admissions representative who guides students through every step of the Admissions process, including Accuplacer and/or the Test of Essential Academic Skills (TEAS) test. They also have mandatory orientations for each program to help students navigate program policies and expectations, as well as e-textbooks and program utilized software. This ensures students can successfully transition from high school to post-secondary program.
- **Outreach Wedge** - Guest speakers such as nurses, nursing students, doctors, physical therapists, etc. can offer a window into their daily lives, schooling, and costs. Currently there is a lack of knowledge surrounding perception and roles of nurses in particular (Davis, 2023). Therefore, implementing guest speakers can help provide insight and answer some of these questions. Indian Hills Community College

frequently host guest speakers to speak on their career experience in healthcare and why these career pathways are crucial to expand within their community.

7. Explore Collaboration Opportunities

Collaborator: Indian Hills Community College Career Academy at Albia High School and Moravia High School

Potential Contribution: Strengthen partnerships with the Indian Hills Career Academy at local school districts to expand dual-enrollment opportunities, allowing students to earn certifications in fields like Medical Lab Assistant, Phlebotomy and CNA while still in high school. These academies could serve as starting points for early healthcare training, creating a larger and more prepared pool of healthcare workers for local employers.

Collaborator: Monroe County Hospital and Clinics

Potential Contribution: Partner with the local hospital and clinics to provide hands-on clinical experiences and internships for high school students enrolled in healthcare programs. This collaboration could offer students real-world experience, build practical skills, and strengthen interest in healthcare careers. It could also build mentorship from healthcare professionals, encouraging students to pursue employment in their own community after graduation. Expanding scholarships and/or tuition reimbursement programs for high school students pursuing healthcare certifications. These resources would make healthcare education more accessible to a broader range of students, particularly those in rural areas, helping to address workforce shortages by reducing financial barriers to entering the field.

Collaborator: Local Nursing Homes and Assisted Living Facilities

Potential Contribution: Partner with local nursing homes and assisted living facilities to create CNA training sites specifically for high school students. This collaboration could help address instructor shortages and meet community needs for trained CNAs by establishing accessible training locations. In addition, it would allow students to gain experience in elder care and other essential areas of healthcare. This would also create a workforce familiar with this healthcare setting, encouraging them to work there after completing certifications.

8. Conclusion

Monroe county hospital is currently facing nursing gaps in their medical clinic, outpatient clinic, and surgical areas. They also need a paramedic and physical therapist. We propose the implementation of travel staff, summer ten programs, and in-house interpreters for increased staff satisfaction, additional recruitment, and improvement of healthcare access

respectively. We selected three goals from Healthy People 2030 to apply to Monroe County, increase access to healthcare, decrease diagnoses of diabetes, and increase treatment for mental health with challenges such as decreased medical clinic availability and lifestyle diet choices. Solutions for these included increasing accessibility either through more clinics or telehealth and providing education regarding diet and lifestyle choices for diabetes prevention and treatment.

Engaging high school students is imperative for growing the local workforce in all areas of healthcare. Through job shadows and nursing assistant programs available students receive ample opportunities to shadow different careers and experiences that may interest them in the healthcare field. Providing education to high school students regarding different careers available can increase their knowledge and push them to consider other career paths.

References

Davis, R. (2023). Improving nursing education recruitment through early exposure to nursing careers among high school students. ProQuest.

<https://www.proquest.com/docview/2825115804?fromopenview=true&pq-origsite=gscholar&sourcetype=Dissertations%20&%20Theses>

Flynn Makic, M. B. & Martinez-Kratz, M. R. (2023). Ackley and Ladwig's Nursing Diagnosis Handbook (13th ed.) Elsevier.

Oripova, M. (2022). The impact of intrusive college academic advising on high school students' college degree attainment commitment levels: A quantitative quasi-experimental study. Elsevier. <https://doi.org/10.1016/j.ssaho.2022.100315>

U.S. Department of Health and Human Services. (n.d.-b). Increase the proportion of people with substance use and mental health disorders who get treatment for both (MHMD-07). Healthy People 2030. <https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/education-access-and-quality/increase-proportion-high-school-graduates-college-october-after-graduating-sdoh-06>U.S. Department of Health and Human Services. (n.d.-c). Increase the use of telehealth to improve access to health services (AHS-R02). Healthy People 2030. <https://odphp.health.gov/healthypeople/objectives-and-data/browse->

U.S. Department of Health and Human Services. (n.d.-b). Reduce the number of diabetes cases diagnosed yearly. Healthy People.

<https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/diabetes/reduce-number-diabetes-cases-diagnosed-yearly-d-01>

U.S. Department of Health and Human Services. (n.d.-b). Reduce the proportion of people who can't get medical care when they need it. (AHS-04). Healthy People 2030.

<https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality/reduce-proportion-people-who-cant-get-medical-care-when-they-need-it-ahs-04>

Poweshiek County: Demographics, Healthcare Access, and Educational Pathways

Bella Heidesch, Anna Hernandez, and Allyson Steffensmeier

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 (2022) 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 21st, 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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References

