

## **A Rural Interprofessional Educational Initiative: What Success Looks Like**

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### **Abstract**

The researchers implemented an interprofessional education (IPE) pilot program, wherein final year baccalaureate nursing students and 3rd year medical students undertook preceptorships concurrently in a semi-rural acute care setting. The goal was to emphasize interprofessional (IP) collaboration and team-building. The researchers sought to determine how hands-on, clinically-

based IP experiences could improve classroom-based IPE, and how the rural context might mediate such experiences. This article is an exploration of how participants defined a successful rural IPE experience, and which factors promoted or hindered that success. The definition of rural as used in the context of the research is to live outside of a major city. Three nursing and four medical students who agreed to undertake rural preceptorships were recruited through their supervising faculty. Upon their placement, three registered nurses and four physicians, assigned to precept the students, also agreed to take part. The researchers collected data through midpoint and endpoint semi-structured interviews, and two focus groups. The data were coded and analysed using Glaserian grounded theory. In the participants' view, successful rural IPE resulted in enhanced knowledge of each others' scope of practice, firsthand insights into rural IP teamwork and increased confidence in working with other disciplines. Authenticity was a key distinguishing rural feature. Success moreover depended on buy-in and facilitation by preceptors and staff, and student initiative and self-reliance. Hinderances to success were lack of logistical support, professional inertia or turf-consciousness, and student discomfort with IP engagement. Over the course of the pilot, the students grew to emulate their rural preceptors' interprofessional collegiality beyond the clinical setting.

The results of this study support the implementation of IPE in clinical rotations as an alternative or an adjunct to classroom-based IPE. The rural context may be particularly advantageous to clinical IPE owing to comprehensive coverage of acute care and holistic, community focus.

**Keywords:** Interprofessional education, Medical students, Nursing students, Preceptorship, Semi-rural, Western Canada

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Traditionally, health sciences practica, such as nursing and medical preceptorships, entail a one-to-one relationship between a student and a practitioner in a specific discipline for the express purpose of enhancing the clinical acumen of the student and the professionalism of the preceptor. In this study, however, the researchers sought to pilot an innovative model which emphasized formal, interprofessional education (IPE) collaboration and team-building between nursing and medical students during a senior clinical placement, in addition to instruction pertaining to their respective programs of study. The project, which took place in a semi-rural western Canadian community, was designed to promote professional confidence and competence, while providing opportunities for regular IPE experiences during the practicum. The researchers sought to investigate the contribution of IPE collaboration to patient care, communication and the working environment. In this article, the researchers explore how participants defined a successful rural IPE, and the factors they identified as promoting or hindering such experiences.

Over the past decade there have been a variety of new initiatives in relation to IPE in the health sciences, characterized by a general shift away from purely theoretical, classroom-based IPE to practical and experiential learning (Bilodeau et al., 2010; Brewer & Steward-Wynne, 2013; Mann et al., 2009; Medves et al., 2008). Related contemporary trends in IPE are simulation and e-learning (Cooper, Spencer-Dawe, & Mclean, 2005; Hinderer & Joyner, 2014; Kowitlawakul, 2014; Weinstein, 2010) and workshops or collaborative, problem-based modules (Cusack & O'Donoghue, 2012; Eccott, 2012; Lumague et al., 2006; Meffe, Claire Moravac, & Espin, 2012; O'Carroll, Baird, & Jackson, 2012).

