

What Works in Rural Interprofessional Practice and Education? A Study of Student Reflections

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Abstract

Background: Team-based care has been proposed as a way to utilize rural health-care resources wisely. Thus, the need to educate healthcare profession students in the fundamentals of rural team-based practice has increased in recent years. This study sought to examine student reflections of a rural interprofessional practice and education (IPE) program in an effort to learn how students described their experience and what they valued.

Methods and findings: Student reflection journals from a formal rural IPE program were examined for themes related to post-experience values, attitudes, and beliefs. In general, the time spent in rural IPE led to understanding what it means to live and provide care as a team to a rural community. One important new discovery is that social interactions outside formal IPE curriculum are central to achieving programmatic goals.

Conclusion: Understanding the significance of rural IPE and how to guide students both inside and outside the clinical setting will help lead the development of future IPE. The findings of this study shed light on what students valued in a rural IPE experience and, thus, have implications for where institutional resources should be concentrated.

Keywords: Rural; Interprofessional education; Social IPE; Values; Attitudes; Beliefs

Introduction

Good healthcare is a need shared by every member of society. Issues of how people access healthcare, where they access care, and who cares for them have become increasingly important for those living in a rural community [1]. Individuals who live in a rural setting often have to choose between going to a healthcare provider or leaving medical conditions untreated. Many struggle to find adequate funds, transportation, health insurance, or social support [1]. Consequently, the health of rural populations has suffered [2]. The end result is a rural healthcare system in desperate need of providers, and healthcare professionals who are prepared for and committed to improving healthcare to rural underserved areas.

In response to decreased healthcare access, many have called for a different model of care delivery. New models outline the use of healthcare teams instead of individual providers to care for patients. With this new approach, the delivery of healthcare is changing. The need for teamwork to meet the demands of increasing costs and fragmented, uncoordinated care is more important than ever before. This need for collab-

oration is especially true for those living in a rural community [3,4]. As a result, team-based practice is critical and even ideal in a rural area where resources are limited, and the density of healthcare providers is geographically spread out [5,6]. However, some would argue healthcare educational institutions are not doing enough to prepare students for the importance of collaboration and teamwork in the rural setting [4]. Furthermore, preparing healthcare graduates to function as members of a rural healthcare team has been challenging [7]. Healthcare educators have followed the existing culture of uniprofessional urban-based education, which is difficult to change [8,9].

Interprofessional practice and education (IPE) was introduced many years ago as a way to change the long-standing traditional healthcare uniprofessional-education model. Initially, IPE was limited to the classroom; in recent years, however, IPE has entered the clinical realm. Moreover, to address the need for team-based practice in rural areas, healthcare education programs have begun to create clinical IPE opportunities in rural communities. Similar to uniprofessional rural training opportunities, these programs aim to expose students to rural settings and help them understand the needs of these communities, in addition to providing a team-based practice experience. Some have even asserted the rural setting is the ideal place for students to learn the valuable competencies necessary to function on a healthcare team [6,10]. Others have reported students who experience a rural team-based educational experience gain a greater understanding and appreciation for the challenges many in rural communities face [11]. Ultimately, it is essential to consider examining the educational significance of training healthcare teams in the rural setting.

To date, little is known about the experiences of those participating in rural IPE. Through the evaluation of a rural IPE program, valuable data could lead to the better use of funds and inform future decision-making in a profound way [12]. Therefore, the purpose of this study was to examine how a rural IPE program impacted healthcare profession students, what they thought about it, and implications for educators in health professions. In the end, these understandings hold promise to help guide future rural IPE pedagogy.

Program description

In 2015, educational leadership in a large Academic Health Center (AHC) in the American northwest sought to increase the amount of clinical IPE for its students while providing more rural training opportunities. Two rural communities were identified that had existing healthcare training sites and were viewed as having the potential for expansion to accommodate additional learners. Moreover, these two sites offered opportunities for students to engage in the rural community itself.

Healthcare profession students from the AHC were assigned to an experiential clinical rotation in one of the identified rural locations by their school or program. The rural IPE curriculum was created to provide exposure to rural life, collaborative team-based practice, and what it means to be a healthcare professional outside of an urban metropolitan area. Students from five different healthcare professions (medicine, physician assistant, nursing, dentistry, and pharmacy) spent several weeks learning how to deliver healthcare while immersed in a rural community.