- Brook, J., Aitken, L. M., MacLaren, J. A., & Salmon, D. (2021). An intervention to decrease burnout and increase retention of early career nurses: A mixed methods study of acceptability and feasibility. *BMC Nursing*, 20(1), 19–19.
<https://doi.org/10.1186/s12912-020-00524-9>
- Carver College of Medicine. (n.d.). MD program: CCOM rural Iowa scholars program. University of Iowa. Retrieved October 27, 2024, from
<https://medicine.uiowa.edu/md/curriculum/ccom-rural-iowa-scholars-program-crisp/program-description>
- County Health Rankings & Roadmaps. (2024a). Internet-based tobacco cessation interventions. University of Wisconsin Population of Health Institute, Robert Wood Johnson Foundation. Retrieved October 27, 2024, from
<https://www.countyhealthrankings.org/strategies-and-solutions/what-works-for-health/strategies/internet-based-tobacco-cessation-interventions>
- County Health Rankings & Roadmaps. (2024b). Text message-based health interventions. University of Wisconsin Population of Health Institute, Robert Wood Johnson Foundation. Retrieved October 27, 2024, from
<https://www.countyhealthrankings.org/strategies-and-solutions/what-works-for-health/strategies/text-message-based-health-interventions>
- Data USA. (n.d.). Poweshiek County, IA. Retrieved September 21, 2024, from
<https://datausa.io/profile/geo/poweshiek-county-ia?clinicalCareOptions=accessQualityOption>
- Essence of Life Hospice. (n.d.). Our services. Retrieved October 24, 2024, from
<https://essencehospice.com/>
- Iowa Rural Healthcare Workforce Connection. (n.d.). Individual loan repayment & scholarship programs. Retrieved October 27, 2024, from
<https://www.iowaruralworkforce.org/individual-loan-repayment-and-scholarship-programs.html>
- Jackson Physician Search. (2022). Rural physician recruitment and staffing survey results: Strategies for recruiting physicians to work in rural healthcare. Retrieved October 27, 2024, from <https://www.jacksonphysiciansearch.com/white-papers/white-paper-rural-physician-recruitment-and-staffing-survey-results/>
- National Agricultural Statistics Service. (2017). 2017 Census of agriculture county profile: Poweshiek County, Iowa. United States Department of Agriculture. Retrieved October 27, 2024, from
[https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Cou n ty_Profiles/Iowa/cp19157.pdf](https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Iowa/cp19157.pdf)

Office of Disease Prevention and Health Promotion. (n.d.). Healthy people 2030. U.S. Department of Health and Human Services. Retrieved October 28, 2024, from <https://odphp.health.gov/healthypeople>

Poweshiek County. (2024). About: Communities. Retrieved September 21, 2024, from <https://poweshiekcounty.org/about/communities/>

Rural Health Information Hub. (2024a). Recruitment and retention for rural health facilities. Retrieved October 30, 2024, from <https://www.ruralhealthinfo.org/topics/rural-health-recruitment-retention>

Rural Health Information Hub. (2024b). Telehealth and health information technology in rural healthcare. Retrieved October 27, 2024, from <https://www.ruralhealthinfo.org/topics/telehealth-health-it#impact-of-technology>

Temple, K. M. (2020). Burnout: Measurement tool(s), cause(s) and impact(s). Rural Health Information Hub. Retrieved October 27, 2024, from <https://www.ruralhealthinfo.org/rural-monitor/burnout-measurement>

United States Census Bureau. (n.d.). Poweshiek County, Iowa. U.S. Department of Commerce. Retrieved September 21, 2024, from https://data.census.gov/profile/Poweshiek_County,_Iowa?g=050XX00US19157#populations-and-people

UnityPoint Health. (2022). 2022 community health needs assessment: Poweshiek County, Iowa. UnityPoint Health Grinnell Regional Medical Center, PRCC Custom Research. Retrieved October 23, 2024, from <https://uph-p-001-delivery.sitecorecontenthub.cloud/api/public/content/CHNA-Poweshiek-County-2022?v=f656d1e5>

UnityPoint Health. (n.d.-a). Careers. Retrieved September 21, 2024, from https://careers.unitypoint.org/results?paged=1&view=nav&summary_category=results

UnityPoint Health. (n.d.-b). Launching medical careers to new heights. Retrieved October 27, 2024, from <https://www.unitypoint.org/join-our-team/medical-education-and-career-growth/career-launch>

