



Rural Emergency Medicine Needs Assessment
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FINAL REPORT

Study conducted by:

UBC Rural Continuing Professional Development (RCPD) Program

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The study was designed with guidance from an Advisory Committee that has broad stakeholder representation including members of the target audience, rural medical educators, and representatives from BC Health Authorities, the Doctors of BC, RCCbc, and the UBC Faculty of Medicine ([Appendix 8.I](#) has a full list of members).

This study is aligned with the JSC mandate to support physicians who reside in rural BC communities. It allowed us to speak directly to rural physicians and other healthcare providers in British Columbia (BC) to examine the recruitment, retention, support, and continuing education factors that impact the provision of emergency medicine (EM) care in rural BC. The RCPD study team would particularly like to thank the many rural physicians and health care teams who took the time to speak with us. Each focus group and interview was unique in its composition and allowed the study team to explore different facets of the rural EM experience. We appreciate the candour and willingness of participants to share their stories and experiences working on the front lines of the rural ER in British Columbia.

About the UBC Rural Continuing Professional (RCPD) Program

The UBC Rural Continuing Professional Development (RCPD) Program has been operating since 2008 and is situated within the UBC Faculty of Medicine's Division of Continuing Professional Development (UBC CPD). The RCPD Program is committed to improving rural patient health and the retention of skilled rural practitioners by supporting the unique learning needs of rural physicians and other rural health care professionals in British Columbia through high-quality and innovative CPD. The RCPD Program originated following a 2005 provincial needs assessment of rural physicians, which highlighted a critical need for more rurally relevant and customised 'closer to home' education. For the past six years, the RCPD Program has been working with support from the Rural Coordination Centre of BC to offer a multitude of Continuing Professional Development opportunities including traveling skills-based courses, monthly videoconference rounds, rural physician mentoring, online journal clubs, training equipment loans, and research and evaluation initiatives including this study. The RCPD program is guided by a Medical Director and a Rural Medical Advisory Committee.

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1. Executive Summary

The challenges with providing health care to rural Canadians, primarily due to the lack of access to resources and personnel and the geographical isolation of much of rural Canada, are well known. Nowhere are these challenges more apparent than in the rural emergency room (ER), where treatments for unstable patients must be delivered urgently or emergently. Supporting rural physicians to provide quality emergency medicine (EM) care will improve the health care of rural Canadians, but there are many challenges that need to be addressed to accomplish this.

This study aims to understand the factors that support or hinder the provision of rural EM care in rural British Columbia, with a focus on educational needs. We investigated barriers to and facilitators of EM care in the following areas: the health care system in general, the local health care system factors, including team and workplace issues, as well as Continuing Professional Development (CPD). Our goal was to develop recommendations to address the identified issues, both reducing barriers and enhancing supports.

To assess the needs and challenges of rural EM providers in BC, we wanted to speak with these individuals directly to gather their input and hear their stories. We used a focus group methodology because we felt it would offer the best opportunity to capture unique perspectives and ideas. Each 90-minute focus group was built around a semi-structured set of interview questions, allowing us to focus the discussion on a few key questions, while also allowing space for the conversation to flow and for issues of importance to the participants to emerge spontaneously.

Physician focus group participants were identified through an online recruitment survey and were selected to ensure the focus groups included a diverse group of physicians based on inclusion criteria such as size of community and level of isolation in which they practice, practice profile, and community-based resources. Nurses and allied health care professionals (AHPs) were recruited for a separate focus group using professional contacts and advice from the Advisory Committee. We conducted nine focus groups in total—each of which was composed of a distinct group of rural EM providers. The requirements for all participants were that they work in at least one Rural Subsidiary Agreement (RSA) community in BC and they currently practice or have previously practiced EM in a rural BC community.

We purposefully selected specific physicians as expert key informants to help us fill in gaps and further explore what we heard in the focus groups. The key informants were selected because they represented perspectives relating to the transport system, rural residency medical training program, and rural EM-focused CPD.

The study team developed a coding structure to analyse the qualitative data collected in focus groups and key informant interviews. Major themes that emerged from the coding structure are: “Recruitment and Retention”, “System and Workplace Supports and Barriers”, and “Education, Knowledge, and Skills”. The results of the coding process were used to summarise the results and prepare this final report.

