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The Experience of GP Surgeons in Western Canada: The Influence of Interprofessional Relationships in Training and Practice

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Abstract

Background: Challenges to the sustainability of rural healthcare in Canada demands innovative solutions to human resources shortages in rural communities. One solution is to support generalists with enhanced skills to meet some of the surgical needs of rural residents. Despite favourable outcomes, generalist surgical care is becoming a vanishing option due to the lack of interprofessional support garnered in education and practice.

Methods and Findings: Data were gathered through semi-structured interviews with 28 general practitioner surgeons (GPS) face-to-face and 12 GPS over the telephone. Interview participants articulated four themes, including their beliefs about GP surgery, the context of interprofessional relationships between general surgeons and GPS, and qualities of and barriers to interprofessional practice.

Conclusions: The importance of establishing positive interprofessional relationships within healthcare in relation to quality of care, outcomes, and system efficiency demands addressing interprofessional challenges at a macro (systems) and micro (personal interaction) level.

Keywords: Interprofessional relationships; Professional dominance theory; Surgical training; Rural healthcare; Qualitative interviewing

Introduction

Rural Canada is currently facing challenges to the sustainability of health services due to an array of factors. Some are broad, such as our cultural predisposition to specialist care enmeshed with technological solutions, and others are local and pragmatic, such as difficulty recruiting and retaining practitioners, difficulty determining the best way to keep procedural skills current within the context of low volume, commitments to competing priorities, and gaining the confidence of administrators and patients.

If care is to be provided in or close to patients' home communities as recommended by the College of Family Physicians, Society of Rural Physicians of Canada and the Society of Obstetricians and Gynaecologists of Canada in their Joint position paper on training for rural family practitioners in advanced maternity skills and cesarean section, it has been noted that a generalist approach to care in rural Canada is the only feasible option [1]. Low incidence and prevelance of conditions requiring procedural invervention make it unlikely, and undesirable, for specialists to practice away from places yielding a higher volume of need. If a generalist approach to care is warrented, it demands implementation within a context of appropriate and safe training, rigorous evaluation of both trainee and training pro-

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grams, dependable continuing medical education (CME), and a supportive and encouraging practice environment. When this practice environment has not cultivated, largely due to interprofessional conflict, it is to the detriment of rural communities. Despite emerging evidence that patients treated by generalists with enhanced skills have excellent outcomes [2], using the untapped potential of talented, motivated, and skilled generalist physicians is not encouraged and often is passively discouraged by specialist providers who strive to maintain their own professional boundaries. Conflicts arise, such as in the case of general practioner surgeons (GPS) and general surgeons, when there are overlaping domains of practice.

Fiscal and practical demands on the healthcare system require recalibration of the way we meet the health needs of rural residents. The experiences of practitioners who are currently practicing with enhanced skills provide us with a wealth of data on which we can base recommendations for sustainable practice. This article reports on data gathered from GP surgeons in British Columbia (BC) and Alberta about their insights into what worked well in their training program and what could be improved. It provides us with direction for informing the development of an efficacious, rigorous, and, most importantly, sustainable program plan to sustain rural enhanced-skilled practitioners to meet the needs of the population they serve.

Background

Overview

Rural family physicians with post-graduate training in surgery deliver a significant proportion of surgical services in western Canada [3-6]. In a 2002 survey, there were 76 rural hospitals with surgical programs, with the majority in Alberta (40) and BC (20) [4]. These GPS represent a mixture of 1) international medical graduates (IMGs) with a foreign fellowship and 2) family physicians trained either in Canada or internationally with 12 months or more of post graduate surgery training. The IMGs with a foreign fellowship represent approximately two-thirds of the GPS population [3,5,6]. In BC specifically, in 2000 there were 30 GPS in 20 rural surgical programs, where a GPS was defined as a non-specialist physician providing appendectomy and/or Cesarean section (C/S) services. Together, these GPS provided 71.9% of C/Ss and 61.8% of appendectomies performed in these 20 hospitals in BC. Only one study, which was Albertan, has measured GPSs' share of the surgical workload for rural citizens, after including all those who travel to a referral centre for care [7]. GPS performed 28% of appendectomies, 28% of carpal tunnel releases, and 21% of herniorrhaphy for the entire rural Alberta population.