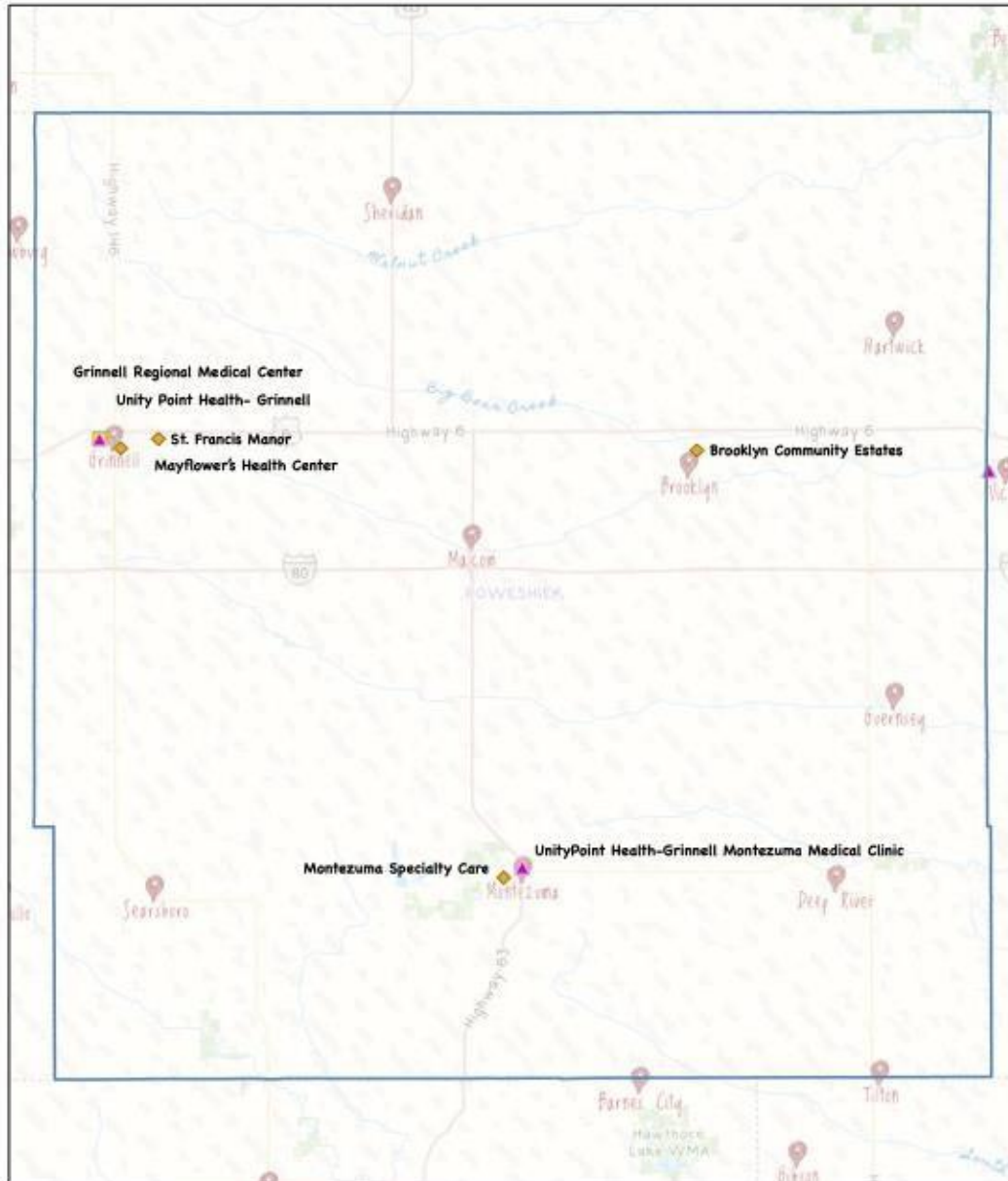
UnityPoint Health. (n.d.-c). Senior student promise program at Finley Hospital. Retrieved October 27, 2024, from <https://www.unitypoint.org/join-our-team/medical-education-and-career-growth/senior-student-promise-program-finley-hospital>

UnityPoint Health. (n.d.-d). UnityPoint Health-Grinnell Regional Medical Center. Retrieved October 24, 2024, from <https://www.unitypoint.org/locations/unitypoint-health---grinnell-regional-medical-center>

Appendices

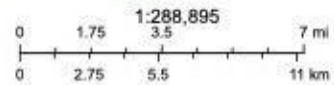
Appendix A: Map of Healthcare Facilities in Poweshiek County, Iowa

HRSA Map



10/20/2024

- ◆ Skilled Nursing Facility - Dually (CMS)
- ▲ Rural Health Clinics (CMS)
- Hospitals (CMS)



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Tama County Community Care Plan

Mallory Hollub, Van Zathang, & Livy Lansing

Abstract

Tama County is a smaller county located in Central Iowa and is currently ranked 85 of 99 among the least healthy counties within the state of Iowa. Some of the most significant health needs within the county include addressing obesity and physical inactivity, elderly wellness, access to care, and mental health, including substance abuse. Tama County does not have contain any hospitals or urgent care centers. There are 4 medical clinics in Tama County, two assisted living homes, and a county public health office with home health services. These organizations have to cover the healthcare needs of the whole county. Tama county has five secondary schools, but there are no community colleges located within the county. However, there are community colleges in nearby counties which offer many healthcare-related training and educational opportunities. High school students in Tama are required to complete physical education classes and health education classes to graduate.

There are three workforce development programs within the county which help the community members with skill building, financial literacy, and job opportunities. However, it is evident that increased educational and professional opportunities are needed to enhance recruitment and retention to strengthen the healthcare workforce in Tama. Recommendations to improve workforce development within Tama may include maintaining partnerships with academic institutions, providing high school students opportunities to explore healthcare careers, providing opportunities for online or distance learning, providing financial incentives, developing mentorship partnerships, and ensuring compulsory service requirements in rural settings.

Introduction

Purpose of the Report

In order to address the health needs of Tama County, it is necessary to utilize a community and public health perspective to first identify where the county's greatest disparities exist. In the broadest sense, the mission of public health is to fulfill societal interest in assuring conditions in which health promotion, disease prevention, and the reduction of health inequities can be achieved (Institute of Medicine, 1988). In order to carry out effective public health action, it is essential to understand the distribution of health problems and the interplay of factors, such as social determinants of health, that impact populations of interest. Such initiatives may involve collecting health statistics, the development of disease prevention programs and health services, providing health and risk-reduction education to citizenry, enhancing access to care, and abating health hazards (Institute of Medicine, 1988). The purpose of this report is to provide a gap analysis and present recommendations for Tama County's healthcare workforce.

1. Gap Analysis: Healthcare Workforce Gaps

It is evident that there are some gaps in Tama County's healthcare workforce. Tama County only has 1 physician per 4,210 people, 1 dentist per 3,360 people, and 1 mental health provider per 2,800 people, and other similar gaps in healthcare (Public Health Office - Tama County Government – Iowa, n.d.). These ratios may be explained by the fact that Tama County is rurally located. In this way, Tama's rurality may create transportation barriers for healthcare professionals, limited access to healthcare resources, and limited opportunities for growth in the healthcare field. There are no incentives to work in this rural county, and there is not a lot of population movement to the county (Public Health Office - Tama County Government – Iowa, n.d.).

