Interprofessional Student Perceptions of Planning and Implementing a Student-Led, Faculty-Guided Rural Health Clinic

Kathryn J Frie, DNP, APRN, ANP-BC, GNP-BC, FNP-BC, PHN[1]

Jennifer R Timm, DNP, RN, PHN[2]

Amy B Koehler, PhD, RN[3]

[1]Assistant Professor, Department of Undergraduate Nursing, Winona State University College of Nursing and Health Sciences, kathryn.frie@winona.edu

[2]Associate Professor, Department of Graduate Nursing, Winona State University College of Nursing and Health Sciences, jtimm@winona.edu

[3]Professor, Department of Undergraduate Nursing, Winona State University College of Nursing and Health Sciences, akoehler@winona.edu

Abstract

Purpose: To develop an interprofessional student-led, faculty-guided clinic in a rural, medically underserved area in Wisconsin through applying an existing innovative clinical education model. A local university provides a system for training and practice of interprofessional students in a rural community increasing access to preventive health care to individuals and families in rural medically underserved communities. The primary aim of the project was to qualitatively describe perceptions of interprofessional students after completing community assessment, planning, and implementation phases and secondarily to understand student learning experiences in adopting and leading a community model within a rural practice setting.

Sample: Participants were interprofessional undergraduate and graduate students placed within an interprofessional clinical education model for an assigned clinical, field, or practicum rotation (n=64).

https://doi.org/10.14574/ojrnhc.v21i2.674

Methods: Institutional Review Board approval was obtained prior to implementation of the qualitative evaluation of this project. Open-ended survey questions were distributed via Qualtrics following the student's experience. Thematic analysis was completed identifying themes of learning and perceptions in rural settings.

Findings: Twenty-six anonymous surveys were collected. Major themes identified were cultivating patient outcomes, understanding community as the client, leading through community assessment, and improving self-communication and collaboration.

Conclusion: Participants perceived value in learning within rural settings and noted unique learning features of rurality, primarily around access and resources. Participants learned the importance of working together across professions to serve rural areas. Schools of nursing and health sciences can be an advantageous partner with others to support health needs in rural settings.

Keywords: Community health, Interprofessional practice, Nurse-led, Rural health, Student-led

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Gaps in access to primary preventive health care exist in rural communities and are particularly limiting to underserved groups. Primary care settings are facing significant pressure in responding to the growing needs of a population who is aging and with significant chronic illness (Josiah Macy Jr. Foundation, 2016). Rural communities are particularly challenged with health care inequities as there are not enough clinicians to meet the needs (Westfall & Byum, 2020). Geographic distance to primary care clinics, limited or absent transportation services, a shortage of primary care providers, and higher than average uninsured and poverty rates all

impact access to health services in the rural setting. Leading health indicators demonstrate a strong need for additional accessible primary preventive care options. The impact of social determinants of health increases the need for involvement of primary and preventive health services, when striving for the improved health status of a community (The EveryONE Project, 2021). Salmond and Echevarria (2017) discuss quality affordable health care should focus on prevention and disease management, including models of care management, care coordination, and patient education. Nursing primary care roles, such as managing patients with chronic disease, working in interprofessional teams, and preventing hospital readmissions have demonstrated improved health outcomes and reduction of costs (Josiah Macy Jr. Foundation, 2016). Yet, a survey administered by experts in primary care reveals only 4% of nursing curricula includes a robust focus on primary care; this includes associate, baccalaureate, and master's level degree programs. Nurse-led initiatives in the primary care setting have consistently been found to be highly effective on patient outcomes (Josiah Macy Jr. Foundation, 2016).

Student-led initiatives in primary care have also been studied and found to increase access to care through providing free help and support, health teaching, and holistic integrated care (Stuhlmiller & Tolchard, 2015). Rural-based student-led clinics developed to meet the needs of the community have produced multifaceted results, including providing an engaged learning environment for students, mechanism to provide access to health services, and cost savings to the community (Stuhlmiller & Tolchard, 2015). Academic student-led clinics have demonstrated an ability to (1) address access challenges in at-risk communities, (2) mitigate clinical placement shortages in academia, and (3) allow practical application of professional competencies in the rural setting, including independent practice, service to the community, care of underserved populations,

critical thinking, and engagement with other health professionals in the delivery of care (Kavanagh et al., 2015).

The nursing profession has roots in and future opportunities in leading community and public health systems to mitigate social determinants of health and create health equity for at-risk and underserved populations, including rural individuals and families. The vision for the future of nursing is to achieve health equity through maximizing the capacity and expertise of nurses (National Academies of Sciences, Engineering, and Medicine, 2021). Nurses must be educated and prepared to enter, practice, and lead efforts toward health equity. To do so, nursing academics must focus on preparing future nurses in delivering care to a diverse and aging population, understanding complex issues, specifically social determinants of health, that impact health, full engagement in the professional role of nursing, and interprofessional collaboration with both health and non-health professionals and sectors (Hassmiller, 2021).

Background

Schools of nursing are increasingly challenged in providing community clinical education that is both serving the community and meaningful to students. Finding and securing enough community clinical sites can be challenging and competitive, as multiple health profession and non-health profession programs are placing students throughout communities. Many academic programs have eliminated community health clinical experiences and focused on increasing simulated experiences (Weierbach & Stanton, 2018) as simulated experiences are increasing in inpatient and acute care areas. Yet, the National Academies of Sciences, Engineering, and Medicine (2021) strongly emphasize the importance of experiential learning in adequately preparing future nurses to lead efforts in health equity, social determinants of health, and public health crisis, among others.

Graduates from health care professions are not prepared to practice in today's interprofessional practice environments when transitioning from academia to clinical practice (Speakman & Arenson, 2015). Academia struggles to structure interprofessional clinical education models to provide clinical opportunities for students to work alongside other professions. Understanding one another's roles as a student prepares for collaboration in future roles (Walker et al., 2019). As inherent interprofessional patient care is, much work is needed to prepare students to work together to provide quality care of multiple populations. This issue could not be more important as practice continues to shift from acute to community-based settings and the availability of primary care providers and trained nurses for today's primary care needs is lacking (Josiah Macy Jr. Foundation, 2016). To design and deliver health care for rural communities, future health professionals must be prepared to enter practice with competencies in interprofessional practice, primary and preventive care, and rural health. The demand for this type of clinical experience cannot be met without creating nontraditional approaches in nontraditional settings (Taylor et al., 2017).