It is unusual for communities with a population of less than 15,000 to have local surgical services provided by resident specialist surgeons. For larger communities there are, in general, two models for the organization of local surgical services. For populations of 5,000–15,000, surgical services are provided locally by one or more GPS. For populations of 15,000–25,000, there is usually a specialist surgeon supported by one or more GPS ("mixed" model). In these larger communities, the GPS(s) provide call relief and often cover the operative delivery program. For pop-

ulations greater than 25,000, there are usually groups of specialist surgeons without any GPS [4,6].

The procedures commonly performed in these GPS-only rural surgical programs are, by order of frequency: endoscopy, hand surgery, herniorrhaphy, cesarean section, tonsillectomy, peri-anal surgery, dilation and curettage (D&C), appendectomy, and laparoscopic tubal ligation [2,8,9]. In a recent study of BC's GPS-only programs, Humber found a procedure volume of approximately 200 total procedures per year in each rural surgical program [6]. These and other studies have measured the average number of procedures done each year in each of these rural surgical programs for many of these common surgeries: appendectomy (8/yr), herniorrhaphy (11/yr), and C/S (17/yr) [5-9]. The larger rural surgical programs with a specialist presence ("mixed" model) provide a larger volume of these services (2–3 times more) and a broader range of services (like cholecystectomies) [6].

The relatively small procedural volumes of these programs are associated with important issues regarding program sustainability, including the challenge of maintaining competence for the professional staff, lack of opportunity for intensive application of practitioners' skills, restriction on the numbers of skilled providers that can be supported by the local service demand (leading to vacation and on-call relief problems), and programs associated with high unit costs. The physical plant, anesthetic equipment, and on-call coverage must be maintained 24/7 regardless of the low utilization of the operating room (OR). However, these small-volume programs are not associated with poorer outcomes. There are no studies that document improved outcomes in surgical programs with larger volumes for the procedures usually performed in rural Canada. In contrast, US data show that, for nine specialized surgeries, better outcomes occur in larger-volume centres [10]. In a Canadian study that attempted to replicate these findings, only three of the nine highly specialized surgeries actually showed improved outcomes for high-volume centres. None of the surgeries were performed in rural Canada nor involved the repertoire of GPS [10].

Additionally, there are structural barriers to the sustainability of GPSs, namely the lack of interprofessional support through training and practice mentorship expressed by the leadership of general surgery. In their 1995 *Guidelines for Added Surgical Skills for Family Physicians*, the Canadian Association of Surgeons restricted the scope of training for GPSs to resuscitative and diagnostic interventions along with stabilization and transfer of patients for surgery in specialized facilities [2]. This was despite the historical claim that generalists in rural practice have had to provide procedural care, upholding the same standards as their specialist counterparts. As Iglesias and Thompson note, "the rural generalists, properly trained, become an expert in recognizing the boundaries for these procedures and patient selection beyond which s/he will transfer care" [11, n.p]. This assertion is corroborated by evidence on the safety of general practice surgery.

The safety literature includes reviews of GPS-performed C/S [12-18], appendectomy [19,20], gastroscopy [20-21], colonoscopy [23-27], and anesthesia [28]. Deutschman found the number of procedures to maintain competence in C/S to be

low (5–23) [13]. The safe outcomes of GPS in part reflect their inclination and ability to refer more complicated cases. Iglesias compared outcomes for 4,587 appendectomies performed in rural hospitals by specialists and GPSs [19]. Most outcome measures were the same (mortality, length of stay, death, diagnostic accuracy rate, transfer rate). However, the patients operated on by specialist surgeons were older, more likely to have comorbid illness, more likely to have a perforation, and more likely to require a return to the OR. The authors concluded that this reflected the ability of the GPS to identify and to refer the more complicated patients—a similar skill expected of specialist surgeons in referring to tertiary centres.

In addition there is a widely held cultural perception that rural communities have been well served by their GPSs. This was documented very clearly, first by Chiasson and Roy in their survey of rural hospitals in western Canada [2], and then repeated by Hayes in a similar Australian survey [29].

Sustainability of Maternity and Other Rural Care Programs

Without local C/S capability, many rural hospitals choose not to provide a local maternity care service [30]. Among those hospitals that continue to provide local maternity care without local C/S capacity, patient outflow to referral centres ranges from 45% to 97% (median outflow is 80%) [16]. These rural maternity care programs are not likely to be sustainable [31,32]. There is evidence from the maternity care literature in the rural US that high-outflow communities (>67% travelling for care) are at high risk of closure [34]. This puts at risk most, if not all, rural units attempting to offer local maternity care without local C/S backup.