Opportunities

One recommendation from the WHO on improving retention of healthcare workers in rural areas is to "Ensure compulsory service requirements in rural and remote areas are accompanied with appropriate support and incentives so as to increase recruitment and subsequent retention of health professionals in these areas" (World Health Organization, 2010). This suggests that there is an obligation for providers to serve in a rural area before they can practice elsewhere. This could be imposed by the government or a policy by a healthcare teaching institution. Other incentives could also be used to improve the retention of rural healthcare workers, such as bonuses, travel vouchers, paid vacation time, or housing stipends. Even if these workers are only in the area for a short amount of time, they will still increase access to healthcare for the rural population significantly.

Some evidence-based policy options to improve job satisfaction for healthcare professionals is to remove barriers to practice, allowing new or alternative provider types to practice in rural areas such as telehealth or nurse practitioners, expanding nurses existing scopes of practice, and speeding up licensure of new healthcare professionals and reactivating expired licenses. This could mean something as simple as allowing telehealth services to be provided across state lines for certain services (Rural Healthcare Workforce Overview n.d.).

Patients living in rural areas often need to travel long distances in order to receive primary care and specialized care services. Due to Tama's rural location and limited access to healthcare resources, telehealth is a promising option when seeking to reduce healthcare disparities experienced by residents living within the community. Telehealth can help to improve healthcare access for residents living in Tama by providing healthcare services remotely. This ultimately can enhance rural residents' ability to have improved access to preventative care, reduce hospitalizations, and reduce travel time (Sherya et al., 2022). As telehealth is not new to many rural communities' patients' perception of telehealth is positive when assessing health care and increase value to provider's clinical practice (David et.al., 2023).

By supporting the growth of healthcare education programs with rurally oriented curricula, more education programs within the country could be developed with a focus on rural health. Online education programs for nurses to advance their career opportunities like LPN to RN programs or online nurse practitioner programs is another way to utilize distance learning to increase the number of healthcare providers in rural areas. These rural residents won't have to travel long distances just to go to school (Rural Healthcare Workforce Overview n.d.). Other options could be to give state loan repayment/forgiveness options to existing personnel to incentivize them to stay longer in rural areas. Other ideas are faculty loan repayment programs, tax benefits, or other incentives to get existing workers to either expand their license through online programs or bring in new workers by making the work environment more inviting (Rural Healthcare Workforce Overview n.d.).

2. Gap Analysis: Healthcare Workforce Development for High school students

Opportunities

According to Ellen Waterbury, an interviewee and school nurse at South Tama County High School, students can take CNA courses through Iowa Valley Community College (IVCC) and Marshalltown Community College (MCC) (E. Waterbury, personal communication, October 18, 2024). This allows students to gain valuable healthcare work experience, develop skills that are transferable to other healthcare roles, and have enhanced applications when applying to healthcare programs upon high school graduation. Other than these opportunities, it is evident that Tama County's rurality is a county's high school

limitation when it comes to healthcare workforce development for high schoolers. It is important to note that healthcare professionals who live in rural areas like Tama may encounter challenges, including “limited access to educational resources, lack of reliable internet connectivity, geographical isolation, and limited availability of specialized training programs and instructors” (Mahdavi-Ardestani et al., 2023). For this reason, the students may benefit from online or distance learning programs to provide them with flexible and accessible opportunities for training and educational and professional development (World Health Organization, 2010).

To enhance recruitment and retention within the county, it is important for high schools in Tama to continue making partnership agreements with the community colleges in nearby areas. This is important, for “collaborating with community partners and focusing on pathways for underserved populations may bring greater employment equity while improving diversity” (Dawkins, 2021). Such collaborations will provide high school students and graduates with the ability to obtain college credit and career training opportunities within healthcare and wellness fields. College credit and healthcare-related career area programs offered through MCC include nursing, medical office practitioner, medical assisting, psychology transfer, and dental assisting (Iowa Valley Community College District, n.d.). Collaborating with nearby community colleges may also benefit students due to opportunities for mentorship. This is important considering that students with influential mentors can aid in both the recruitment and retention in nursing (Dawkins, 2021).

Using fiscally sustainable financial incentives has been shown to increase the retention of rural health workers (World Health Organization, 2010). Financial-related interventions are important to consider, for “several studies point to salaries and allowances as two of the key factors that influence health workers’ decisions to stay in or leave a rural workplace” (World Health Organization, 2010). To promote increased recruitment and retention of health workers, it is important to combine financial incentives with other interventions, including safe and supportive healthcare working environments (World Health Organization, 2010). For high school students, financial incentives or scholarships can help to alleviate the financial burden associated with pursuing a career within the healthcare field. Additionally, a more diverse healthcare workforce can be fostered by providing underserved students with financial assistance.

3. Healthy People 2030 Objectives (OR Global Sustainable goal)

Healthy People 2030 has identified that a key social determinant of health is health care access and quality. This program developed the following objective: “Increase access to comprehensive, high-quality health care services” (Office of Disease Prevention and Health Promotion, n.d.). Tama County’s Community Health Assessment and Community

Health Improvement Plan (CHA CHIP) highlights access to care as a priority health need (Public Health Office - Tama County Government – Iowa, n.d.). Despite being the 9th largest county in Iowa by total area, Tama is one of nine counties in the state that does not have a hospital and also does not have any urgent care clinics (Public Health Office - Tama County Government – Iowa, n.d.). This is especially concerning because 17% of adult residents living in Tama report being in poor health (Public Health Office - Tama County Government – Iowa, n.d.). In this way, it is evident that Tama lacks needed healthcare resources for its residents. This requires residents to travel outside the county when seeking to receive healthcare services and treatment.