Medical, physician assistant (PA), and nursing students spent between four and eight weeks in the rural community and had similar schedules, starting and stopping at the same time. The dental students spent four weeks in the rural location but had different arrival and departure times. The pharmacy students spent a longer period of time in the rural setting, embedding in the community for two to eight months. Each rural location accommodated up to 14 students at a time, and all students lived together in a multi-bedroom community-housing unit provided by the AHC.

At the rural site, students were given an orientation packet with general information on the rural community they were assigned to and an overview of IPE goals and objectives. Students were guided through a curriculum that exposed them to team-based care delivery and socialization into a rural community, along with opportunities to reflect on how the experience affected them as future healthcare providers. Students interacted with the community through a public health-focused community project and discussed how to approach rural healthcare issues as a team in weekly debriefing sessions. Additionally, students completed a weekly reflective journal designed to capture their thoughts and observations while working with other members of the healthcare team and the community. Consequently, this study set out to answer the following two research questions:

1. How does working with a rural interprofessional team shape student attitudes toward and beliefs about life as a healthcare provider in a rural setting?
2. What does a health profession student value about rural IPE?

In sum, this study accomplished the aim of evaluating a rural IPE program for what students valued and their resulting attitudes toward and beliefs about rural living as a healthcare provider.

Methods

Research design

Reflection through writing is often used in healthcare education as a way to comprehend how a student reflects on an experience and how those thoughts lead to perceptions and, ultimately, action [13]. For example, Wassef et al. [14] reported that reflective journaling has been used in nursing education as a way to evaluate how a student's personal ideals and views were influenced after engaging in a clinical learning experience. Additionally, researchers have reported using reflective journaling and weekly debriefings to determine that "active learning and reflection methods are strongly advocated in interprofessional training" [15, p. 130]. Therefore, giving students the opportunity to articulate how a rural IPE experience affected them, what they thought about it, and what that means for the future of their clinical practice offers a meaningful approach to explore rural IPE.

Data collection

Individuals who experienced central aspects of the study, such as team-based care delivery, IPE, and rural community life, were invited to participate based on their ability to generate rich data germane to the topic in question [16,17]. As one author

puts it, selecting participants “that can provide you with the information that you need to answer your research questions is the most important consideration in qualitative selection decisions” [17, p. 97]. As a result, students from the five different healthcare professions who spent between two weeks and six months in one of two rural locations were asked to participate via an information sheet and informed consent document.

At the completion of the student’s experience in the rural IPE program, an independent research assistant collected their reflection journals, assigned a random unique identification number to the journal, and uploaded a select portion of the journal to the AHC’s secure cloud-storage system. The select portion collected for analysis focused on the student’s journal response to two specific prompts. These two prompts directly pertained to the research questions and were written accordingly:

- How has working with an interprofessional team of students shaped your views on future work with people in those professions?
- How has the rural IPE experience influenced your perspective on working in a rural setting?

Data collection took place over a six-month period (June to December 2016). A total of 30 students (48% of total students at the two rural locations) from five different healthcare professions (medicine, PA, nursing, dentistry, and pharmacy) consented to participate in the study during the data-collection period.

Data analysis

The qualitative analysis of data can be done in a variety of different approaches, the end result, however, should provide the opportunity to discuss, relate, and produce increased understanding of the phenomenon under examination. The data produced through qualitative study lack intrinsic meaning in and of themselves. Hence, the aim of this analysis was to draw significance through the continued exploration of how the students described what they were seeing and experiencing to develop an understanding of the student’s values, attitudes, and beliefs of rural life, rural team-based care, and rural IPE [16].

Therefore, descriptive coding was used as an initial approach to explore the “basic topics of a passage” and was beneficial for detailing and examining “material products and physical environments” [18, p. 88]. This type of coding assisted in taking what was seen or heard and drawing general ideas from the data. Furthermore, descriptive coding was thought to be a good approach for noting the environment students “experience[d] on a daily basis” [18, p. 90]. Special attention was given to how the students described the setting of a rural community and the healthcare team. Terms or expressions used to depict what the students tangibly worked with, saw, and experienced formed the foundation for this type of coding.

The second type of coding used was values coding. Values coding is designed to capture the student’s values, attitudes, and beliefs about an experience [18]. These three concepts are interrelated and affected by the social and cultural environment one experiences [18]. As a result, values coding aided in the understanding of how the students thought and felt about the rural life, IPE, and being a member of a health-

care team. Ultimately, the three concepts inherent to values coding aided in defining what the students valued about rural IPE, along with what they believed and the resulting attitude toward IPE, the rural environment, and team-based care delivery.