A central theme emanating from IPE studies is the attitudinal stance of key stakeholders—namely students and faculty, health care providers and administrators—towards the implementation of an IPE program. Administrators and faculty alike have proven receptive to practice-based IPE in principle (Curran, Deacon, & Fleet, 2005; Giordano, Umland & Lyons, 2012), however, it has been found that turf consciousness/guarding can lead to resistance among health care practitioners (Becker, Hanyok, & Walton-Moss, 2014; Curran et al., 2005). As well, the persistence of a gendered and hierarchical discourse between nursing and medicine can invariably hinder interprofessional collaboration and education (Bell, Michalec, & Arenson, 2014; Curran, Sharpe, & Forristall, 2007; Jacobsen & Lindqvist, 2009; Jacobsen, Fink, Marcussen, Larsen, & Hansen, 2009; Price, Doucet, & Hall, 2014; Wilson, Fabri, & Wolfson, 2012). Beyond these psychosocial factors, scheduling and logistics have been found to be the typical challenges in the implementation of an IPE program (Margalit et al., 2009). Moreover, successful, practice-based IPE requires prior logistical measures in the practice setting (Paré Maziade, Pelletier, Houle, & Iloko-Fundi, 2012).

Rural clinical settings have proven advantageous to IPE from a variety of perspectives. Rural practice is inherently team-based (Medves et al., 2008), predominantly consisting of nurses and physicians. Immersion in a rural community provides the opportunity for holistic education regarding all aspects of rural life, beyond the clinical setting (Charles, Bainbridge, Copeman-Stewart, Art, & Kassam, 2006; Deutchman, Nearing, Baumgarten, & Westfall, 2012). Health sciences students undertaking rural IPE may be more likely and feel better prepared to choose rural career placements upon graduation (Rhyne, Daniels, Skipper, Sanders, & VanLeit, 2006). Reported outcomes of IPE programs are largely positive. IPE has been shown to promote patient safety and reduce mis/noncommunication among disciplines (Baker & Durham, 2013; Cox et al.,

2009; Thibault, 2011; Wilson et al., 2012). Students have indicated that practice-based IPE actually enabled them to learn directly about each other's scope of practice, roles and responsibilities (Eccott et al., 2012; Hanyok, Walton-Moss, Tanner, Steward, & Becker, 2013; Kowitlawakul, 2014; Lumague et al., 2006) and clarify their own roles in the context of an interprofessional team (Kowitlawakul, 2014). In turn, interprofessional experiences have been found to promote student confidence in communication skills (Meffe et al., 2012), professional identity (Cooper et al., 2005; Eccott, 2012) and collaboration (Eccott, 2012).

For the current study, the researchers brought together nursing and medical students for a practice-based IP experience in a rural setting, thereby seeking to: 1) innovate an experiential, practical alternative to classroom-based IPE; and 2) maximize the interprofessional team ethos inherent in rural health care settings through the principles of collaboration, communication and teamwork.

### **Methods**

The specific purpose of this study was twofold: 1) to investigate the psychosocial processes underlying an interprofessional preceptorship pilot for nursing and medical students in a rural health care setting; and 2) to promote interprofessional preceptorship development through evidence-based, qualitative findings. Owing to the lack of knowledge regarding the psychosocial processes underlying interprofessional learning experiences, the researchers chose to employ Glaserian grounded theory.

In collaboration with medical and nursing faculty members at a post-secondary institution in western Canada, the researchers recruited three senior (final year) undergraduate nursing students, all female, aged 21-23 years; and four medical students, one male and three female, aged 24-29 years, undertaking a third year preceptorship placement. All students affirmed their

prior clinical rotations had taken place in urban settings, and all volunteered to take part in the researchers' Interprofessional Rural Preceptorship Pilot. A nursing faculty coordinator also agreed to participate.

The students were subsequently assigned concurrent placements in a 76-bed acute care setting approximately 90 km from their place of postsecondary study, in a semi-rural community (population 17,000). The three nursing students resided in the community for 10 weeks. Two medical students commenced their preceptorships six weeks prior to the other medical students thus their participation in the IPE was limited to two weeks. However the remaining two medical students had an eight week placement concurrent with the nursing student placements. In addition to the acute care setting, the students undertook rounds in the community primary care network (PCN), a long-term care facility, and a medical clinic at which the precepting physicians practiced.

Once the students were placed, the researchers further recruited the following preceptors working in acute care at the health care setting: three registered nurses (RNs), all female, aged 49-55 years, all of whom had precepted students in the past and reported more than 15 years' rural clinical experience; and four physicians, two female and two male, aged 29-60 years, reporting between one and 27 years' rural clinical experience. Two physicians had not precepted students prior to taking part in the IPE.