An existing interprofessional clinical education model launched in 2017 through a university has demonstrated success in increasing access to health promotion, prevention, and early intervention for underserved and marginalized groups among adult and youth populations, while training interprofessional health profession students (Timm & Schnepper, 2020). The model applies academic-community partnership to bridge the community needs to existing human resources in the academic setting. Using multiple community-access sites to reach underserved and marginalized groups across settings, including a warming shelter, food shelf, and senior center, a unique approach to traditional community clinics applies a framework of interprofessional practice and is specifically guided by the local county community needs assessment, in which

services are developed from. University students who are in health profession academic programs (athletic training, exercise science, nursing, public health, and social work) are deployed into the community in small, interprofessional teams to engage in a student-led, faculty-guided, and clinically supervised preventive health, wellness, and social services. The clinical supervision model is a blend of direct and indirect supervision, specific to the respective profession, services provided, and clinical setting; nursing faculty are on-site providing direct supervision with additional presence of an interprofessional colleague and a team of interprofessional faculty available indirectly to on-site faculty and students. The services rendered are designed by the scope of practice of on-site clinical supervising faculty. This model creates an ongoing pipeline of interprofessional students to assume roles within the program and reach the community with necessary services, filling a gap in the local community (Timm & Schnepper, 2020).

Rural Community Exemplar

A rural community located in western Wisconsin with a population of 13,975 geographically spanning over 712 square miles was the setting for this project. The county, with 62% of the population ages 25-64 and 100% of residents designated to be living in a rural area, has been designated as a medically underserved area by the Health Resources and Services Administration (HRSA, n.d.).

According to the county's 2018 community needs report, the county is indicated as "100%" rural (Gromoske, 2018). A ratio of 6,590:1 (residents: primary care providers) exist, 6,600:1 (residents: mental health providers), and 940:1 (residents: dental care), despite 91% of individuals being under the age of 65 having health insurance. Many factors were assessed that are considered challenges for this rural community. Transportation barriers limit the ability for person's and families to get healthcare, food, and social interaction. In this rural county, respondents indicated

that accessibility and convenience to public transportation was "poor to fair" as was the ability to pay for their own vehicle (Gromoske, 2018). Quality of life is challenged as the top causes of death are heart disease and cancer, and the county has a higher than state average of self-inflicted injury hospitalizations (Gromoske, 2018).

An increase in drug overdose deaths and illegal drugs is a large concern of the county. The county's community needs assessment reports a gradual, yet steep, increase in drug overdose deaths from the year 2000 to 2016 by 225%. More than half of drug poisoning deaths (62%) were unintentional. Physical activity rates are low, as 25% reported no leisure time physical activity, and the county faces an obesity rate of 30%, higher than the national high rate of 26% (Gromoske, 2018). Excessive drinking is prevalent (23%), more than the top United States performer (12%), and contributes to other chronic conditions, interpersonal violence, suicide, and sexually transmitted infections (Gromoske, 2018).

The community needs assessment reports more than one in five people drink excessively, illegal drug use continues to be a top concern, and physical activity is low contributing to the high rates of obesity. Vaccination rates may be affected by access to healthcare, along with religious and cultural beliefs; 63% of children in this rural community are receiving the recommended vaccinations. Notably, clinical care conditions are a concern as 49% reported experiencing "poor to fair" ability to pay for healthcare and 31-54% of people reported they did not see a doctor in the past 12 months because of the cost burden (Gromoske, 2018).

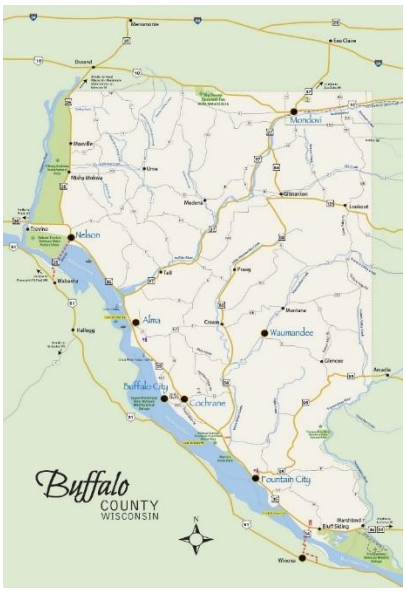
Overall, community health data reflects ongoing attention is warranted to the unique needs of the rural communities within this county. Access to primary healthcare and mental healthcare is much lower than the state average and the top United States performer. There are severe mental health treatment gaps for youth and adults and decreased chance that people will access health care

when they need it, despite 91% of people in the county under the age of 65 having health insurance. The county has identified the following needs as most significant, guided by the community needs assessment: Improved access to public transportation, increased access to mental healthcare services, increased food security, reduced drug and alcohol misuse and abuse, and increased number of volunteer EMS and first responder staff. These many factors guided this project's aim to facilitate interventions to assist in reducing these gaps. Figure 1 illustrates location of the target county and proximity to the academic institution leading the project. A nearby academic institution operating an interprofessional clinical education model was sought as one avenue to increase preventive health care to this rural community.

Figure 1.

Buffalo County, WI.

Note. Buffalo County, Wisconsin. (n.d.b). Buffalo County, Wisconsin https://en.wikipedia.org/wiki/Buffalo_County,_Wisconsin



Note. Buffalo County Wisconsin. (n.d.a). Buffalo County Visitors Guide. https://www.buffalocounty.com/414/Buffalo-County-Visitors-Guide

Literature Review

Nurse-Led Health in Rural Settings

The role of the nurse practitioner (NP) in medically underserved areas is not new and differs from the role within an urban area (Zwilling et al., 2021). While NPs are frequently engaging in primary care practice in rural settings, less of this occurs in the urban setting. Over half of NPs in urban settings are practicing in specialty areas and do not have their own patient panels while in the rural setting, NPs are highly likely to practice within primary care and outpatient settings, practice with more authority, and maintain their own panel of patients. This practice autonomy is important as it increases access to providers and care to patient populations in rural medically underserved areas (Zwilling et al., 2021).