Ethical considerations

The AHC Institutional Review Board (IRB) approved this study and granted it exempt status for educational research. During data collection, two research assistants collected the data and de-identified it. Data were kept in a protected cloud-based system provided by the AHC and specifically designed for the secure storage of sensitive research information. Students were instructed that participation was not part of their grade, and no demographic or identifying information would be collected. If students identified themselves by a certain healthcare profession or by location of experience, it was of their own accord and was not required as part of the journaling exercise. Journaling was done on a discussion board through the AHC’s password-protected web-based course-management system. Students were allowed to read their classmates’ posted journal entries and respond if desired. All students in this study agreed to participate via informed consent.

Results

Descriptive coding results

Student descriptions of the rural community, rural IPE, and the team-based environment were reviewed multiple times searching for similar words or phrases. Repeating words and phrases were marked to indicate a potential theme emerging from the data. Marked words, terms, expressions, or phrases were then entered into a journal-coding table to look for more than just similar words or phrases. Instead, the analysis centered on how those patterns could shed light on the themes and categories that were emerging. In other words, the descriptive coding analysis was designed to get a sense of how the rural environment, the healthcare team, and rural IPE were viewed from the student’s perspective. As a result, a descriptive-coding table (Table 1) was created according to two student perspectives that emerged and the four themes that developed, along with the descriptive codes used to create those themes.

Table 1. Descriptive Coding Themes

Student perspective	Themes	Descriptive codes
Humanistic perspective	Warm	Struggle, Earnest, Welcoming, Tight-knit, Sincere, Resolute, Beautiful
	Neutral	Nature, Interconnected, Vast, Informative
	Cold	Small, Remote, Isolated, Inadequate, Outsider
Healthcare provider perspective	Interprofessional	Silos, Absent, Collaborative, Supportive, Freedom

Below are the four descriptive coding themes that arose out of the analysis. Each theme is introduced along with its prevalence among the students and some supporting evidence from the reflection journals.

Warm: The majority of students (19 out of 30) described the environment of the rural community in terms that were generally positive with a warm thematic tone. They believed rural community members were genuinely excited they were there and displayed a sense of openness and acceptance toward them. Students remarked about the close-knit nature of relationships within families and between community members. This was viewed as the basis for thriving in a rural community. "To me, that community cohesion is the strength of this community; people know each other well enough to enquire and hold one another to account," wrote Student 18. A general feeling of resolve leading to strength not found in larger communities was also described. Students saw rural citizens as resourceful and genuine with a sense of togetherness.

Neutral: Experiences from certain students were described using words or phrases that were both warm and cold. Thus, more of a neutral perspective was seen. For instance, relational interconnectedness was portrayed as a helpful aspect of living in a small town. However, this was also explained as leading to feelings of everyone knowing your business and not having much privacy. Furthermore, the geographically spread out nature of a rural area was depicted by some as one of the main benefits of living there. However, being physically disconnected from others was also described as contributing to feelings of isolation.

Cold: Although not very prominent, seven out of the 30 students described the rural setting with negative connotations leaving a cold thematic impression. Three students described feeling like an outsider, creating an "us versus them" type of mentality. The rural town was also described as disconnected and physically far away from everyone else. Students remarked that the rural communities valued social interdependence but had a number of secluded individuals with little or no contact with others. Others observed people from rural communities dealing with extremely difficult circumstances leading to suffering and even despair. As a result, students viewed the rural community as having a lot of needs with very limited resources.

Poverty was described multiple times as a main contributor to difficulties faced by rural residents. Lack of adequate healthcare resources and lack of access to the local healthcare system was noted as contributing to, or resulting from, the cold thematic expressions discussed. For example, Student 10 wrote,

Back on the hill in Portland, it's relatively easy to find resources, whether for patients or for working on community projects. However, in rural communities, where such resources and services are not as abundant, it felt like we had to spend significantly more energy tracking resources.

IPE: Several narratives of the IPE experience or the local healthcare system led to the healthcare-provider thematic perspective. Students described the team-based approach to care as both prevalent and needed in a rural community. The IPE environment was generally depicted as encouraging and cooperative in nature, leading

to an overall sense of professional equity. However, one student called out the professional silos that still existed within the rural healthcare system, leading to a more negative sense of the IPE experience. Similarly, many students (17 out of 30) noticed a lack of IPE in the clinical setting, remarking that most of the interprofessional learning took place outside of formal clinical IPE time. This notion is described more in the values coding results section.