Emerging evidence and experience suggest that GPS are an important, if not critical, human resource underpinning the sustainability of maternity services in rural Canadian communities [29]. While there is now a solid evidence base for linkages between rural maternity care and rural surgical programs, it is possible that other local healthcare programs are also dependent on the support of surgical services. For example, there are strong intuitive and theoretical reasons why critical care, trauma, emergency medicine, and the recruitment and retention of medical staff ought to be linked to the presence of a sustainable rural surgery program.

In 2000, there were 20 rural surgical programs in BC [4]. By 2004, there were only 15 remaining [8]. Over the same time period there were significant reductions in service level in many of the remaining programs [6]. This attrition has occurred in the small-volume, GPS-only programs serving populations of 5,000–15,000. Research in progress has identified serious instability in many of the remaining programs [33]. Only 3 of the remaining GPS-only programs seem to have a secure future. It is possible that we are witnessing the unraveling of the infrastructure of rural healthcare.

These rural surgery programs are the cornerstone of rural hospital-based care. Large-scale studies have linked the presence of these programs to the sustainability of rural maternity care [10,34]. The availability of surgical services plays an important role in the economic development and sustainability of rural communities. These rural surgery programs are often strategically situated astride important, vul-

nerable transportation corridors and are networked to agriculture, resource, tourist, and industrial economic activities. It is reasonable to expect important health, economic, and social consequences from the erosion of these services.

Clearly, the viability of these crucial pieces of rural healthcare is contingent on a rigorous and effective training program garnering all levels of system support. By considering the experiences and recommendations of participants in western Canada's three training programs, tentative first steps can be taken to construct such a model for training.

Methods

Data Collection

This qualitative study relied on semi-structured interviews with participants in BC and Alberta. Participant inclusion criteria included active practice as a GPS in BC or Alberta. Participants were recruited via third-party recruitment by key informants familiar to the research team, the "snowball" technique (initial participants referring the research team to colleagues who met the inclusion criteria), formal letters to those known to be offering GPS services in rural communities, and through ads in newspapers and newsletters in the research communities. One additional participant followed the enhanced skills training with full specialist training. Research communities were selected based on the known presence of an active GP surgery practice. In total, 40 participants took part in in-depth qualitative interviews. Total participation represented 67% of GPSs in western Canada [8,9]. All interviews were undertaken by one of the two principle investigators, with an additional research team member taking notes to ensure consistency of approach between the investigators. The consented audio recordings were used to produce transcripts, and the note-taker included non-verbal cues of the participants.

Interview questions were focused around perceived resources, outputs, outcomes, and impacts needed to support their training and practice. Example questions include: What kind of mentorship (clinical and/or personal) do you need as a GP surgeon? What kind of continuing medical education do you engage in? What do you think the implications would be if you stopped providing local caesarean section services in your community? Do you receive any support for providing GP surgery services locally? From whom do you receive support, and what type of support do you receive? This framework proved fruitful in elucidating the key elements considered necessary to support a sustainable enhanced skills training and practice environment. Within this context, the theme of interprofessional relationships emerged as a significant factor having an impact on training and practice.

This study was approved by the Behavioural Research Ethics Board at the University of British Columbia (UBC).

Data Analysis

Transcripts of the interviews were entered into NVivo and a general inductive approach for qualitative data analysis was used [35]. This process involved standard techniques in qualitative research, such as immersion in the data and thematic

analysis [36]. General themes were developed based on recurring articulations in the transcript and organized by semi-structured questions used in the interviews. More nuanced sub-themes that united the emerging understanding were noted, based on the cumulative experience of the research team (which included health services researches, two GPS researchers, and a general surgeon researcher). The pattern that emerged specifically in relation to interprofessional relationships was then related back to the literature on professional dominance. This process was efficacious as it allowed the research team to condense a substantial amount of raw data into a cohesive representation of participant's experiences and to establish clear links between the objectives of the study (to understand GPSs' experiences of education and practice) and the data.

Results

The research team undertook 28 face-to-face interviews with practicing GPSs in BC and 12 interviews by telephone with practitioners in BC and Alberta. When face-to-face, the interviews took place in participants' offices and were attended by the principal investigators and a research assistant. All interviews were audio-recorded with permission.

Participants conveyed four themes within the interviews, including their beliefs about GP surgery—both their own and those they believed general surgeons held. This provided a foundation for further comments, including the context of interprofessional relationships between general surgeons and GPSs and barriers and qualities of interprofessional practice. Each of these themes will be reviewed below.