Another objective from Healthy People 2030 relates to workforce development, which is to strengthen the workforce by promoting health and well-being, and this includes both the public health and health care workforce (Office of Disease Prevention and Health Promotion, n.d.). Tama County has a large aging population with 20.5% of residents over the age of 65 years old (Public Health Office - Tama County Government – Iowa, n.d.). With this in mind, it is clear that increasing opportunities for workforce development is a necessary initiative to promote improved population retention. As previously discussed, it is important for education and training opportunities to be accessible to residents, with a specific focus on high school students when seeking to improve the healthcare workforce in the county. Another priority health need in Tama that must be addressed is mental health, for 14% of adults report experiencing poor mental health days (Public Health Office - Tama County Government – Iowa, n.d.). This is important for employers and businesses to consider when thinking about strengthening the workforce because necessary resources and health promotion programs must be in place to support the employees in Tama County Public Health Office - Tama County Government – Iowa, n.d.).

The third relevant objective from Healthy People 2030 is to “promote health, safety, and learning in school settings (Office of Disease Prevention and Health Promotion, n.d.). In order to improve health, wellness, and workforce development within the county, it is important for schools to provide students with increased learning and professional experience opportunities related to health and wellness. Specifically, there is a need for high school students in Tama to be educated about health-risk behaviors, including substance abuse (E. Waterbury, personal communication, October 18, 2024). In fact, Tama County residents recognize substance abuse as a pertinent health need that should be addressed (Public Health Office - Tama County Government – Iowa, n.d.). One strategy presented by Tama’s CHA CHIP is to promote existing mental health and substance abuse services or collaborating agencies to enhance residential awareness about what resources are available to those in need Public Health Office - Tama County Government – Iowa, n.d.).

4. Develop a population focused Nursing Diagnosis (that is supported by the Healthy People 2030 goal)

Reduced healthcare access among residents living in Tama County, IA related to rurality as evidenced by lack of primary care providers located within the county (Ackley, 2022) (Public Health Office - Tama County Government – Iowa, n.d.).

5. Evidence-Based Recommendations (Community/Population Intervention)- MDH Intervention Wheel

To promote nursing education pathways, it is important to provide high school students with dual enrollment and mentorship opportunities through the development of partnerships with community colleges or other healthcare facilities. Having the opportunity to participate in healthcare-related education and training courses can allow students the ability to earn college credits while in high school, save money on college expenses, explore potential career paths, develop professional skills, and may even increase scholarship opportunities. It is also important to note that academic institutions can provide students access to resources, including financial support and professional nurse mentors (Dawkins, 2021). Mentorship can provide students with increased opportunities to be intellectually challenged. This is important, for “research has shown that mentorship is fundamental because it empowers students, promotes engagement, and helps shape the student’s trajectory toward nursing as a career” (Dawkins, 2021).

Nhu Mac wrote a dissertation on how to inform high school students of allied healthcare professions (Mac, 2023). This paper could also be utilized to recruit high school students to other healthcare professions. The research shows that exposure to these careers early on has significant effects on whether the student would consider pursuing a career in that profession. This means that opportunities like job shadowing, internships, and even field trips to healthcare facilities can increase students’ interest in pursuing furthering their education toward a healthcare profession (Mac, 2023). Students even agreed that job security is ensured when thinking about the profession of nursing, and this awareness wouldn’t be possible without being informed or gaining exposure to the career (Mac, 2023).

The financial burdens associated with schooling can significantly impact students’ decision making when choosing a career path. Another discerning factor to consider is the availability of specific education programs within the student’s geographic range. In order to alleviate certain challenges, it is important to provide high school students with

necessary information, including realistic costs, scholarship opportunities, and future benefits of healthcare career choices. Choosing to attend or pursue further education in nursing can vary based on the person's total loan debt, loan forgiveness and financial aid availability (Jan & Joan, 2017). If high school counselors, healthcare professionals, and colleges can provide different school choices, transparent costs, benefits and available resources of different types of healthcare career paths, it will be easier for students to be empowered to make informed decisions and help strengthen healthcare workforce.

6. Explore Collaboration Opportunities

Collaborator: Tama County Public Health Department

Potential Contribution: Offer internships or job shadowing opportunities with the community's home health nurses.

Collaborator: School Nurse or other nurses in the community

Potential Contribution: Give a presentation to high school students about the nursing field and suggest future steps when pursuing healthcare-related education opportunities.

Collaborator: High School Guidance Counselors

Potential Contribution: Maintain dual-enrollment partnerships to provide students with educational opportunities related to the healthcare field and provide students with information about job shadowing opportunities.

Collaborator: Community College Admissions & Advising

Potential Contribution: Offer informational resources to high school students regarding how to apply to healthcare-related educational programs available through nearby community colleges.

Collaborator: UnityPoint Health Workers

Potential Contribution: Offering job shadowing opportunities for high school students who are interested in health care fields.

7. Conclusion

The key gaps in healthcare in Tama County include limited healthcare access, healthcare workforce shortage in some areas, and low healthcare recruitment from high school students. Within Tama, it is clear that the county lacks needed primary care providers who do not have to travel from an outside county as well as less healthcare providers per capita versus urban areas (Public Health Office - Tama County Government – Iowa, n.d.). It is evident that engaging high school students in healthcare career exploration and development to ensure a robust and prepared future healthcare workforce in Tama County is needed. Providing students with educational, professional, financial, and mentorship opportunities is necessary to ensure the future growth and retention of the healthcare workforce. Some potential collaborators to help with the implementation of interventions like job shadowing,

internships, and presentations, may include UnityPoint healthcare workers, local and online community college admissions counselors, high school guidance counselors, Tama County Public Health, as well as nurses. Workforce development, high school student recruitment to the healthcare field, and expanding career opportunities within Tama County are all important in working toward attaining an improved, more accessible healthcare system for all residents of this county. Such initiatives are necessary when seeking to alleviate pertinent healthcare disparities in Tama County.