Students described the rural healthcare environment as a place where you have a large amount of professional liberty to work at the top of your license. This was defined through observations of providers filling many roles within the clinic. For instance, Student 11 wrote, “Here the pharmacists get to do it all, which makes for an excellent learning environment in terms of what I’m exposed to.”

Overall students described the rural environment as having a lot to offer, along with reporting a general appreciation for the hardships facing rural citizens. A variety of descriptions were used, but for the most part students used affirming words to define the rural community. Additionally, rural IPE was portrayed in a positive way as students articulated an appreciation for how they could fit into a team-based clinical practice. It seems, however, that the goals and objectives of rural IPE were accomplished in the non-clinical environment, as students did not engage in robust IPE while in the clinic or hospital.

Values coding results

Words, terms, and phrases that were given values codes were put into categories according to the value, attitude, or belief toward the rural setting, team-based care delivery, and IPE thought to be represented in the student’s journal. Using the value, attitude, and belief categories is considered useful for determining student motivation for making certain decisions about their experience [18]. Specific words, terms, and phrases were put into categorical components according to values, attitudes, and beliefs to allow for reflection about their shared importance and interconnection. Similarities between the students’ values, attitudes, and beliefs were grouped together and assigned a term or phrase depicting the emerging theme. These grouped themes were then analyzed for new connections between and within the categories. These similarities and the resulting themes provided the foundation for the interpretation of the values codes. In the end, seven themes were drawn out of the values-coded data. These seven themes are: Social connectedness, Role appreciation, Collegiality, Rural appeal, Patient centered, Education, and Challenges. Table 2 lists the themes with a sample of the values codes from each of the three coding categories.

Table 2. Values coding categories

Theme	Value	Attitude	Belief
Social connectedness	Hanging out Living together Close relationships Social interactions	Happiness Respect Inclusive	Personal interaction are key to IPE Shared housing is the best for IPE Organic conversations yielded the most

Table 2 (continued)

Theme	Value	Attitude	Belief
Role appreciation	Working with other professionals Learn about other professions More clinical IPE	Expanded mindset Appreciation of differences Respect	IPE increases understanding The different professions are needed PAs and MDs are very similar
Collegiality	Collaborative environment Working together in clinic Whole group contribution	Teamwork is fun Teachable Uncompetitive Open-minded	Team increases impact Medicine is a team effort Collaboration leads to better care
Rural appeal	Making a difference Community project Rural learning environment	Jumping in with both feet Increased motivation for rural Enjoy the setting	Urban care is more fragmented Rural practice is rewarding Greater impact in rural
Patient centered	Engaged provider Patient’s point of view Available resources	Eye-opening Excited for future work	Sparse resources Local hospital is needed IPP improves care Impacted my future practice
Education	Mentor’s involvement Interprofessional preceptors Feedback	Gratefulness for the experience Confirming Self-realization	Structure is necessary Rural IPE is not influential Communication is learning
Challenges	More time More clinical IPE Whole group contribution	Frustration Out of place	Structure is necessary Schedules are a barrier Asynchronous timing is difficult

“Social connectedness” was a prominent theme reflected on by the majority of students (18 out of 30). They wrote about how a rural community provided opportunities for them to engage outside of the clinical environment. Moreover, students commented on the shared student housing as a major contributor toward believing there was a place for them to learn from, with, and about each other. For example, Student 2 wrote, “... we ended up having a really fun time hanging out around the house and around town together.” The opportunity to interact with other students separate from curricular requirements was repeatedly described in an enthusiastic manner, leading to an appreciative and grateful attitude. Many students noted the organic conversations that occurred outside of the clinical walls were the cornerstone and the most rewarding aspect of the rural IPE experience.

Moreover, students repeatedly wrote about the importance of interacting with their fellow classmates outside of formal clinic time. They stressed the significance of living together as the main mechanism for achieving the goals and objectives of rural IPE. For instance, Student 1 wrote,

The time in the house hanging out and talking with the other students and being able to talk about their experiences and training did

more to get me to know them than the actual project. I could see how if the project wasn't here people could go through their rotations without ever really communicating with or getting to know their roommates.