Theme 1: Attitudes and Beliefs about GP Surgery

Participants in this study expressed a high degree of commitment to offering appropriate procedural care in their community due to the recognition of the importance of providing care "closer to home." Underscoring this commitment was their attention to diligence in providing care, guided by the recognition of the lack of immediate backup should they run into trouble.

GP surgery is a critical part of rural healthcare

All participants noted the importance of local accessibility to surgical skills in rural Canada. Many had anecdotes describing poor outcomes due to lack of access to such care, while most noted how surgery enhances the capacity of the medical community. As one participant said,

> Well, I think it just offers such a service to the community. I think it makes us a better medical community. If we're able to provide surgical skills, we also provide anesthetic skills. We have an OR [operating room]; we are able to do that many more things, and when you do more things, you're better at more things. And, you know, I think the more you do, the more you can handle, the better your medicine is. So as soon as you start to lose GP surgeons then your caseload

> goes down. Your GP anesthetist load goes down. Your skill level in the community goes down. And, of course, the biggest program that would be cut and eliminated would be our maternity program. (Participant 16b, 332-41)

The rural context was prominent for most participants who noted the vagaries of weather that, at times, make travel out of isolated communities prohibitive.

The delivery of safe care due to conscientiousness and diligence

Participants in this study emphasized a sense of diligence applied to the procedural care they undertook due to both the lack of immediate specialist support available should trouble arise and the social proximity between them and many of their patients in small communities. This approach involves anticipatory thinking and a clear risk assessment strategy.

> I just think as a GP surgeon you're so much more aware of not getting yourself into hot water. And that you don't have an array of support and a team in-house or anyone to bail you out if you get into trouble. So, you know, if we know ahead of time that someone is planning a section and we think they're at all high risk, [we won't] do the section here. I think you have to be a lot more level-headed and make good decisions even before you perform something. (Participant 16b, 252-60)

The social aspect of the diligence was clear for most participants:

> I think your feelings of responsibility feel that much higher. Because you often know the person, and if you don't know them, you know who they are, you know their family. You know you're going to see them again. And that just adds to that feeling that I want to do every section that we do, we want to be absolutely the best, most perfect section we could have done—from haemodynamic stability point of view to a cosmetic point of view. So, I think you're just that much more conscientious and that much more willing to take the time you need or … yeah, the time that you need to do a perfect job. (Participant 16b, 282-90)

Increased job satisfaction due to an expanded scope of practice

Complementing the enhanced sense of diligence due to isolation and social ties was the increased sense of job satisfaction that came with offering procedural care, which many participants expressed. When asked to describe the difference between procedural and non-procedural care, one participant said "[Increased] confidence. Variety. Technical expertise. And … its entirely different … it uses an entirely different part of your brain than you use as a GP in the office" (Participant 014, 244-6). Others were more direct with their comparison between procedural and non-pro-

cedural care, emphasizing the practical nature of the work and the exercise of curiosity:

> To come out of medicine and then to find yourself with a GP job, it's boring. And it's mundane. And it's not … But, if you can, say, fund that person to do some surgery on the site, job satisfaction goes up immensely. … I think I base that on the fact that if you've got a curiosity for knowledge, you want more. And medicine tends to control how much knowledge you have by what kind of job you do. If you've got exposure to new things and to new ideas and to.… (Participant 010, 744-63)

Concomitant to the sense of stretching one's capacity was the overall sense of satisfaction participants expressed with being able to offer the enhanced service in a rural setting:

> And deliveries are fun … more enjoyable because I know if things go wrong, well I'm here, and I can do a section and we've got the OR. There's something really satisfying in that in a rural area. (Participant 16b, 195-200)

The community context of care

All participants agreed on the contribution to their community that providing surgical services allowed. Particularly in the case of maternity care, the corollary to deliveries was the opportunity to see the family mature:

> I would do a caesarean for twins at term. That wouldn't turn me off. I've done that with [physician], and it was probably the most gratifying thing I've done in my career was to follow some twins through to pregnancy and delivery. And they're still around town. It's great. (Participant 044, 522-25)

Aside from the continuity with families, the continuity of provider that becomes a possibility for women needing caesarean sections was noted by participants. This was positioned in contrast to usual care in urban environments:

> I think it's hugely important for moms to have safe mentors to help them walk through the process of labour and delivery and becoming a mom, learning how to breastfeed, and learning how to become a parent. And when you have to go here and then there and there and there, and it's sixteen different caregivers, that's completely lost. And I think it's a huge disservice to mothers and kids. I think there's … I mean, I know in the city you can have a primary care physician who does all that, but I think it's harder in a big place where all of the … everything's fragmented. The lack of fragmentation here is a strength. (Participant 007, 747-57)

The sense of continuity extended outside of maternity care, however, to include the follow-up with surgical patients that is possible when a primary care physician undertakes surgical procedures. The relationship-based continuity was recognized to stem from trust that develops in a long-term therapeutic relationship for many of the participants.