The findings from this study reveal a wide variety of factors that pull or push physicians towards or away from rural practice, and rural EM practice in particular. Factors that drew physicians in our focus group to rural practice and/or rural EM practice include:

- Positive experiences in rural BC during childhood or medical training
- Attraction to the rural lifestyle
- Having a personality that is drawn to the uncertainty and challenges associated with EM
- Working in a supportive health care team with a strong sense of community and collegiality

Factors that push physicians away from EM practice and make rural practice challenging include:

- Lack of adequate support from the system and colleagues
- Negative experiences with colleagues or in clinical settings
- Insufficient exposure to rural practice and EM during training
- Lifestyle demands that compete with the demands of practice
- Demands of office practice conflicting with EM practice

A significant overarching finding of this study is the importance of *relationships* in sustainable rural EM practice. Relationships between local physician colleagues and with the local health care team are perhaps the most important factor in supporting the rural EM physician. Healthy relationships between rural physicians, regional specialists, and key urban specialty services are also very important.

The most frustrating aspect of rural EM expressed by our focus group members are the wide range of barriers associated with needing to transfer patients to a higher level of care. There is disagreement about the best way to activate the transport system, and experienced physicians often bypass standard processes of system activation to expedite patient care. There are systemic problems related to poor patterns of communication from the Patient Transport Network (PTN) back to the community hospital once a transfer has been arranged. Issues of how best to provide care for patients requiring transfer by road ambulance, (rather than air transport) are also significant. Transfer of the unstable psychiatric patient has been identified as particularly challenging and unsatisfactory.

We clearly heard from our focus group participants that new graduates of rural residency training programs have the skills necessary to work in the rural ER while those from urban programs are nearly universally unprepared. International Medical Graduates (IMGs) and rural locums are groups with a number of special needs. These needs are generally unmet by the existing system, and neither of these groups have effective ways to voice or lobby for system change to meet their needs.

Physicians are aware of areas where they lack support from their Health Authority (HA) to provide the care they feel their patients need. Physicians perceive a disheartening lack of recognition and support for their role as patient advocate and for performing local hospital administrative functions. They expect HAs to be doing more to provide essential diagnostic services in small communities and provide more standardisation of ER supplies, equipment, and support services.

This study highlights the importance of teamwork to the sustainability of rural EM. The importance of overall team functioning cannot be overstated. Improvements needed in the system to enhance team functioning include recognition of the important role of nursing colleagues, the need for better systems to provide back-up support to physicians, and the need for more feedback on performance.

Rural physicians have clearly articulated the type of education that is most desirable to them. This consists of education delivered in the rural community, to the whole health care team, and in an interprofessional manner. The education needs to be rurally and community-specific (i.e. adaptable to the needs and resources of a community).

Education that offers opportunities to practice rarely used skills is valuable, as maintenance of critical care skills is one of the biggest challenges of rural EM. Educational experts have identified simulation-based education as an ideal way to meet this need. Although simulation-based education is seen as valuable, there is currently uneven access to such programming across the province. There is an appetite for much more access to locally available and rurally relevant simulation programs.

Another way to meet the needs of EM education at a community level is 'home-grown' CPD. This locally customized education is especially valuable because, through its focus on the specific community, it addresses the specific learning needs of the local team in a way that other education cannot achieve. Yet there are few supports in place to facilitate this type of educational offering.

While much of the education that currently exists is highly valued, this study has revealed significant gaps in the CPD support for rural practitioners. Those that fall into the gap are patient transport issues, and supporting the specific needs of IMGs and locums, as well as EM practitioners in remote and very small communities.

Findings from this study reveal many aspects that are working well in the support system for rural EM. However, there are common barriers and frustrations experienced by physicians in their provision of patient care. These systemic gaps are either previously unrecognized, or well-known and persistent.

Based on the above findings we developed a list of nearly 40 recommendations, organized by theme. These recommendations can be found on the following pages in [Section 2](#).