The nursing profession is grounded in providing care considering the social and environmental context. Registered nurses practicing to the extent of scope of practice in primary care will expand the ability to achieve equity-oriented care. An array of primary care services is needed to effectively care for today's populations. Care management and coordination, patient

education, population health approaches, transitional care, RN co-visits, RN-only visits, and health coaching are within that array. Preparing future nurses in these areas puts nurses at the forefront ready to address this demand (Josiah Macy Jr. Foundation, 2016).

Kippenbrock et al. (2017) explore nurse practitioner leadership in rural settings specifically in roles of promoting access to preventive care. Data collected in twelve states from the Nurse Practitioner Registry in 2000 and 2010 allowed descriptive analysis of nurse practitioner demographics and changes over time. Notably, there was a remarkable decrease of nurse practitioners working in rural settings, while urban work locations increased. The number of nurse practitioners had reduced in rural settings from 1,059 in 2000 to 754 in 2010, a 12% change, and increased in urban settings by 12% (Kippenbrock et al., 2017).

An opportunity exists in nursing education to provide learning experiences and curriculum focused on rural health care needs. The National Organization for Nurse Practitioner Faculty (NONPF) identified a core competency in advanced practice nursing as leadership (2014), and political processes, healthcare advocacy, and problem solving are also expected in nurse practitioner curricula (Kippenbrock et al., 2017). Nurse practitioners have the education and experience to be influential in rural health care. Education in these areas will prepare more nurses with the knowledge and skills necessary to provide rural health, in turn increasing numbers of nurses practicing in rural communities and reducing the primary care access barriers in rural America (Kippenbrock et al., 2017).

The use of the RN in rural settings to lead and deliver care is underutilized (Health Resources & Services Administration, 2020). Traditional prelicensure nursing programs have historically emphasized acute care nursing in prelicensure programs limiting the practice readiness in primary care and other non-acute care settings. Academic-primary care partnerships are posited to benefit

academic institutions in increasing clinical education experiences for prelicensure students outside of acute care settings (Mennenga, 2021). RNs leading care initiatives in care coordination, health promotion for at-risk groups, and management of chronic disease allow the RN to practice to the full scope of practice; as a result, augmenting strategies to address primary care shortages and increasing collaborative approaches to responding to rural health access issues (Mennenga, 2021).

Interprofessional Student-Led Learning

Stuhlmiller and Tolchard (2015) found a rural-based student-led clinic developed to meet the needs of the community provides an engaged learning environment for students, a mechanism to provide access to health services, and cost savings to the community. Student-led clinics are often a byproduct of lack of clinical placement sites and academia's response in securing experiential learning experiences for students. Additionally, the student-led model increases access to care through providing free help and support, health teaching, and holistic and integrated care. Students report value in experiencing patient care and leadership and management of delivering health care (Stuhlmiller & Tolchard, 2015).

An interprofessional clinical education model providing preventive health services through a faculty-guided, student-led clinic in the community setting demonstrates both the community and interprofessional health profession students and their faculty are served simultaneously by creating an environment of teamness, supporting clinical practice hours and student learning outcomes, student growth in interprofessional practice competencies, and ability to reach underserved groups (Timm & Schnepper, 2020). Increased awareness in the difficulty for underserved groups to access necessary health services and the experience of delivering primary and secondary preventive health services in the clinical setting was identified by interprofessional students as new learning. Student learning outcomes reported as most exemplified by the

interprofessional clinical experience included critical thinking, communication, culturally sensitive care, organizational and systems leadership, and engagement with the community (Timm & Schnepper, 2020).

Creating meaningful interprofessional community experiences can be challenging and limiting for some academic programs. Taylor et al. (2017) found a simulated interprofessional experience focused on rural communities demonstrated improvement of student's knowledge of the value of interprofessional care and the importance of rural clinical placements in providing ideal opportunities for students to understand the challenges of living and working in a rural setting. Specifically, healthcare students' perception and understanding of the importance of rural and remote complexity of healthcare requires clinical education and training, including team-oriented patient care and understanding interdisciplinary roles (Taylor et al., 2017).

School-Based Health Centers

One of the most effective ways to reach children and adolescents with preventive health may be the school setting. School-based health centers (SBHCs) have been developed in schools to increase access to health care, particularly in low-income communities (O'Leary et al., 2014). Stunningly, adolescents who have a SBHC in their own school are ten times more likely to seek help for their mental health and substance use concerns compared to other adolescents without a SBHC (Child Mind Institute, 2016) and SBHCs have demonstrated linkage with decreased depressive symptoms, suicide risk, and emotional disturbances (Denny et al., 2018). Prevention and early intervention are particularly important in SBHCs, as the long-term effects of alcohol, substance use, depression, poor nutrition, physical inactivity, and other mental health concerns can be debilitating on the quality of life and social functioning among children and adolescents (Jackson et al., 2012). SBHCs decrease access barriers to healthcare as students miss less school

time, transportation barriers are avoided, and busy working parents benefit from care in place. Additionally, SBHCs often serve more than the student, including reaching the entire family, school staff, non-class-attending students, and community members (Dunfee, 2020). While SBHCs decrease health disparities, they also contribute to academic success by decreasing time away from school and increasing attendance (Leroy et al., 2017).

Carr and Stewart (2019) found school nurses and SBHC staff most often face adolescent emotional and behavioral health concerns; these are particularly challenging in rural communities because of access to mental health care limitations. School nurses and nurse practitioners can be influential in delivering preventive health care in the SBHC to create early intervention opportunity for such at-risk groups. For example, a nurse practitioner-led intervention, called COPE (Creating Opportunities for Personal Empowerment), provides cognitive skills training to middle schoolers in a SBHC setting and has clinically demonstrated improvement in anxiety and depression among adolescents (Carr & Stewart, 2019).