GPSs' perceptions of the attitudes of specialists toward GP surgery

Most of the participants in this study conveyed their perception of a context of non-support from general surgeons. Tangible evidence cited was a Canadian Association of General Surgeons meeting where GPSs were referred to as "the midwives of surgery." As one participant noted, this was meant to infer sub-standard care provided by GPSs. Beyond this professional position, many participants cited both characteristics of relationships or discrete incidents that conveyed the larger professional attitude. One noted,

> And the chief of Surgery made it very clear my first week there that it was his intention to make me quit the year and that as far as he was concerned, family docs should never be in an operating room, and that we weren't smart enough to be in an operating room. (Participant 20, 35-39)

Emanating from this vantage point was the perception that specialists believed surgery should only be provided by specialists. At its most general, participants believed this was a "turf" issue, with some generalists wanting more work and feeling the GPSs cut in to that potential. This was evidenced by the lack of support for acquiring new skills:

> The older obstetricians were very unhappy. The head of the gynecological surgery department, after he heard I was learning laparoscopic work, tried to stop it. And then after I was finished, he said, "That will never happen again." The attitude is we will not train any family physician to do laparoscopic surgery. (Participant 036, 238-43)

Participants also noted the likelihood of concerns regarding "fixing the mistakes" of GPSs'. References to the lack of capacity of GPSs to deal with complications stemmed from the need for high volume and experience, something GPSs were believed to be lacking. The catch-22 that was recognized, however, was using the attrition of services from rural sites to point to low volume and compromised competence and confidence, which was a justification for further reduction in services.

Specifically, several participants noted the admonishment of general surgeons toward abdominal surgery performed by GPSs. One noted that,

> [Not] doing any intraperitoneal surgery … really is the party line, because you could take the five general surgeons that I worked with, each separately, and it was like they could quote word for word that "family doctors should not be doing any intercavitational procedures" … and it was the same wording. (Participant 20,105-09)

This was in contrast to experiences participants had had with obstetrician-gynecologists (OB-GYNs). Although not all were positive, in balance they were found to be more supportive then general surgeons. One participant recounted his apprenticeship with an OB-GYN to train in laparoscopic surgery:

> After a few months he said, "You're fine. Go home and do laparoscopies." And I said, "Okay, thanks." And that was how that was done. And so … now that was a gynaecologist. It's almost impossible to do that with general surgery. (Participant 052, 901-10)

Theme 2: The Context of Interprofessional Relationships Between GPSs and Specialists

Approaches by specialist professional organizations set the context for interpersonal professional relationships for the participants in this study. Interestingly, participants identified a distinction between OB-GYNs and general surgeons, noting that the former seem supportive of GPSs performing procedures such as laparotomies (in the case of suspected ectopic pregnancies) whereas general surgeons have expressed a "prohibition" of GPSs entering the abdomen. Evidence supporting this belief was cited from official statements made by the Canadian Association of General Surgeons but also clinical interactions: "I also found interesting [that] the obstetricians essentially said I can open up whatever belly I want to, but the general surgeons won't let me take out an appendix." (Participant 20, 69-73). The admonishment of entering the abdomen, however, didn't seem to extend to performing cesarean sections, which was something that at least one participant took exception to:

> I think a C-section is much worse because you have two patients who are potentially at risk rather than just one, but he didn't acknowledge that at all; he thought an appendix was much more serious an operation than that. (Participant 002,1375-85)

Most participants recognized the difficulty of working with regional specialists if their national organization did not support the collaborative or mentorship relationship.

> So unless it's recognized as being a legitimate service by larger authorities, then I don't believe [local providers] will support it either. … It seems almost impossible, I've got to tell you, having the general surgery bodies at large recognize that this is a legitimate service. (Participant 052, 576-87)

Theme 3: Qualities of Interprofessional Relationships

Where participants in this study felt that relationships between the professions were successful, "positive mentorship" was cited most frequently as the antecedent. "Shoulder-to-shoulder learning" was also cited as a contributor to productive relationships.