References

- Ackley, B. J., Ladwig, G. B., Makic, M. B. F., Martinez-Kratz, M., & Zanotti, M. (2022). Ackley and Ladwig's nursing diagnosis handbook: an evidenced-based guide to planning care (13th ed.). Elsevier.
- Dawkins D. (2021). Recruitment and Retention of Minority High School Students to Increase Diversity in the Nursing Profession. *The Nursing clinics of North America*, 56(3), 427–439. <https://doi.org/10.1016/j.cnur.2021.04.007>
- Klee, D., Pyne, D., Kroll, J. et al. Rural patient and provider perceptions of telehealth implemented during the COVID-19 pandemic. *BMC Health Serv Res* 23, 981 (2023). <https://doi.org/10.1186/s12913-023-09994-4>
- Federal Economic Data (2024). Unemployment rate in Tama county, IA. Federal Reserve Bank of St. Louis. <https://fred.stlouisfed.org/series/IATAMA1URN>
- Geneva: World Health Organization. (2010). Increasing access to health workers in remote and rural areas through improved retention: Global policy recommendations (2010). World Health Organization.
- Institute of Medicine (US) Committee for the Study of the Future of Public Health. (1988). *The Future of Public Health*. Washington (DC): National Academies Press (US). Summary and Recommendations. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK218215/>
- Iowa Valley Community College District (n.d.). Dual Credit courses offered at South Tama. <https://forms.iavalley.edu/doclib/DualCreditPortal%5CIVCCD%5Csouth-tama.pdf>
- Jan, J & Joan, L. (2017). Addressing the cost, value, and student debt in nursing education. National Library of Medicine. <https://pubmed.ncbi.nlm.nih.gov/29984942/>
- Mac, N. (2023) A pilot program to inform high school students about allied healthcare professions. UNLV Theses, Dissertations, Professional Papers, and Capstones. 4733. <http://dx.doi.org/10.34917/36114758>
- Mahdavi Ardestani, S. F., Adibi, S., Golshan, A., & Sadeghian, P. (2023). Factors influencing the effectiveness of E-learning in healthcare: A fuzzy ANP study. *Healthcare (Basel, Switzerland)*, 11(14), 2035. <https://doi.org/10.3390/healthcare11142035>
- Office of Disease Prevention and Health Promotion. (n.d.). Healthy People 2030. <https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives>

Public Health Office - Tama County Government - Iowa. Tama County Iowa Public Health. (n.d.). https://www.tamacounty.iowa.gov/public_health/

Rural Healthcare Workforce Overview - Rural Health Information Hub. Overview - Rural Health Information Hub. (n.d.). <https://www.ruralhealthinfo.org/topics/health-care-workforce>

Shreya, P., Thor, S., Rohan, M., Lane, C Jr., Jonathan, L & Latha, G. (2022). Telehealth in response to the rural health disparity. PubMed Central. doi: [10.52965/001c.37445](https://doi.org/10.52965/001c.37445)

South Tama County. (n.d.). Partners in Education. South Tama Community School District. <https://www.s.-tama.k12.us/en-US/partners-ineducation-fe53165a>

Tama County, Employment (2024). Tama County, Iowa. <https://tamacounty.iowa.gov/employment/>

Appendix A: Resource Guide

https://www.tamacounty.iowa.gov/files/public_health/resource_guide_2024_2_23764.pdf

Wayne County Health Report

Abstract

This report examines the healthcare, education, workforce, and public health needs of Wayne County, Iowa, highlighting the unique challenges faced by this rural community. Through a gap analysis, the report identifies critical workforce shortages, particularly in healthcare, and explores strategies to enhance recruitment and retention of healthcare professionals. Opportunities for improvement include increasing staffing levels, partnering with local educational institutions to create pathways for students into healthcare careers, and utilizing telehealth to address mental health service shortages. The report further recommends community engagement initiatives such as career fairs, student loan repayment programs, and flexible work environments to attract and retain staff. By aligning these strategies with the Healthy People 2030 objectives, the report underscores the importance of addressing mental health, healthcare access, and substance use disorders.

Introduction

This report investigates Wayne County's needs related to healthcare, education, workforce, and public health by using interviews, county resources, and state-level data for comparison. This rural county in southern Iowa faces distinct challenges in healthcare and workforce development.

1. Gap Analysis: Healthcare Workforce Gaps

Opportunities

Retention for healthcare workers in Wayne County is very high due to night and weekend differentials and sign on bonuses. However, Wayne County can improve working conditions and job satisfaction by increasing staffing numbers and partnering with local educational institutions. Increasing staffing numbers would take a lot of stress off healthcare workers and improve job satisfaction. By partnering with local educational institutions, this would give students an opportunity to explore healthcare jobs and have a direct path into working in healthcare. There are not many opportunities for students in Wayne County to go into the healthcare field, so providing these opportunities would enhance recruitment.

The closest college to Wayne County is Indian Hills Community College which is approximately an hour away (Indian Hills Community College, 2023). This makes it difficult for students to explore healthcare classes or get certifications while in high school. It is also a lengthy drive for students who may be looking to live at home while pursuing a healthcare degree. Currently there are opportunities for students to shadow in the hospital if they are interested in a specific healthcare career. Having more partnerships with local high schools and community colleges could help improve the number of individuals pursuing a healthcare career. This could be done by providing a hybrid schedule which would allow students to take online courses and go in person once or twice a week for hands-on activities.

Similarly to education, the healthcare field can utilize online resources to improve healthcare and patient outcomes. There is currently a mental health provider shortage in Wayne County with the wait being months (Iowa Health and Human Services, 2024). The hospitals and clinics in Wayne County can utilize telehealth to provide more mental health services to patients. This can open positions for providers who will work remotely and not live in Wayne County but still provide care to residents of the county who may need mental health treatment or are unable to travel for treatment.