Many schools of nursing create learning opportunities for nursing students in the school setting. Larson et al. (2011) describe service learning within three different SBHCs in which academic students were involved in leading preventive care in the school setting. The Guidelines for Adolescent Preventive Services (GAPS) assessment tool was used to identify risk between student variables and found that the use of the GAPS assessment tool increased prevention strategies for primary and secondary levels among at-risk fifth and six grade students. The authors posit community service learning as a valuable partnership for baccalaureate nursing programs to provide meaningful educational experiences for nursing students (Larson et al., 2011).

Purpose

The purpose of this project was to develop an interprofessional student-led, faculty-guided clinic in a rural, medically underserved area in Wisconsin through applying an existing, innovative, interprofessional clinical model. By utilizing the rural community setting, a local university provides a system for training and practice of interprofessional students to bring accessible preventive health care to individuals and families in rural communities. While implementing this clinical model, the authors intended to qualitatively describe the perceptions of interprofessional students after students' exploration acquired through completing project assessment, planning, and implementation phases of the project. The existing model provides practice in community-based settings and the focus of this project was specifically with a rural community.

Nurse Leadership Program

The project lead was an advanced practice registered nurse (APRN) leadership fellow through the Duke-Johnson and Johnson Nurse Leadership Program. The program's requirements included development, implementation, and evaluation of a transformational project with a collaborative sponsorship agency. Through leadership development retreats, distance learning education sessions, project coaching circles, and executive leadership coaching, the fellowship program's intentions were to train APRN's to innovate by improving health outcomes among populations. To serve the purpose of both the leadership program and community innovation, the Fellow from the Nurse Leadership Program sought to initiate academic institution extension into a local, rural area. Discussion initiated with current clinical model innovations that provide APRN and RN leadership while allowing experiential learning in nontraditional settings.

The project's intention, to develop an interprofessional student-led, faculty-guided clinic in a rural, medically underserved area while creating an environment of experiential learning, was

commenced in support of evidence-based literature review findings and documented community needs. To guide further partnerships between academic and community organizations, understanding student perceptions and learning is important. Taylor et al. (2017) have published survey questions in interprofessional collaboration and knowledge for rural populations and permission for use was granted.

Method

The project was designed from knowledge supported by literature in areas of nurse-led rural health care and interprofessional student-led clinics, along with previous lessons learned from implementing an interprofessional clinical education model in other settings. The project included four phases and an interprofessional team of health profession students across one semester's time (n=64), led by their supervising clinical faculty (n=2) and an advanced practice registered nurse leadership fellow, serving as the project lead (n=1). The project initiated in August 2019 and extended through February 2020. Data were collected via a post-experience anonymous survey.

Design of Project

This six-month project followed four phases. Phase one involved activities to achieve assessment of need, led by the interprofessional students. Students were charged with a large exploration of the rural geographic area, including detailed review of county-level data and current needs assessment reports. This community assessment included seeking out and interviewing stakeholders, including the county Health Officer, local community organization leaders, and the Superintendent of the K12 school. Through collaboration with the county public health agency, students engaged the broader community population through educational outreach located throughout the county. Students were able to identify gaps in health services and how such gaps could be addressed with the student-led, faculty-guided clinic.

Phase two was design and planning, specifically the development of the K12 clinic space. Ongoing outreach with stakeholders and the community continued and students surveyed parents and staff of the K12 school system to seek further information on the design of services. Important relationships were built with the school principal and school nurse during this time. The faculty leaders developed formal academic-community partnership with the K12 administration and began to further develop mutual vision, goals, and trust, so necessary in the development of academic-community partnerships.

Phase three implemented and launched the student-led, faculty-guided clinic. Students were trained and oriented through existing structures of the clinical education model, including orientation to role functions, service provision, documentation, and site-specific work. Weekly clinics were initiated providing preventive health and health promotion services to clientele (students, teachers, and classrooms), and interprofessional students further designed and delivered school-based health promotion throughout the K12 building, guided by school stakeholders, capturing both individual and community-level interventions.

Students were responsible for all aspects of the clinic operations, guided and supervised by clinical faculty. These responsibilities included determining and maintaining inventory, developing new policies and procedures, reaching out to other existing interprofessional clinic sites to seek guidance on operations, and even identifying what was needed on a week-by-week basis, from pens and pencils to alcohol wipes, printer ink, and privacy partitions. The experience put the students in a setting of learning about budgeting and the complexities of limited resources and how to adapt if, what was identified as needs, were not within budget. Frequently, clinic operations require application of local and regional grant opportunities and students participated in preparation, writing, and submission of grants.

Phase 4 of this project was the evaluation and quality improvement. Students led rapid quality improvement processes, under guidance of the faculty and APRN. Student's experience learning in sustainability during this phase. Since initial implementation, the clinic has had a second cohort of interprofessional students placed at the rural health clinic. Each cohort learns from students before them and engages in enhanced operation to continue growth at the site. Table 1 displays the activities by phase and Table 2 describes the clinical day for the project team.

Table 1

Phases of Project

PHASE	ACTIVITIES (ROLE)	TIMELINE
PHASE 1 ASSESSMENT OF NEED	IRB submission, approval number 1472965(PI) Community assessment (IP Team) County-level data analysis Community assessment analysis & exploration Identification of stakeholders Interviews with stakeholders Community outreach (IP Team) Community partnership development Educational outreach at senior meal sites, food shelf, other community settings Surveys of community members Analysis of findings (IP Team) Report findings to stakeholders (IP Team) Approval to continue project (IP Team, Clinic Director)	2 months
PHASE 2 DESIGN, PLANNING	Securement of collaborating partners (IP Team) Exploration of existing resources (IP Team) Analysis of financial feasibility (IP Team) Ongoing engagement/outreach with community, stakeholders, prospective clients (IP Team) Attendance at county board meetings (IP Team) Establishment of formal academic-community partnerships with host site, contracts (Clinic Director) Exploration of grant funding (IP Team)	2 months
PHASE 3 IMPLEMENTATION	Student training, orientation (Faculty) Marketing, Public Relations (IP Team) Design of site operations, forms, materials, client education, policy, procedures (IP Team) Design of site services, programs (IP Team) Weekly clinics launched (IP Team) Ongoing quality improvement (IP Team) Explore, write grant funding (IP Team)	2 months

PHASE 4 EVALUATION, ONGOING QUALITY IMPROVEMENT	Evaluation of student learning, perceptions (PI) Evaluation of site operations, functions, services, student experiences (IP Team, Faculty, Clinic Director) Rapid quality improvement (IP Team) Marketing, Public Relations (IP Team) Evaluate, implement EBP activities (IP Team) Ongoing evaluation of community, target population, stakeholder needs (IP Team) Explore, write grant funding (IP Team) Training, orienting of new students (IP Team)	Ongoing

Institutional Review Board (IRB); Primary Investigator (PI); Interprofessional (IP); evidence-based practice (EBP).