Positive mentorship

Positive mentorship from specialists, particularly ones who had been GPs before

specialist training, was highly regarded by the participants in building relationships. It was felt they more closely approximated their instruction with an understanding of the realities of being a rural general practice physician. As one participant noted,

> I found he was really helpful and was probably the one that gave me the most training. I think he gave me the best training because he worked as a GP surgeon himself in South Africa first, so he had an idea about risk management and he did a lot of teaching with me about how to decide who to operate on and who not to operate on. And that was probably the best training. (Participant 002, 162-71)

Concomitantly, the more active support received from specialists was counted among the significant activities in training. This support was perceived to be more forthcoming from obstetricians when compared with general surgeons. As one participant noted,

> I went to [the referral centre] because there was a general surgeon there who was part of the … Department of Surgery. And when I went there, I found that he was less interested in teaching me surgical skills, so I learned more from an obstetrician that worked there rather than the general surgeon. (Participant 002, 157-61)

Shoulder-to-shoulder learning

Several of the participants noted that within a mutually trusting mentorship relationship, they were given the latitude to have a high level of active involvement in procedures. In some instances participants noted the lack of overall structure within the training programs, which lead to a constricted scope of skills achieved.

> So I wasn't actually doing the uterine work, but I was closing abdomens all the time. So the obstetrician, who was about to retire at that time, was letting me do anything I wanted, and so were the general surgeons here. So I had lots of support, locally, right. Because every time I was in the operating room, they would let me do whatever I wanted. So it was sort of that mentoring within the system, right. So abdominal or whatever. But, I mean, I didn't get any training. I certainly didn't get—you know, when I went I just learned to do C-sections. So I can't say I'm a GP surgeon. I'm a GP sectionologist, right. What I am, because that's basically what I focused in on. (Participant 032, 205-216)

The hospital context of the training varied between primarily supportive (mostly small community hospitals) to negatively predisposed (tertiary care hospitals in urban centres). Unfortunately, the small community hospitals were generally more likely to resist taking on trainees due to their limited resources. Larger urban hospitals, although less supportive of training, were usually attached to a university program and able to offer higher volume, variation in mentors, and more access to innovative techniques and practice. Reciprocally, in both settings the advantage to

mentoring by the specialist physicians included honing their own skills and keeping up with the latest knowledge and techniques through teaching.

> I was given a lot of autonomy by the teachers. You know, they were … it's sort of their attitude toward me. They respected me as a learner. … You know, they sort of wanted me to be there to learn certain skills, and they made sure that I had the opportunities to do that. And, you know, they had a very respectful attitude the whole time I was there, so it was really good. (Participant 024, 35-41)

The curriculum through the Alberta program prior to 2000 was described as rigorous by all of the participants, although some suggested they would have felt more confident with an additional 6 months of training. Despite this assertion, only one participant noted they arranged to do more training:

> What I had done is I had gone to do … I was in Grand Prairie to do the full year of training, the third year of training, where you become a GP surgeon obstetrician, so you do six months in general surgery, six months in obstetrics. You're entitled to do appendectomies, hernias, C-sections. After a month here I said, "You know, this isn't going to be enough training." I didn't think I was going to be able to get the training. That's when I decided to go back and do the Royal College residency in general surgery. (Participant 23, 61-67)

Additionally, several participants noted the advantage of a formal mentorship program after the R3 training:

> I think the ideal would have been to come out of that program and work with a full service general surgeon, or with a surgeon obstetrician and orthopedic surgeon for a year or two. And just, you know, gain your confidence under that milieu. I think that would have been absolutely best. (Participant 43)

Theme 4: Barriers to Interprofessional Relationships

Non-supportive teaching environments

Barriers to successful training included a lack of mentorship by established GPSs (because they weren't included in the training programs) and specialists, especially the general surgeons, and non-supportive environments. The non-supportive environments were underscored by the lack of acceptance of the reality of GP surgery in rural western Canada by specialists in urban centres. This lack of recognition was not always passive, but often active criticism questioning the sensibility of those undertaking training:

> Yeah, a lot of criticism. A lot of questioning, again, about, "You're crazy," you know, "You shouldn't be pursuing this in your career," and just a really negative kind of [approach]. (Participant 16b, 81-83)

All of the participants noted the obvious disincentive this had on the training. As one summarized:

> There are a lot of barriers to training GP surgeons now. And I think that unless you have someone who's bound and bent and has a huge amount of support in their community, you know it would be difficult to maintain energy in order to finish training in some of those environments. (Participant 16b, 93-98)

Aside from the mental tenacity needed to complete training in unsupportive environments, a further effect of active lack of support was the self-doubt this incurred.