Further, Student 15 remarked, "I was able to get some IPE experience from the fact that I had the opportunity to live in the same complex as a pharmacy student and a dental student." Additionally, Student 17 reflected, "Living and spending time with an interprofessional team of students provided the best views of these people beyond the mandatory projects we had to collaborate on together."

"Role appreciation" was a prevailing theme found throughout many of the student journals (15 out of 30). Students noted the increased appreciation they had for what their fellow students were learning, and how their skills were a valuable contributor to the healthcare team. Students described observing their preceptors in the clinic and coming away with a renewed sense of appreciation for the many roles providers hold. For instance, Student 23 stated, "... since there were fewer specialists, I felt the primary care providers took on additional responsibilities and had a broader scope." They noted the importance of having set aside times designed to get them together to discuss the unique contribution each of them could bring to the healthcare system.

"Collegiality" was a very strong theme within the data. Many students (14 out of 30) valued the sense that working together as a team was not only needed in a rural setting, but the rural IPE experience provided opportunities to see this in action. "I did enjoy working within a multidisciplinary clinic and seeing my preceptor not hesitate to utilize the expertise of those around her," wrote Student 25. Others explained the collaborative nature of the rural health clinic as the glue that holds it together. They believed the team-based approach improved patient care and was generated by the inclusiveness felt by every member of the team when it came to making suggestions.

"Rural appeal" was a common theme among the student journals (13 out of 30). Students described an appreciation for what the rural environment could bring. Having the opportunity to make an impact on the health needs of a rural community was a shared belief. Student 28 wrote, "I love smaller communities because when you want to make a difference, it actually seems to help a lot more than if it were a large town and what you actually accomplished was a rain drop in the ocean. Here it seems to matter more." Healthcare disparities were apparent to many students, leading to a feeling of wanting to return to the rural setting to provide much-needed care. Others described the rural clinical setting as the perfect place to see interprofessional practice in action. Some reflected on how the rural IPE experience reinforced or even motivated them to want to live there after graduation. Some noted the opportunity to take advantage of the natural beauty of the outdoors readily available in the rural setting.

The "Patient centered" theme was found in some student journals (10 out of 30). Students noted improved patient care as a direct result of the collaborative team-based environment. Students explained they valued providers who were dedicated

to their patients and communities. Students believed the rural team-based environment was an essential part of making limited resources go further. Student 4 reflected, "In a rural setting with limited resources, utilizing the skills of your colleagues is critical to providing exceptional patient care." Finally, some students reflected that the impact in patient care was a motivating reason why they would choose to live in a rural community.

The "Education" theme was woven into many of the student journals about rural IPE (16 out of 30). Students wrote about the importance of having such an experience, as it informed them about rural life and rural healthcare. Specifically, Student 9 remarked, "The beautiful thing about rural medicine is that there are so few providers that they have to work together more cohesively and get to know each other well in order to provide good healthcare for their patients." Others reflected on the belief that the educational experience did not influence their postgraduate decision at all. Some of these students noted they had already planned to return to a rural setting after graduation. Others described the value of having a preceptor who was interested in teaching and gave frequent feedback as an important aspect of their experience.

The "Challenge" theme was a curriculum-related aspect seen in some of the student journals (8 out of 30). Conflicting student schedules were believed to prevent cohesive learning and pose a barrier to IPE. Having students continually coming and going from the community led to feelings of frustration. For instance, Student 27 reflected, "I do think that having different schedules created some inconsistency, especially when it came to working on the IPE project." The inability to find consistency amid the student cohorts made it difficult to achieve the curricular goals and objectives. The challenge of having intermittent team-based care modelled in the clinic was also noted. Students found it difficult to engage in clinical IPE with fellow students if the clinic they were assigned to did not model a collaborative team-based approach to care delivery.

Discussion

Rural IPE was highly valued by study students, although there were some challenges related to conflicting schedules and clinical environments. A general thankfulness for the rural IPE experience seemed to permeate the student journals. Students came to understand the complexities of rural care and the belief that a team-based approach to caring for complex patient conditions is needed in the rural setting. Students had a genuine appreciation for the time spent learning from rural preceptors and engaging in the community. Further, spending an extended period of time in a rural setting aided in the understanding of rural living. Overall, students felt a sustained presence helped build trust and familiarity with both patients and providers.