Table 2

Schedule for the Interprofessional Student Team During Project

Time	
0900	IP Carpool van to County Health Department for pre-brief
0930-1030	IP Prebrief Welcome, introductions Review plan for the day, roles, tasks, target outcomes Interprofessional role student presentation Updates from previous day Faculty, director, student updates Team specific goals for the day
1030-1230	Team one: Health promotion outreach in community sites Team two: Community assessment, stakeholder interviews
1230-1300	Lunch and travel to school site
1300-1330	Check-in, clinic set-up, pre-clinic huddle
1330-1700	Clinic services
1700-1800	Tear-down, clean-up, IP debrief in van back to campus

Interprofessional (IP)

Sample

Interprofessional students from undergraduate and graduate academic programs participated in this project after being placed into this interprofessional clinical rotation by program faculty. The students participate in the rotation as part of an academic course in which they are required to complete a variety of experiential hours, varying on type of degree seeking. Dependent on the semester in which their experiential course is offered, different degree seeking students (Public Health, Psychiatric Mental Health Nurse Practitioners, Social Work, Athletic Training varying degrees of Nursing) can attend clinical sites in certain settings.

Sixty-four surveys were sent using an anonymous Qualtrics link. Twenty-six surveys were returned. The survey was voluntary and not required for completion of the clinical or course. One demographic question regarding degree being sought was added to the questionnaire. For this project, participating students reported themselves as undergraduate prelicensure students in their final semester prior to graduation (n=19), undergraduate RN-BS students in their final semester prior to graduation (n=3), social work students in their final semester prior to graduation (n=2), and graduate nursing students with training in advanced health promotion (n=2). Student hours designated to the project ranged from 30 to 80 hours per student, per semester. The clinical faculty consisted of a nursing faculty and a social work faculty, both with extensive experience in community work.

Data Collection

After participants completed an Institutional Review Board (IRB) approved consent, a series of qualitative questions at the end of their clinical experience were administered via a de-identified voluntary and anonymous survey. The survey consisted of eight questions related to interprofessional learning in rural settings and adapted from Taylor et al. (2017), with author

permission. Table 3 lists the questions along with additional prompts to stimulate respondent consideration.

Table 3

Survey Questions for Students' Perceptions of Interprofessional Learning in Rural Setting.

Question	
1	What new knowledge about interprofessional practice have you learned? Prompt: Which disciplines have you been involved with?
2	What have you learned about your own discipline in management of patients in a rural area? Prompt: What patient considerations have you recognized importance with addressing?
3	What qualifiers and what barriers to implementing interprofessional care in your practice did you notice? Prompt: Location, availability, cost.
4	How will what you've learned, impact on your practice in a rural setting? Prompt: What changes to practice will you make?

Adapted with author permissions from "Simulated interprofessional learning activities for rural health care services: Perceptions of health care students" by Taylor et al., 2017, *Journal of Multidisciplinary Healthcare,* 2017(10), 235-241. https://doi.org/10.2147/JMDH.S140989

Data Analysis

Data from the survey questions were analyzed using framework analysis. Ward et al. (2013) discuss framework analysis as a mechanism to assist nurse researchers with the rigor and structure required of qualitative data analysis. Its benefit is to offer nurse researchers themes that can be linked back to original data (Ward et al., 2013). Two independent researchers applied framework analysis and identified four main themes.

Results

A total of 26 survey responses were thematically analyzed. Comments included much information about the experience in the rural setting being new and challenging and the impactful learning that occurred throughout the project, particularly the importance of working interprofessional. There were four overarching themes: cultivating patient outcomes, understanding community as client, leading through community assessment, and improving their own communication and collaboration.

Cultivating Patient Outcomes

Participants identified outreaching to the community was imperative to meet the target population needs. Participants recognized the importance of reflecting on their own biases to provide holistic, quality care thus providing opportunity to improve patient outcomes. Participants reported understanding of barriers related to location of healthcare clinics that they could apply to their role within the clinical setting. One student said:

> I believe there are many barriers when implementing care in a rural clinical setting such as this clinic. Finding a location that is accessible to everyone can be challenging. Many individuals who may benefit from these services may not have the means to get there. Availability of space is also limited. On the other hand, providing services in a rural community can be extremely beneficial to those who utilize it. Costs are usually reduced or free, anyone is welcome, and people who cannot afford regular healthcare have a place to be seen.

Another student emphasized: "I learned how to still give a patient the highest level of care possible with the limited equipment we have in rural areas."

Support systems and resources were noted: **"**Considerations when working with an interpreter is to still treat the patient as the primary person you are talking to, so they feel validated and important**",** and **"**I have learned a lot about how important it is to assess the support systems of the patient, as well as looking for signs of any potential mental health conditions."

Understanding Community as the Client

Participants considered broader perspectives with the consideration of community as their client, versus an individual. Challenges, such as travel barriers, housing needs, food insecurity, lack of health/mental care services, insurance status, and language barriers were pronounced in responses from students related to their learnings of rural communities. Student perceptions of challenges in rural settings were apparent; a student said: "The main enabler I can think of is the willingness for these areas to accept implementation of this care. Some of the barriers are the availability of a site/people to work it, also the cost of getting it started."

Another student recognized the importance of and challenge when engaging with members of the public: "I have learned that communication with members of the public can be daunting but should not be something that limits you. I have learned to dive in and be open-minded when asking questions about what people want and need."