Prior to recruitment, the researchers obtained ethical approval from the human research ethics board of their employer. All participants provided written, informed consent, with the understanding that they would remain anonymous and that they would be entitled to withdraw at any point during the study. Participants were informed about the nature and aims of the study through an information sheet and a 90-minute, onsite presentation.

In addition to facilitating the students' preceptorship placements and orienting all participants, the researchers also engaged in structured teaching and learning sessions with the participants, using four IPE modules which they had developed specifically for this particular educational experience. Sessions were conducted over approximately 60 minutes each, and were scheduled over four weeks during the preceptorship. The modules comprised discussion scenarios, video presentations, jeopardy rounds and additional readings. Two modules were presented onsite, and two online. The topics presented included Teaching and Learning; The Rural Context; IPE Communication and Collaboration; and Roles and Responsibilities. These modules constituted an integral component of the students' formal coursework for their preceptorships.

The researchers conducted the first semi structured interviews midway onsite and upon conclusion the second set of interviews via telephone. All participants took part, with the exception of the two male physicians. Additionally, the researchers conducted two onsite focus group sessions. The first midpoint session was attended by students and their faculty coordinator; the second session, which took place upon completion of the preceptorship, was attended by the nurse preceptors and their unit managers. All interviews and focus group sessions were audio-recorded and transcribed. The dataset also comprised researcher field notes and memos.

To analyze the data, the researchers employed Glaserian grounded theory, based on the symbolic interactionist principle of meaning arising from social processes (Blumer, 1986; Schreiber & Stern, 2001; Strauss, 1987). Analysis consisted of: 1) substantive coding; and 2) theoretical coding, whereby the researchers searched for intrinsic patterns in the data and subsequently gathered these into thematic categories which, in turn, became the basis for a core variable underlying the entire dataset (Glaser, 2005). Data analysis began as soon as the first

interviews were completed and transcribed. Three researchers carried out this process independently, using both traditional hardcopy and NVivo 10 (qualitative analysis software), to ensure the findings would be triangulated, mutually auditable, and confirmable.

The concluding interviews were dedicated to validating the analysis already carried out, by means of participant corroboration and legitimation of the researchers' theoretical codes, in the form of focused questions. At the concluding focus group, the researchers shared their findings in a PowerPoint presentation and poster. Through these measures, the researchers achieved a reliable and rigorous account of the psychosocial processes underlying the IPE.

### **Ethics Approval**

This research was approved by the Research Ethics Office, with the approval number RES0022459.

### **Results**

In this study, the researchers sought to understand the participants' actual perceptions of an IPE process in a rural setting, and the conditions they perceived as advancing or impeding that process. What emerged from the data was a process of actively '*committing*' though out the placement to IPE which generated learning outcomes that reflected nursing and medical students' enhanced knowledge of each other's scope of practice, firsthand insights into rural interprofessional teamwork, and increased confidence in working with professionals from other disciplines. Such a process served to create authenticity, in that the participants were genuinely interacting as team members rather than taking part in a classroom exercise.

According to the participants, the success or breakdown of the IPE preceptorship hinged on several conditions. Buy-in and facilitation by preceptors and other staff members, in particular, were found to greatly improve the likelihood of successful IPE learning outcomes, whereas

professional inertia and resistance to change were acknowledged impediments. Perhaps the most significant condition for success or failure, however, was student initiative. Outgoing, self-motivated students ‘*committing*’ to seeking out IPE interactions with each other, without waiting to be placed together or have their time managed by others, were most likely to benefit from the IPE pilot. It was generally agreed that students without such aptitudes would not be ideal candidates for the IPE pilot.