Universally, students believed the rural environment was an ideal place to learn about team-based collaborative care. This supports a similar view held by many healthcare education researchers idealizing the rural setting for IPE [6,10,15]. Engagement in the community was agreed upon by all students to be an important

aspect of the IPE experience. Having a connection to a community was viewed as an important reason why a graduate of the health professions would return to a rural community to live and work. Closely related to this issue is what some researchers described as the community domain [19]. The need for a rural healthcare provider to feel a sense of connection with other healthcare professionals and the community in which they serve functions as the basis for not only the successful recruitment of rural healthcare providers but also retaining them for years into the future [19].

However, the perceived benefits of team-based care were not widely shared. Perspectives of neutrality toward the combined knowledge and strength of a team were found in this study. Many students were neither overly positive nor extremely negative concerning how a collaborative team enhanced the care of a rural community. This goes against the widely held belief that a rural community benefits from a team-based approach to care [3,4]. The ambiguity toward rural collaborative healthcare teams may be linked to another widely held perspective found in the data: the clinical setting is not where most IPE took place. In the end, there did seem to be a high value placed on the non-clinical aspect of the rural IPE experience, noting the most meaningful IPE generally took place in social settings.

Many students favoured the non-curricular interactions outside of the clinic or hospital for achieving the goals of IPE. Time spent outside of formal IPE was viewed as one of the most important elements in learning about other healthcare professions. Furthermore, these interactions formed the basis for learning how one could be an integral part of a team embedded within a healthcare community serving the needs of a rural area. Of importance, this conclusion is not found in the current IPE literature.

Students in this study described a deep need for relationship formation that is found outside of the prescribed curricular domain of current rural IPE. They felt a genuine connection to each other and the rural community through informal conversations, excursions, and downtime spent in the shared living space. Casual social time at the end of the day or on weekends provided the most organic and fruitful time for achieving the goals and objectives of a rural IPE experience. Students learned to appreciate other members of the healthcare team through conversations around the kitchen table, while on a hike, or in the midst of a community outing. Through organic interactions outside of formal curricular constructs, true IPE took place. As a result a new term is introduced here—*Social IPE*—and is proposed as one of the most important aspects of an experientially based rural IPE program. Despite the success experienced through Social IPE noted here, obstacles related to the need for social interaction outside of the clinical setting still exist in the current rural IPE delivery method.

Conflicting academic and clinic schedules were noted as a consistent barrier. For example, some students had traditional clinic hours of Monday through Friday, while others did not. This made it difficult to interact during formal IPE time because many of them were not in the clinic or hospital at the same time. Hence, there was rarely a consistent group to work on curricular goals and provide continuity toward educational objectives. The inconsistency with team members made it challenging to

build trust within the team. Without this foundational element, the benefits of a collaborative healthcare team are difficult to achieve [5]. This barrier stresses the importance of the previously described Social IPE as the most meaningful way to connect students and achieve the learning outcomes of a rural IPE program.

Modelling the benefits of a team-based approach to care in a rural community was a key principle described by students. It was clear the desire for a supportive team-based clinical atmosphere was highly valued among them. Nevertheless, the clinical environment sometimes posed a challenge to students engaging in IPE. While the clinic provided opportunities for students to observe team-based collaborative care in action, students struggled to find opportunities to engage in meaningful IPE with each other while in the clinic itself. Without an educational setting that actually demonstrates what a collaborative team does to enhance patient care, students will not attain true IPE [20,21]. This challenge underscores the significance of Social IPE as the primary way students learn from, with, and about each other in the rural setting.

Engaging with practicing rural healthcare providers is central to learning what rural life and rural healthcare is really about. The value of time with preceptors as a way to see how they handle challenges and celebrate the rewards of providing rural care cannot be overstated. For instance, students engaged in rural IPE were able to see how healthcare providers can make a significant difference in the lives of their patients. Through time spent with their preceptors, students were able to get a sense of how they could impact the health of the entire rural community through providing much needed care. This supports research that suggests students begin to understand what it means to work in a rural community through hearing the narratives of others [11,22].

The rural IPE experience was useful for exposing students to the difficulties of providing care to a rural community. Students reflected on the challenges inherent to a rural clinical practice through their interactions with their preceptors. For example, students viewed their preceptors wearing multiple different hats during a busy clinic day, which sometimes made it difficult to concentrate on patient care. However, without time spent in the clinic, interacting with the preceptor and experiencing the many different roles they would need to play, this perspective would not have been possible. Therefore, the students' view of rural healthcare delivery was shaped through exposure to practicing rural healthcare providers.