2. Gap Analysis: Healthcare Workforce Development for High school students

Opportunities

Enhancing Recruitment and Retention

Career fairs and workshops within the community - One way to get local students more educated on healthcare career opportunities is to organize community events at schools or public events. Many high school students may not know about all the career path options they have after high school, and hosting workshops or fair booths with more information could be very beneficial. Promoting and providing more information on specifically the Wayne County Hospital health care system could enhance recruitment.

Health Care Employee Repayment Programs

Local clinics and the hospital in Wayne County could improve employment retention rates by considering student loan repayment plans. With these types of programs, new graduates that are pursuing their health care career from certain institutions could qualify for repayment of their loans and school tuition. Certain criteria such as the specific institution the individual attended, and having a sign-on contract that requires employment for a given amount of time would be required. Additionally, by accepting a variety of different institutional programs for this kind of plan, this could allow more individuals to meet the criteria and work for the local facility.

Workplace Environment and Feasible Scheduling

Another way to enhance recruitment and enhance retention is by displaying how good a work environment is. Clinical leadership teams must promote positive work environments and flexible schedules, if possible, to their employees. By doing so, new graduate students looking for a career are likely to consider employment there, especially coming onto a new job. Furthermore, these employees are likely to stay working there longer if they feel comfortable and have good job satisfaction.

Expanding Training and Education Programs

Online Courses and Hybrid Classes

To encourage further training and education for those who do not live close to health care resources, online and hybrid courses may be offered. Students interested in nursing, radiology, etc., may attend online courses through colleges that are perhaps in the state, but still too far to drive every day. For example, students living in rural Iowa towns in Wayne County may take online courses 80% of the time but could meet in person several times a month. Meeting in-person several times a month or semester

would foster academic engagement while providing flexibility for these students.

Youth Engagement Opportunities in Wayne County

Another important aspect of expanding training and education of these health care careers is to reach out to the younger generations earlier on. Before and after-school programs for elementary and middle school students could consider career exploration activities. These programs could consider having guest speakers that work in local health care visit or organize educational games for younger students to learn and enjoy. The purpose would be to give these young students a basic idea of what a health care career is like but also create fun activities while they learn.

3. Healthy People 2030 Objectives (OR Global Sustainable goal)

Mental Health - As mentioned in Part A, there are concerns of mental health resources in the community. Many individuals experiencing crises will go to the emergency department to seek treatment but still may not get the help they need. There is a significant lack of providers in the area for mental health counseling and treatment, making Wayne County's most significant concern mental health care.

Access to Health Care - Residents in Wayne County can be at a disadvantage when it comes to health care access because of transportation needs, lack of providers, or lack of coverage. According to an interview with a local hospital employee, a significant barrier for patients is dealing with Medicare Advantage Insurance plans.

Substance Abuse and Addiction - The purpose of this objective is to reduce the use of substances such as opioids or alcohol in a community and create more access to treatment. As noted in Part A, Wayne County unfortunately struggles with substance use disorder and limited help resources in their region.

4. Develop a population focused Nursing Diagnosis (that is supported by the Healthy People 2030 goal)

- Risk for Impaired Mental Health related to limited access to mental health resources, as evidenced by socioeconomic factors affecting well-being in the Wayne County population.

- Ineffective Health Maintenance related to lack of access to healthcare services, as evidenced by socioeconomic barriers, and low health insurance coverage among residents of Wayne County, Iowa (US News Healthiest Communities, n.d.).
- Risk for Substance Use Disorders related to increased availability of substances, social isolation, and limited access to treatment, as evidenced by reports of rising substance use rates, lack of care facilities, and high levels of social isolation in community surveys from Wayne County (US News Healthiest Communities, n.d.).

5. Community Engagement

No further interviews were conducted.

6. Evidence-Based Recommendations (Community/Population Intervention)- MDH Intervention Wheel MDH Intervention Wheel Recommendations:

- Strategy: Outreach and Advocacy to Expand Mental Health Services.
 - Rationale: Wayne County has a high unmet demand for mental health services, along with extremely long wait times for first appointment.
 - Increasing access to mental health services is critical to address the mental health issues in the county. Integrating telehealth services can greatly improve mental health outcomes Wayne County by enhancing access to more residents in the community and ensuring continuous care.
 - Implementation:
 - Outreach: establishing telehealth mental health sessions in collaboration with state resources such as the University of Iowa. Community health nurses can help coordinate these appointments and advocate for funding to subsidize services, making them more accessible to low-income residents.
 - Advocacy: engage local stakeholders and public health agencies to support the expansion of mental health telehealth services with grants and policy initiatives.
- Strategy: Community organizing to create High School Nursing Education pathways.
 - Rationale: Creating nursing education pathways in high school helps with early exposure to healthcare careers. This initiative not only addresses the workforce shortages in healthcare but also strengthens the local health infrastructure. When students engage with healthcare training at an early stage, they are more likely to pursue careers in healthcare within their community.
 - Implementation: Partnering with Wayne County high schools and the IISC project to develop structured pathways for students interested in nursing

careers. These pathways could include opportunities like job-shadowing, CAN programs, hand-on workshops, all supported by Wayne County Hospital and Indian Hills Community College.