### **The Rural Context**

The researchers deliberately chose to implement the interprofessional preceptorship pilot in a hospital located in a semi-rural setting, to capitalize on the interprofessional rapport they had previously observed in rural settings. In taking stock of the setting, one medical student observed,

*I’m watching interdisciplinary [teamwork]. I’m watching how the nurses and the doctors and the EMS are coming into the emergency room; how they talk with the nurse and then the doctor; [how] the RT comes down and assesses as well. I think what’s so nice is it’s on such a micro-scale that it’s possible for someone to assess a patient on a unit, and then go down to the emergency room, and then, oh someone got called in obstetrics—so you see this more tangibly than if you’re in the big city. If you’re on the obstetrics unit [in the city, then] that’s where you’re staying, cause everyone needs to keep tabs on where everyone is, and you have learning objectives just for that. So rural is nice because it’s more flexible, and then there’s the opportunity to see things as they happen organically.*

From this student’s perspective, then, the rural context provided comprehensive coverage of IPE teamwork in all acute care situations, albeit in a compressed “micro-scale” which nonetheless felt completely authentic. The choice of the word “organic” suggests that the rural

setting allowed observation of IP teamwork unfolding naturally, across a continuum of care, rather than the snapshot view afforded by a placement in a single unit in an urban setting.

“I think that the rural environment will organically just facilitate that interdisciplinary work... the rural setting will do all the authenticity for you,” echoed another medical student. “Where you’re gonna have problems is when you’re gonna start making both nursing students and medical students do things that are kind of like, *OK go do this together...* the interdisciplinary class has kind of a bad reputation amongst all disciplines.” This student drew a contrast between the “organic” experience of rural IPE and the compulsory, classroom-based IPE, notorious amongst the student participants for its theoretical rather than authenticity-based exercises. “Everyone felt the classroom setting was a bit artificial,” agreed a nursing student; “you were supposed to be bringing your scope of practice and your knowledge together, but on very fabricated scenarios.”

In the early stages of the pilot, the clinical context acted as more of a barrier to IPE; staff members acknowledged that adapting to the new preceptorship model was difficult. The logistical challenge of coordinating students’ schedules, to have them in the same place at the same time, initially fell to staff. “Everyone is so busy,” remarked one precepting physician; “if the medical students haven’t already figured out, they certainly become aware quickly that our timeline is very different than the nursing timeline. We’re running in, running out, and [the nurses are] there all day.” Participants were largely unanimous in praising the program, but they expressed regret for lost IPE opportunities due to scheduling difficulties. “I believe that [the IPE program] needs to have more structure because [the students are] missing out. They’ve seen some great things but they could see more,” said one registered nurse. The rural context compounded these logistical difficulties insofar as the staff members, as expert generalists, were

already spread thin. “In my role I’m a mediator, I’m an educator, I’m a facilitator, I’m doing schedules, I’m doing all these other things,” said a nursing unit manager. “Some days I feel like I’m not giving the best 100% to the student because my 100% has to be over here somewhere.”

### **Staff Buy-In**

One unit manager who assumed the role of nurse preceptor expressed that she had been informed by hospital administration to take part in the pilot without what she perceived as adequate consultation. Regardless of the situation, she consented to be part of this research project. Furthermore, two of the four physician preceptors did not respond to interview requests from the researchers. While they indicated support of interprofessional practice at the initial orientation presentation, they did not have much involvement in the pilot, except to release the students under their tutelage from certain commitments in order to attend clinical IPE opportunities. Another precepting physician, who was more supportive of the project, acknowledged that bridging the divide between nursing and medical rotations was never going to be easy:

*The two training models are diabolically different in character and structure... whether [we're] territorial by design, or by default, I've never seen a nursing instructor instruct the medical students, and in return I don't step over the line and take them aside and instruct. There's been a line there, so not that we're not friendly or supportive, but there's a line and it's been well-defined. And that's probably what's perpetuated some of the both positive and negative things between the two professions.*

It is worth noting that the physicians who did not actively participate in the IPE objectives had both been practicing for over 20 years, and (apart from one medical student) the only males involved in the project. The students also observed some staff members' resistance to change,

especially at the outset. “I think maybe there was some wariness of bringing in new things, and ruffled feathers, [through] messing with what people have as established routines,” remarked one medical student. In this student’s experience, not every preceptor was sanguine about “making sure that we have the time to shadow each other as students, and making an effort to make time for the pilot project.”