The recognition of this challenge led students to reflect on the importance of having a team of healthcare professionals to rely on for expertise, collaboration, and support. Moreover, students moved into an understanding of the need for a team to care for a rural community. This conclusion supports a major aspect of the rural IPE experience: students growing in their understanding of how a collaborative team approach benefits both providers and the rural community [3]. Consequently, as students transition to graduates, they may only be motivated to return to the rural setting if they know they will be part of a collaborative team.

Despite the valuable information gained from this study, several limitations are noted. As previously described, fellow classmates could read other students' journal-

ing and respond if desired. Thus, some students may not have felt as comfortable sharing openly knowing their fellow classmates were going to read and potentially respond. This could have led to students not sharing their true thoughts and feelings for fear of offending a fellow classmate who may have felt differently.

Another limitation was the lack of demographic data collection as part of the reflective journaling. It was difficult to correlate student journaling to healthcare profession, age, rural heritage, marital status, children, or gender. For instance, correlating the warm, cold, or neutral themes to a student's upbringing could have given insight into how the dimension of familiarity plays a role in forming perspectives of rural life or team-based care.

Data were not collected in relation to when the rural IPE experience occurred in the sequence of the students' education. When data collection took place, it was hard to know if a student was one or 10 months away from graduating. It can be speculated that if students were near the end of their training, they might have had a different perspective than if they were completing the rural IPE program early in their training.

Another limitation of the study is how students were selected to have a rural IPE experience. Some students volunteered to go; others were not given the choice but were assigned to do a rural IPE experience as part of their education. This has the potential to create a selection bias with those who volunteered to go and those who did not. For example, some students may have chosen to do the rural IPE experience because they were already interested in rural living. These students could have already favoured rural life and might have been planning to live in a rural setting after graduation. Consequently, the rural IPE experience may have had very little to do with changing their perspective about rural living.

The data gathered from this study helps inform educators, students, healthcare providers, and rural community members about a rural IPE program and how it affected the thoughts, attitudes, and beliefs of those who experienced it. Students highly valued the organic interactions outside of prescribed curricular time as a major contributor to achieving the goals of IPE. There is a gap in the literature describing the significance of informal IPE time to developing student understanding of team-based care delivery and rural life.

Future rural IPE programs should contain purposeful Social IPE that includes downtime, shared living space, and community-engagement activities. The rural setting provides a unique opportunity to house students together and provide opportunities for Social IPE. Students are often looking for opportunities to engage with fellow classmates and the rural community around them to push against the feelings of isolation that are sometimes present with a rural educational experience. In a setting where the clinical environment is difficult to control, supporting the learning that exists outside of the clinic is central to successful rural IPE and Social IPE alike. Learning from, with, and about other healthcare professionals is often done through organic conversations over a meal or on a bike ride. To this end, the cohorts of students should live together in an environment where they can interact with each other and set the stage for Social IPE.

The push for IPE to move out of the classroom necessitates that clinics and hospitals practice the collaborative team-based approach educators are seeking. Without the environment to support IPE, students are less likely to learn the valuable roles they and others can play as part of a healthcare team [3]. Therefore, the need for a collaborative team-based clinical environment to provide role models and support student learning is an essential component of achieving the goals and objectives of rural IPE. Further, the rural IPE experience should strive for unified start and stop times for participating programs and schools. Ensuring all students are arriving and departing at the same time would build a consistent IPE cohort where shared work and trust can flourish.

In conclusion, individuals create knowledge through social interactions with each other and with the culture in which they live and train. Students need to be challenged to construct new ways of thinking about team-based practice while they integrate into the rural clinical culture itself. As a result, rural clinical training has the potential to create a community of practice where students can gain the knowledge, connectivity, and experience necessary to practice in a rural community as a team [23]. Students training in a rural setting are exposed to the complexities of a rural community, where they see the delivery of healthcare in new ways. The students become part of that healthcare practice, and, in the rural setting, they also become part of that community.

As healthcare delivery methods have changed, educational leaders are obliged to look at how they train students to care for patients. Learning how a rural IPE experience affects student perspectives of rural team-based practice helps educators create IPE programs designed to put more practice-ready providers into rural settings. Additionally, by learning more about the impact of rural IPE, educational leaders can make policy decisions designed to support the development of a curriculum that achieves the goals and objectives of rural IPE. Rural communities themselves will also benefit by knowing how they can partner with healthcare education institutions, local providers, and students to address barriers to the recruitment of healthcare professionals.

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