> To suddenly be met with a lot of criticism was a bit daunting for me. And I sort of thought, "Am I getting in too deep? Is this something. …" You know, you really start to question whether you have support of your colleagues. (Participant 16b, 63-67)

Many participants in this study recognized the resistance by specialists stemmed from conflicting philosophical positions between generalists and specialists.

> The only people that I got bad attitude from … were the general surgeons … and I guess I see it as sort of professional immaturity, that kind of attitude that they're not willing to train people for what they need to do in their communities, but I do run into that from the anesthesia side [as well]. (Participant 037, 753-58)

For most participants in this study, the learning environment either gave them the confidence to continue on with their training or lead them to quit, marred by the belief that taking on surgical skills was untenable in a small rural community. As a prerequisite to a positive environment, however, was the recognition by participants that they needed to enlist the support of general surgeons.

> You'd have to recruit, or bring on side, the people capable of providing the education. So that means the general surgery department, and that's the toughest. I bring them up first because they're the toughest. This has never been a sell for general surgery. (Participant 052, 171-75)

Discussion

Literature on specialization in medicine suggests that boundaries or "interfaces, clear dividing lines between areas of different ownership or shared areas of contact" have traditionally demarcated practice [37]. These boundaries, however, are tending to dissipate as the culture of medicine moves from a practitioner focus to a patient focus. This shift is evidenced most clearly by the emerging move toward interprofessional collaboration as a solution to improve quality and convenience (and cost) of care for the patient [37,38]. Although demanding flexibility in response, this shift has posed challenges to the historical base of professional groups, leading, at times, to ongoing friction between medical specialties and professions [38,39]. This friction

rests, in part, in the uncertainty of the impact working across professional boundaries may have on identity and career prospects and hint, for many, at the emergence of the "generic worker" [37]. Hopkins et al. observed that discussions on interprofessional relationships rest more on the idea of maintaining professional independence than professional interdependence, the latter more conducive to determining who can best perform the necessary tasks to meet the needs of the population [40].

Serra characterized medical specialties as "medical technocracies: systems governed by medical experts who try to promote themselves, assuming their knowledge to be a priority, claiming resources and developing power strategies" [39]. Strategic in this endeavour is the continual negotiation of power rooted in ownership over new techniques and technologies [39,41]. She goes on to note that above all, the negotiation of domain over techniques and technologies leads to articulations of divisions of labour, including barriers imposed on groups to performing tasks. Serra cites Loxley [42, p. 49], who notes that when specialties try to promote themselves in relation to others, "by assuming its knowledge to be pre-eminent, demanding resources and developing power strategies," the division of labour becomes dysfunctional. Functional relations are more easily assumed when tasks and responsibilities are clearly distinct and not in competition for power or resources.

The power differences between physicians and other occupations are generally described as physician dominance. This is often interpreted from within the context of theories on professional dominance, a term coined by sociologist Eliot Freidson in the 1970s to refer to the monopoly that physicians hold within the healthcare field and in relation to other allied health professions [43-45]. The power differences *between* physicians, however, is characterized as competition and rivalry [38]. Considering the relationship between participants in this study and their specialist colleagues, however, the concept of professional dominance seems to best describe the structural motivations enacted through behavioural responses between the groups.

A key tenant of professional dominance theory concerns the suppression of competing groups [46]. This power is exercised through rights of education, licensure, regulation, and the attendant privileges of the profession (prescribing, admitting to hospital, ordering tests, and performing diagnostics and procedures) [46] and is endemic among many medical specialties. For example, Baerlocher and Detsky [41] highlight the "turf battle" between primary care physicians and cardiologists, both of whom claim treatment of myocardial infarctions are within the realm of their domain of practice. While the mortality rates remain similar between the specialties, the costs and amount of resources used in the treatment of the infarctions is significantly higher when carried out by cardiologists [41]. The authors go on to suggest that there is an underlying financial motivation to the battles over professional domain. Attempts at expansion of professional boundaries may be strongly rejected (or supported) depending on how it will affect financial outcomes of certain specialties [41]. In other words, those who resist an expansion of professional boundaries do so to protect their personal income from becoming eroded by loss of patients, whereas those in favour of expansion of boundaries may financially ben-

efit from the expansion [41]. As the profession of general surgery is constricted due to the increasing sub-specialization of surgeons [47], resisting an expansion of their scope of practice to other physician groups is understandable.