In any event, however, these instances of professional inertia were exceptions rather than the norm. Preceptors observed the value of IPE and sought to bring about interprofessional experiences for the students. These preceptors rarely spoke of teaching interprofessional principles, but rather of setting up the students to discover these principles for themselves. “I’ve been the one who’s been doing most of the scheduling on the medical student side of things,” said one precepting physician. “Where there’s a nursing student and a medical student involved, [I’m] just trying to find those opportunities, as they arise, for them to work together with a patient.” The phrase “finding opportunities” perhaps best summarizes how preceptors saw their role, as far as the IPE pilot was concerned. They avoided “stepping over the line” of directly instructing each other’s students, preferring instead to point them in the right direction and then step back. The students corroborated this account, praising the efforts of their preceptors in facilitating IPE experiences. One medical student remarked,

*[The staff has] all of our phone numbers, and[they] would send a text message to the whole group saying, “if you’re available come to the emergency room, there’s an interesting case that you guys might all benefit from, being there”. One day I know they sent out a message saying there was a patient on a given unit that was being cardioverted, so if you were around and you wanted to see that, then you could go take part and be there together—learn from it together.*

As practitioners and former students themselves, the nursing and medical preceptors demonstrated they understood the value of hands-on interprofessional experience with minimal intrusion by instructors.

### **Student Initiative**

Facilitation of IPE opportunities by preceptors was not enough to produce successful outcomes; the students also had to capitalize on such opportunities. “It has taken effort on everybody’s part to make it happen,” said the medical student quoted above. “All of us [students] have been pretty engaged, so it hasn’t really fallen to one person to make it work. I think everybody’s been pretty proactive in making that happen.” Beyond their prior preparation and experience, proactivity was found to be the greatest asset that students brought to the IPE pilot. In the early stages of the rotation, as the staff and students struggled to coordinate schedules, at least one nursing student seemed in jeopardy of becoming marginalized—”struggling to make sure I’m meeting my course expectations... I’ve always gotta introduce myself, explain what the program is, [and] explain what my personal goals are.” The IPE pilot pushed this student outside of a comfort zone (as it did many staff members) but by the end of the rotation the student, like the other students, was fully invested in the interprofessional team ethos. “They pretty much know what they want, and they’re go-getters,” beamed one nurse preceptor. “They don’t sit in a corner somewhere.” At least one nursing student acknowledged that the pilot suited their particular personality type: “Somebody who has the aptitudes to be quite independent, [and] self-motivating, is gonna do better.”

The students also capitalized on opportunities outside the clinical setting to build interprofessional rapport. “We talked together [as students] and decided that [Telehealth sessions] would be a good opportunity for us to discuss the presentation, and our perspectives

from nursing and from medical students,” said a nursing student. “We took the initiative as students to organize the [Primary Care Network] meetings as well... we had to create those, which was a good opportunity.” These instances, together with case-based, IPE instructional modules (also a component of the pilot) became occasions for the nursing and medical students to socialize and compare schedules. The students also made a point of creating their own social occasions, such as an evening out at a local eatery and participating in a Zumba class together, as a way of further building interprofessional team ethos. These occasions illustrated that the students were taking their cue from the close-knit, informal camaraderie of the rural staff members. As one nursing student noted:

*There’s a doctor who just had a baby and everyone’s invited to her baby shower. The nurses are talking about who’s gonna go, and the docs are gonna go. That’s what ended up happening with us [as students], in a sense—we were able to hang out on a social level. That’s what happens here. It’s normal here and I think that the first time, at least for me, that I saw doctors and nurses and RTs and whatnot all having that friendship alongside the professional relationship. ...You don’t see that anywhere else.*

The students demonstrated initiative both in capitalizing on IPE opportunities and in emulating their preceptors’ interprofessional collegiality. This aptitude for proactivity, combined with staff buy-in and the rural team ethos, resulted in successful IPE experiences. As the coordinating faculty member observed, “I think a lot of the confidence did have to go back to the students’ own initiative and willingness to try things, and I guess the support that they’re able to get from the staff [as well].” The participants identified authenticity as the quality that set apart the rural IPE practicum pilot from other forms of IPE. Authenticity, in their view, implied

allowing events to unfold naturally, with minimal intervention by preceptors, so that the students might engage in unscripted, mutual reliance and decision-making as a team.