Some students expressed new perspectives in how nurses could become more present in rural settings: "From the clinical experience, I have become passionate about bettering the presence of nurses and healthcare in rural areas. Many of the treatments we provide could be easily managed if it weren't for the geographic distance between clients and healthcare."

Understanding the community in which the patients live in was important to this student: **"**I have learned that it's important to find out all aspects of my patients including

what kind of community they live in. This can have an impact on their health depending on what resources they have available."

Leading Through Community Assessment

Participants identified phase one, the community assessment process initiated with the windshield survey, as having provided an important introductory understanding of the target community and the aim of the project. They observed many barriers that when placing themselves in the shoes of the potential client should be considered when designing the project:

> I think the biggest thing I have learned about working in a rural area is the logistical difficulties that come with providing care for clients. Going to them instead of expecting them to come you is a big thing I have learned. The importance of community outreach cannot be overlooked,

and "Rural areas have less resources, therefore it is important for us to obtain the best report from them to have the best outcome."

Another student recognized the importance of new and different thinking in rural health: "Rural healthcare is challenging from many perspectives. Affordability, access, and knowledge remain significant barriers in the community today. Overcoming these challenges will continue to require new and different thinking."

> I will definitely have an appreciation for how difficult it can be for people in rural areas get around and the distance between them and the nearest clinic. Providing excellent patient education, specifically when it is making decisions and help them know when to take immediate action.

Multiple students commented on the importance of their role in bringing health services to the rural community: “It became extremely important to us to get the healthcare help they were severely lacking. We spent so much time there that we became more invested in their outcomes.”

> From the Bridges Health experience, I have become passionate about bettering the presence of nurses and healthcare in rural areas. Many of the treatments we provide could be easily managed if it weren’t for the geographic distance between clients and healthcare.

Improving their own Communication and Collaboration

Participants reported communication amongst the interprofessional team as a tool that they would take into future practice. They also reported that by interviewing stakeholders as part of the community assessment they had experienced hands-on practice in professional communication skills. Participants particularly emphasized that understanding collaboration within their team, the target community, department of public health of the county, and with the university aided in the success of the project and their learning in the rural setting. A student explained learning in interprofessional teams:

> My takeaway is that many other disciplines are utilized and necessary in providing patient centered care. As nursing students, we can only provide a certain amount of services, and utilizing other disciplines is necessary when working with clients in a rural area. The social work students and the grad students were particularly helpful when outside resources were needed. Team work was a huge component in running this clinic.

"In Buffalo County, we learned a lot about government role and legal teams. We worked together to accomplish the goals of the community." Students recognized the need to improve communication with clients and their team. Participants also reported that client interviews were assistive in increasing understanding of the target community:

"Meeting people where they are, is the number one thing I learned." …"be empathetic of what they are going through and not assume anything."

In my future practice, I will most likely work with a rural population at some point in time and knowing how important it is to not just ask yes and no questions but, instead investigate into why they answered that way, is very important.

"I know completely how important communication is. Without it things do not get done, people are not on the same page, there is a disconnect between what exactly needs to be done."

Another student recognized the importance of interprofessional care and its ability to support individualized care to clients:

During the clinical, I have been involved with several disciplines. I worked with RN to BSN students, Grad students, Social Workers, Athletic Training, faculty, and nurse educators. Working with these disciplines has given me the opportunity to better understand the roles of these professions and how to utilize them. I learned to work closely with different members of the interdisciplinary team to provide individualized care to all clients.

Discussion

There is need for nursing and other health profession students to experience clinical training in rural settings. By interprofessional networking, a greater understanding of strengths and challenges within a community can be addressed (Taylor et al., 2017). This project demonstrates

students who were placed in a rural setting and charged with the design and implementation of a student-led, faculty-guided clinic gained knowledge in interprofessional practice and care for rural communities. Overall, the students participating in this project expressed understanding that healthcare in the rural setting holds unique challenges and that nurses collaborating with other professions can effectively design and respond to access barriers, particularly in preventive and primary care. Despite the importance of health professionals understanding the importance and value of interprofessional collaboration in improving patient outcomes, it is particularly imperative in the rural setting (Taylor et al., 2017).

Such clinical learning not only benefits students, it also benefits community members. In a time when preventive health and primary care are difficult to access in rural communities, there are nontraditional approaches that can augment other available resources and regularity of services is important (Taylor et al., 2017). Developing partnerships between schools of nursing and health sciences and rural communities and applying nontraditional approaches to preventive health can address community needs.

Nurse-led clinics have consistently demonstrated effectiveness in delivering preventive care and care for the underserved; a collaboration with a student-led, faculty-guided academic model extends human resources in a way that dually serves community and academia. Nursing provides a scope and service to the medical community that can be offered as a strategic response in areas with limited access to healthcare (Richards et al., 2011).

Nursing faculty also benefit from nurse-led clinic partnership with the community as shown in this project. Nurse Practitioners and nursing faculty remain current in their practice roles through engaging in such a model and benefit from the impact of engaging in practice with students and

other practitioners (Richards et al., 2011). Through this project, interprofessional students experienced authentic clinical training through leading a rural-focused health project.

Faculty Role

Exploring the role of interprofessional faculty in rural settings is needed. This respective interprofessional clinical education model creates opportunity for faculty practice and enhanced mentorship of students. As nurses have an increasing role in improving public health by providing services of prevention and education, the preparation of students through clinical experiences is equally important (Farzi et al., 2018). Creating a positive clinical environment in which nursing and other health science students have an interprofessional collaboration is grounded in the relationship between faculty and clinical environment (Farzi et al., 2018). The role of interprofessional faculty in the clinical setting has the opportunity to, not only provide the faculty with their clinical practice, but also provide role-modeling for students to enhance the learning experience for students (Farzi et al., 2018).

School Nurse Role

The school nurse role development requires further exploration. As the School-Based Health Alliance (n.d.) indicates, the collaboration between the clinic and school enhances continuity of care and yields many benefits. In our project, the school nurse facilitated appointments and guided students to and from class and collaborated with the coaches and athletic director to offer sports physicals. Although the COVID-19 Pandemic reduced the opportunities for ongoing in-person clinical care, further opportunities exist to collaborate between the school nurse and this program.