Despite the useful application of this literature in understanding interprofessional relationships between GP surgeons and general surgeons, very little has been written about it. Given power differences between the specialties, the increasing sub-specialization of surgery, and the lack of professional boundaries around GP surgeons, admonitions by specialists to GPs interested in performing surgical procedures to fill the specialist void in rural communities is not unexpected. It does, however, highlight the underlying question posed by Cameron: whether professions should be defined by their knowledge base or as a particular type of institutional organization giving practitioners control over access, training, credential[ing], and evaluation of performance." Interestingly, participants in this study noted substantially different experiences with obstetricians compared with general surgeons, the former group being more amenable to interprofessional cooperation. This difference may be due to historical support garnered from the leadership of obstetrician-gynecologists and the concomitant negative reaction to an early GP surgery training program in Alberta, which was described by the Canadian Association of General Surgeon's leadership as "a retrogressive step" [48]. In its place, the leadership proposed a model for ensuring "access to people in rural and remote areas of Canada to appropriate general surgical care" with the family physician being relegated to diagnosing and stabilizing before transport [48].

Micro-experiences of interprofessional relationships, the day-to-day experiences between practitioners, played out for the participants in this study within the context of macro-influences—the larger political context of establishing and maintaining professional boundaries. The study of GP surgeons is an interesting one, as their rural geographic location of practice is, for the most part, separate and distinct from their specialist colleagues. This separation makes the boundaries of observation crisp and patterns of interactions more easily identified from within other influences that cloud such observations in larger settings.

The limitations of this study include relying on qualitative inference for understanding of the nuances of interprofessional relationships. Further, this study focused solely on the experiences of GP surgeons; general surgeons were not interviewed directly and consequently the views represent the experiences of one constituency. This will be addressed through a subsequent study on general surgeons' experiences with GP surgeons. Strengths, however, include the comprehensive representation of the views of GP Surgeons in western Canada, leading to highly consistent findings across participant responses.

Recommendations and Conclusions

This study explored the interprofessional experiences of general practice surgeons in relation to their specialist colleagues, largely from within the context of professional dominance theory. The boundaries between the professions, articulated by specialists' responses, were clear, which gives rise to the question of whether medical

schools and professional bodies are focusing on attributes that are most important. Cameron notes that the current focus on the role of education, training, and regulation, which structure professional boundaries, might better be replaced with a focus on "the 'human and social aspects' of these changes in order to understand how individual professionals perceive and experience the boundaries between professional groups" [37, p. 57]. Findings from this study document a move to more clearly understand the nuanced experience of GP surgeons; clearly, further work is needed to understand the experiences and perceptions of the specialists who work with them.

Manca and collegues [49] suggest that a good generalist–specialist relationship may be as important as a good patient–provider relationship in terms of quality of care, outcomes, and healthcare system efficiency. To this end, reducing interprofessional tension between the groups is a crucial undertaking to improve the care of rural residents. This should be underpinned by a rational approach to rural surgical planning based on population need in conjunction with geographic isolation and include recognizing the need to decentralize appropriate procedures to enhance rural access. Based on these criteria:

- Professions must work together to create a supporting context for the training and practice of GP surgeons in Canada. This requires endorsement by the Canadian Association of General Surgery, the Society of Obstetricians and Gynecologists of Canada, and the Canadian Anesthesiologists' Society.
- Responsibility for accreditation must be assumed by Canadian Family Physicians of Canada, including developing programs of accreditation based on an adequately resourced and standardized curriculum and the devolution of certification responsibility from general surgery.
- A competency-based regulatory framework must be developed and endorsed by the BC College of Physicians and Surgeons. This will move toward clarifying issues of medico-legal liability and supporting a professional identity for GP surgery and lead to professional sustainability.
- Systematic monitoring of outcomes of GP surgery practice within a quality assurance framework should be undertaken, including establishing provincial morbidity and mortality rounds overseen by GP surgeons, establishing hospital comparison reports based on population-based outcomes, and establishing CME and professional development for GP surgery.

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Abbreviations

CME – Continuing Medical Education
BC – British Columbia
GPS – General Practitioner Surgeons
IMGs – International Medical Graduates
C/S – caesarean section
REAP – Rural Education Action Plan

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