- Strategy: Collaboration with local clinics to improve access to drug abuse recovery services and treatment.
 - Rationale: increased access to treatment and recovery services in Wayne County helps with addressing substance abuse. Many residents struggle with substance use and would benefit from expanding local treatment options
 - Implementation:
 - Mobile treatment clinics can help directly address the accessibility issue. These clinics can help provide substance abuse assessments, counseling, and treatment services, making care more accessible to those who may not seek help otherwise due to fear of stigma or lack of knowledge about available resources. It also provides a non- threatening environment where people will feel more comfortable asking for counseling services, encouraging more people to seek support.
 - Collaborating with local healthcare clinics to integrate substance abuse treatment into existing healthcare services will comprehensively address the various needs of individuals with substance use disorders. This could include establishing a screening protocol in clinics to identify individuals at risk of substance abuse. Those who screen positive would be implemented into an immediate referral system in partnerships with other specialized organizations.
 - Additionally, by collaborating with local clinics, we can promote that patients receive coordinated care that goes beyond just addressing their substance use.

7. Explore Collaboration Opportunities

Collaborator: Secondary School Guidance Counselor at Wayne Jr/Sr High School

Potential Contribution: Offer educational advice and programs at community colleges that do dual enrollment with the high school. Provide contacts with learning, job-shadow and job opportunities with the hospitals and pharmacies.

Collaborator: School Guidance Counselor at Seymour Community School District

Potential Contribution: Offer educational advice and programs at community colleges that do dual enrollment with the high school. Provide contacts with learning, job-shadow and job opportunities with the hospitals and pharmacies.

Collaborator: Wayne County Hospital and Clinics

Potential Contribution: Collaborate to offer job shadow opportunities for high school students who have interests in different occupations in the hospital. Students could also sign up to volunteer at the hospital.

Collaborator: Hy-Vee Pharmacy in Corydon, Iowa

Potential Contribution: Collaborate to offer job shadows or jobs to high school students who have an interest in a career as a pharmacy technician or pharmacist.

Collaborator: Wayne County Public Health

Potential Contribution: Collaborate to offer job shadows or jobs to high school students who have an interest in public health nursing or administration.

Collaborator: Indian Hills Community College

Potential Contribution: Offer career fair on areas in healthcare and information about the healthcare academies Indian Hills offers for dual enrollment. Along with these academies they can get job shadows or possible internships at hospitals or clinics.

Collaborator: Corydon Dental Clinic (or any other dental clinic)

Potential Contribution: Collaborate to offer job shadows to high school students who have an interest in a career as a dental hygienist, dental assistant, or a dentist.

Collaborator: Every Step Care and Support (Hospice)

Potential Contribution: Collaborate to offer job shadows or jobs to high school students who have an interest in end-of-life care or administration with hospice.

8. Conclusion

The report identifies critical gaps and challenges in Wayne County's healthcare workforce, particularly regarding high school students career development. The proximity of Indian Hills Community College, over an hour away, limits students access to essential healthcare training and certifications. Furthermore, the shortage of healthcare providers, especially in mental health services, exacerbates the issue. However, opportunities exist to address these challenges. Initiatives like career fairs and student loan repayment programs can enhance recruitment and retention of healthcare staff. Expanding online and hybrid education options, alongside youth engagement activities, can spark interest in healthcare careers among high school students.

Engaging these students in healthcare career exploration is vital for building the workforce in Wayne County. By fostering partnerships between educational institutions and local healthcare providers, we can create clear pathways for students to gain hands-on experience and insight into various healthcare roles. This proactive approach not only addresses workforce shortages but also strengthens the overall healthcare system in the community. Investing in the next generation of healthcare professionals is essential for ensuring the well-being of Wayne County residents and meeting their future healthcare needs.

References

DataUSA. (2022). Wayne County, IA. <https://datausa.io/profile/geo/wayne-county-ia?compare=united-states&healthDiversity=ageOption>

How healthy is Wayne County, Iowa? | US news healthiest communities. (n.d.-a). <https://www.usnews.com/news/healthiest-communities/iowa/wayne-county>

Indian Hills Community College. (2023). Academic Opportunities. Indian Hills. <https://www.indianhills.edu/academics/highschool/2023-24-Career-Academy-Opportunities.pdf>

Iowa Health and Human Services. (2024). Wayne County. HHS System Snapshot. <https://hhs.iowa.gov/media/12076/download?inline=>

United States Census Bureau. (2020). Iowa. United States Census Bureau. https://data.census.gov/profile/Wayne_County,_Iowa?g=050XX00US19185

United States Census Bureau. (2020). Wayne County, Iowa. United States Census Bureau. https://data.census.gov/profile/Wayne_County,_Iowa?g=050XX00US19185

United States Department of Human Services. (2012). Ratio of Physician to Total Population By County. <https://www.legis.iowa.gov/docs/publications/MOW/25861.pdf>

U.S. News. (2021). Mormon Trail Community School District. U.S. News Education. <https://www.usnews.com/education/k12/iowa/districts/mormon-trail-comm-school-district-107943>

U.S. News. (2021). Seymour Community School District. U.S. News Education. <https://www.usnews.com/education/k12/iowa/districts/seymour-comm-school-district-109740>

U.S. News. (2021). Wayne Community School District. U.S. News Education. <https://www.usnews.com/education/k12/iowa/districts/wayne-comm-school-district-112692>

Wayne County Courthouse. (2024). School Board Elected Officials. Wayne County, Iowa Elections. https://waynecountyelections.iowa.gov/elected_officials/school_board/

Wayne County. (2024). Community. Wayne County. <https://waynecounty.iowa.gov/> Wayne County Hospital & Clinic System. (2020). Home. Wayne County Hospital. www.waynecountyhospital.org/.

Wayne County Public Health. (2019). Community Health Needs Assessment (CHNA) Report.

Wayne County Public Health. <https://waynecountypublichealth.org/wp-content/uploads/2021/06/Wayne-County-CHNA-2-29-16.pdf>

Wayne County Public Health. (2024). Resources. Wayne County Public Health. <https://www.waynecountypublichealth.org/programs/immunizations/>