### **Discussion**

The findings corroborate much of what is established in the literature. The students drew a clear distinction between classroom-based IPE and the IPE preceptorship pilot, expressing a strong preference for the latter (Bilodeau et al., 2010; Brewer & Stewart-Wynne, 2013; Mann et al., 2009; Medves et al., 2008). While the pilot did integrate case-based learning modules outside the clinical setting (Cusack & O'Donoghue, 2012; Lumague et al., 2006; Meffe et al., 2012; O'Carroll, 2012), their value lay primarily in providing the students an additional opportunity to build rapport and coordinate their schedules.

Gender, discipline, hierarchy and length of practice experience may have been pertinent influences on staff support (Bell et al., 2014; Curran et al., 2007; Jacobsen & Lindqvist, 2009; Jacobsen et al., 2009; Price et al., 2014; Wilson et al., 2012). The two physicians who did not actively participate in the project happened to be male, each with over 20 years of practice experience; the two who did were younger, female practitioners. This may not be a significant result in itself, but participants did acknowledge that territoriality and routine were both in play (Becker et al., 2014; Curran et al., 2005). The greatest number of setbacks to the pilot resulted from scheduling and logistical issues (Curran et al., 2005; Margalit et al., 2009). The suggestion by Paré et al. (2012) of putting thorough logistical measures in place was borne out in the comments of participants. Having hospital administration and university faculty directly involved and supportive of the pilot was highly beneficial (Curran et al., 2005; Giordano et al., 2012).

The rural context advanced the objectives of the IPE pilot in several ways. The condensed nature of the rural setting provided abundant opportunities for IPE experience across a continuum of care and the informal collegiality of the rural health care team provided a useful model for the students' own interprofessional rapport (Medves et al., 2008). The students' rotations encompassed both the acute care and community settings including the Primary Care Network (PCN) and the medical clinic, thereby affording them a more holistic perspective of interprofessional teamwork than the confines of the hospital (Charles et al., 2006; Deutchman et al., 2012). The students were adamant that the rural context played a crucial role in their acquisition of interprofessional experience, knowledge and confidence, but similar initiatives have succeeded in urban settings as well (Eccott et al., 2012; Hanyok et al., 2013; Kowitlawakul et al., 2014; Lumague et al., 2006).

### **Limitations and Further Questions**

In this study the nursing and medical student sample size (n=7) was sufficient to achieve saturation for grounded theory. From the current findings, little can be deduced about the feasibility of implementing an interprofessional preceptorship pilot in an urban center, although the site researched was large by rural standards. The study also engenders further questions about the feasibility of expanding the pilot to include other health disciplines, such as Physiotherapy, Pharmacy and Occupational Therapy, but initial enquiries have shown that these student rotations may be more difficult to coordinate with Nursing and Medicine for onsite IPE experiences.

### **Conclusion**

This study indicates that successful interprofessional education outcomes—clinical experience, skills, and confidence in an IP team setting—are the product of an authentic teaching and learning process, and that authenticity is engendered by setting, staff facilitation, and student initiative. The findings strongly support the contention that IPE acquired during a clinical rotation, such as a preceptorship, is more highly valued by nursing and medical students than classroom-based IPE. Moreover, it is at least plausible that rural settings confer distinct advantages to those undertaking clinical IPE rotations, owing to the comprehensive coverage of an entire acute care setting and the opportunity to follow the continuum of care into a holistic, community context.

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