Limitations

Limitations should be considered when interpreting the results of this work. For data collection, the survey consisted of eight questions asking for qualitative responses. The

participants were asked to expect 10-15 minutes length of time to complete the questions and this may have resulted in reduced participation and completion of surveys. Plans to collect data using a pre- and post-quantitative survey may be successful in increasing participation in the survey, while quantifying responses. Considerations to measure client and community outcomes are also of interest and as a long-term goal measurement of cost effectiveness of the outreach will be beneficial as a mechanism of sustainability.

In the latter phase of this project, the clinic was initiated and began to see clients. Initial services delivered by the clinic targeted K12 students within the school. The school nurse was a key stakeholder and team member, functioning as a large asset to the overall clinic operations. The clinic had been open for only three weeks when the COVID-19 pandemic emerged and unfortunately reduced the number of services the participating students could deliver, and physical in-person services were suspended. In response, students and faculty developed virtual modalities of support that were convened starting April 1st, 2020, and continue to date, in which this rural community has access to throughout the early and ongoing phases of the pandemic.

While participating students experienced only three weeks of delivering service directly, they were able to complete both the planning phase and implemented the clinic. We were particularly interested in the perceptions students had of leading the planning and implementation and have gathered such data through this study; future work will further evaluate the implementation and quality improvement initiatives associated with sustaining this program in the rural setting using innovative modalities throughout the COVID-19 pandemic. Overall, the student learning experiences of the planning and preparation were extensive.

Implications

As the needs of the populations and communities we serve become more complex, future health professions must be equipped with the skills and knowledge necessary to step into their respective fields and not only deliver care but also be leaders of change. Rural community health is one area in which academic programs can intentionally improve the depth of learning experiences students are provided. This is critical as our rural communities continue to face ongoing and complex barriers to accessing healthcare, including preventive and primary care.

Determining the most effective means to reach individuals and families in rural communities can be guided by the local community needs assessment and individually design programs for the unique needs of the community. This project used the local community needs assessment and public health program planning approaches to design an interprofessional student-led, faculty-guided clinic within a public-school setting in a rural community. School based health centers can provide accessible, high-quality, and trusted healthcare.

For SBHCs to successfully meet the needs of its target population, it is imperative there is support from the school and community (American Public Health Association, 2018). Applying the framework that was used to guide this implementation project, we aim to sustain this clinic site through an avenue most meaningful for the given community. This is dependent on maintaining collaboration with the site, ongoing assessment of community needs, and adaptability (American Public Health Association, 2018). Additionally, the interprofessional clinical education model that provides the infrastructure for this rural site requires leadership by interprofessional clinical faculty, university support of its operations, time, effort, and persistence.

An interprofessional student-led, faculty-guided clinic can be adopted in a rural setting when applying an existing interprofessional clinical education model. Specific attributes of the process

include involving the students in leadership of the assessment, planning, development, and implementation of the site. Through that process, students experience hands-on learning in cultivating patient outcomes, understanding community as client, leading through community assessment, and improvement in their own communication and collaborative skills. In turn and over time, students will be equipped with necessary skills to enter practice and serve rural populations.

Conclusion

Access to health and mental care in rural settings is limited and often leads to rural individuals and families not seeking health care, particularly preventive and primary care. There is a known shortage in health care professionals in rural communities and as healthcare expands into community-based settings nurses collaborating with other professions are a piece to the solution in this health inequity. Schools of nursing are well positioned to design learning opportunities for students in rural settings. This project provides one way an academic-community partnership can support the growing demand for health care in rural settings.

Acknowledgements

This project was supported through collaborative energy and vision by its community collaborators, specifically those in Buffalo County and through work completed through the Duke Johnson & Johnson Nurse Leadership Program.

References

American Public Health Association. (2018). *School-based health centers: Improving health, well-being and educational success*. https://www.apha.org/-/media/files/pdf/sbhc/well_being_in_schools.ashx?la=en&hash=F54F7A314E6EB201C8B91F0EF8DDC673E6A35187

Buffalo County Wisconsin. (n.d.a). *Buffalo County Visitors Guide*. https://www.buffalocounty.com/414/Buffalo-County-Visitors-Guide

Buffalo County, Wisconsin. (n.d.b). *Buffalo County, Wisconsin* https://en.wikipedia.org/wiki/Buffalo_County,_Wisconsin

Carr, K. L., & Stewart, M. W. (2019). Effectiveness of school-based health center delivery of a cognitive skills building intervention in young, rural adolescents: Potential applications for addiction and mood. *Journal of Pediatric Nursing, 47*, 23-29. https://www.doi.org/10.1016/j.pedn.2019.04.013

Child Mind Institute (2016). *2016 Child Mind Institute children's mental health report.* https://doi.org/10.1016/j.pedn.2019.04.013

Denny, S., Utter, J., Clark, T., Fleming, T., Grant, S., & Galbreath, R. (2018). Using instrumental variables to assess the impact of school-based health clinics. *Journal of Adolescent Health, 62*(2), S88-S89. https://doi.org/10.1016/j.jadohealth.2017.11.179

Dunfee, M. N. (2020) School-based health centers in the United States: Roots, reality, and potential. *Journal of School Health*, *90*(8), 665-670. https://doi.org/10.1111/josh.12914

Farzi, S., Shahriari, M., & Farzi, S. (2018). Exploring the challenges of clinical education in nursing and strategies to improve it: A qualitative study. *Journal of Education and Health Promotion*, *7*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6149127/?report=printable

Gromoske, A. (2018). *Compass now 2018 navigating toward stronger communities*. https://www.greatriversunitedway.org/wp-content/uploads/2012/07/compass-now-2018-buffalo-county_final.pdf

Hassmiller, S. B. (2021). The Future of Nursing 2020–2030. *American Journal of Nursing*, *121*(5), 7. https://doi.org/10.1097/01.naj.0000751020.95176.0c

