

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.

1. Introduction

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.

2. 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.).

3. 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.

4. 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 – lowa, 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.). 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.). 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.).

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.).

6. 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.

7. 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.

8. 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
- 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