Health Resources and Services Administration (n.d.). *What is shortage designation?* https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation

Health Resources & Services Administration (2020). National *S*ample *S*urvey of *R*egistered *N*urses. https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/about-us/reports-to-congress/nursing-workforce-report-fy2020.pdf

Jackson, C. A., Henderson, M., Frank, J. W., & Haw, S. J. (2012). An overview of prevention of multiple risk behaviour in adolescence and young adulthood. *Journal of Public Health, 34*(suppl-1), i31-i40. https://doi.org/10.1093/pubmed/fdr113

Josiah Macy Jr. Foundation (2016). *Registered nurses: Partners in transforming primary care*. https://macyfoundation.org/publications/registered-nurses-partners-in-transforming-primary-care

Kavanagh, J., Kearns, A., & McGarry, T. (2015). The benefits and challenges of student-led clinics within an Irish context. *Journal of Practice Teaching and Learning, 13*(2-3), 58-72. https://core.ac.uk/download/pdf/229310685.pdf

Kippenbrock, T., Lo, W-J., Odell, E., & Buron, W. (2017). Nurse practitioner leadership in promoting access to rural primary care. *Nursing Economics, 35*(3), 119-125. https://oce.ovid.com/article/00006073-201705000-00003/HTML

Larson, K., Clark, A., Colborn, B., Perez, A., Engelke, M. K., & Hill, P. (2011). A school-based health center-university nursing partnership: How we filled in the gaps. *The Journal of School Nursing,* 27(6), 404-410. https://doi.org/10.1177/1059840511419370

Leroy Z. C., Wallin R., & Lee S. (2017). The role of school health services in addressing the needs of students with chronic health conditions: A systematic review. *Journal of School Nursing*. *33*(1): 64- 72 https://doi.org/10.1177/1059840516678909

Mennenga, H. A., Brown, R. J., Horsley, T. L., Abuatiq, A. A., & Plemmons, C. (2020). Collaborating with rural practice partners to provide a primary care experience for prelicensure nursing students. *Nurse Educator*, *46*(2), E14–E17. https://doi.org/10.1097/nne.0000000000000876

National Academies of Sciences Engineering Medicine (2021, May). *To achieve health equity, leverage nurses and increase funding for school and public health nursing*. News Release. Author. https://www.nationalacademies.org/news/2021/05/to-achieve-health-equity-leverage-nurses-and-increase-funding-for-school-and-public-health-nursing-says-new-report

National Organization of Nurse Practitioner Faculties (NONPF). (2014). *Nurse practitioners core competencies content*. https://cdn.ymaws.com/www.nonpf.org/resource/resmgr/competencies/2014npcorecompscontentfinaln.pdf

O'Leary, S., Lee, M., Federico, S., Barnard, J., Lockhart, S., Albright, K., Shmueli, D., Allison, M. A., & Kempe, A. (2014). School-based health centers as patient-centered medical homes. *PEDIATRICS*, *134*(5), 957-964. https://doi.org/10.1542/peds.2014-0296

Richards, E., O'Neil, E., Jones, C., Davis, L., & Krebs, L. (2011). Role of nursing students at rural nurse-managed clinics. *Journal of Community Health Nursing, 28*(1), 23-28. https://www.doi.org/10.1080/07370016.2011.539086

Salmond, S. W., & Echevarria, M. (2017). Healthcare transformation and changing roles for nursing. *Orthopaedic Nursing*, *36*(1), 12–25. https://doi.org/10.1097/nor.0000000000000308

School-Based Health Alliance. (n.d.). *School-Based Health Alliance | Redefining Health for Kids and Teens*. https://www.sbh4all.org/

Speakman, E., & Arenson, C. (2015). Going back to the future: What is all the buzz about interprofessional education and collaborative practice. *Nurse Educator*, 40(1), 3-4. https://www.doi.org/10.1097/NNE.0000000000000104

Stuhlmiller, C. M. & Tolchard, B. (2015). Developing a student-led health and wellbeing clinic in an underserved community: Collaborative learning, health outcomes and cost savings. *BMC Nursing, 14*(32), 1-8. https://www.doi.org/10.1186/s12912-015-0083-9

Taylor, S., Fatima, Y., Lakshman, N., & Roberts, H. (2017). Simulated interprofessional learning activities for rural health care services: Perceptions of health care students. *Journal of Multidisciplinary Healthcare,* 10, 235-241. https://www.doi.org/10.2147/jmdh.s140989

The EveryONE Project. (2021). *The EveryONE project™ An initiative to improve the health of all people*. https://www.aafp.org/family-physician/patient-care/the-everyone-project.html

Timm, J. R., & Schnepper, L. L. (2020). A mixed-methods evaluation of an interprofessional clinical education model serving students, faculty, and the community. *Journal of Interprofessional Care 35*(1), 92-100. https://www.doi.org/10.1080/13561820.2019.1710117

Walker, L. E., Cross, M., & Barnett, T. (2019). Students' experiences and perceptions of interprofessional education during rural placement: A mixed methods study. *Nurse Education Today,* 75, 28-34. https://www.doi.org/10.1016/j.nedt.2018.12.012

Ward, D. J., Furber, C., Tierney, S., & Swallow, V. (2013). Using framework analysis in nursing research: A worked example. *Journal of Advanced Nursing*, *69*(11). 2423-2431. https://www.doi.org/10.1111/jan.12127

Weierbach, F. M., & Stanton, M. P. (2018). Rural community case management experience for Bachelor of Science in nursing students: A focus group evaluation. *Journal of Nursing Education,* 57(9), 557-560. https://www.doi.org/10.3928/01484834-20180815-09

Westfall, J. M., & Byun, H. (2020). Recruiting, educating, and taking primary care to rural communities. *The Annals of Family Medicine*, *18*(5), 386–387. https://doi.org/10.1370/afm.2601

Zwilling, J., Fiandt, K., & Ahmed, R. (2021). Comparison of rural and urban utilization of nurse practitioners in states with full practice authority. *The Journal for Nurse Practitioners*, *17*(4), 386–393. https://doi.org/10.1016/j.nurpra.2020.12.033