2. Recommendations

I. Design Training and CPD Opportunities that Reflect the Broad Skill-Set of Rural Generalists

- a) There is a need for increased recognition by the health care system of the critical value and importance of the broad rural generalist physician skill set. This skill set includes comprehensive primary care for individuals, families and communities as well as emergency, hospital in-patient, and institutional care in the rural context. It also includes a population health approach that is relevant to the community and requires working as part of a multi-professional and multi-disciplinary team of colleagues, both local and distant, to provide services within a “system of care” that is aligned and responsive to community needs. The important contribution of rural generalist nursing skills complements the work of the rural generalist physician and needs to be acknowledged and supported. All efforts to improve rural EM care must take this into account in the training, support, and delivery of rural medical services.

II. Align Rural Physician Recruitment Efforts with Existing Evidence on Rural Exposure

- a) Physicians who are attracted to rural practice are often individuals who have had personal (e.g. childhood) or training (e.g. residency) experiences in rural settings. Recruiting more people with rural backgrounds into medical school and developing capacity for increased exposure to rural practice throughout medical school training should be prioritised.
- b) There should be enough training positions in the rural residency stream to meet the human resource needs of rural BC. Urban family practice residency training programs generally do not provide adequate preparation for rural EM practice. Residency training programs should include mandatory experience in EM and rurally specific EM training experiences. Until these changes are made, more support is needed for recent graduates who are new to rural EM practice.

III. Improve Training and Orientation Processes for Rural Physicians

- a) Physicians who are new to a rural community require education and orientation to the skill sets and health care services within the community and within their region to help them to better navigate the referral and transfer of patients. Individual communities need to do more to orient all new physicians, but especially IMGs and locums. Individuals from these groups require detailed orientation on back-up support systems as well as the availability and use of local equipment and supplies.
- b) IMGs experience a significant number of barriers related to finding a rural community, relocating, and starting rural practice in BC. These barriers include lack of information, significant up-front relocation costs, and a lack of understanding of the Canadian, BC, and local community medical systems. Provincial organizations, Health Authorities and communities recruiting IMGs need to recognize this and work to reduce these barriers.
- c) IMGs need access to more education about the expectations of their role in their rural community, and more orientation to the specific skill sets of colleagues in their region, and how to best access higher levels of care outside their community for their patients.
- d) There is a need for physicians who are new to rural EM practice to have more support when starting work. The need for and form of this support varies with the educational background of the new physician (i.e. rural or urban-based residency training). New rural physicians from a rural

residency training program tend to get this support by working initially in communities where they have strong pre-existing relationships with mentors. There is a need to provide this same type of mentorship for those without such education and pre-existing relationships. This latter group may also have other, more education specific, needs.

IV. Standardize Privileging and Credentialing Processes across Health Authorities

- a) Rural physicians, and especially locums, struggle to move around the province and practice in different communities due to differences in credentialing systems in each Health Authority. (Rural physicians in full time practice occasionally do locums in other rural communities to offer assistance during times of manpower shortage.) All BC Health Authorities should work together to create a provincial standard of requirements for credentialing for both permanent physicians and locums to reduce duplication, streamline the process, and improve portability around the province. This would improve the ability of rural communities to staff their emergency departments.

V. Explore Ways to Improve the Patient Transport System to be Responsive to the Needs of Rural EM Providers and Patients

- a) There remains a need for a more streamlined and functional process that helps rural physicians activate and/or navigate the transport system which is more responsive to their needs.
- b) Rural physicians are responsible for the care of the patient in their rural emergency room, and yet they are not active members of the transport system, but rather passive recipients. The BC Transport System needs to recognize the specialized knowledge and skills of the rural physician and integrate them into the patient transport care plan.
- c) Improved communication and understanding between BCEHS employees and rural physicians is needed. There is a perception by rural physicians that BCEHS employees do not understand the geographic and other barriers that exist to the provision of EM care in rural BC.
- d) There needs to be better communication between referring rural physicians and the transport system after the emergency transport system is activated. Rural physicians are often not aware that the transport plans have changed. Rural physicians need regular updates regarding the details of the transport to ensure best patient management.
- e) There needs to be province-wide review, and more support, for the care and transfer of the rural, unstable psychiatric patient. There is a perception among caregivers that, due to a lack of necessary resources (such as safe rooms, credentialing to hold committed patients, mental health staff, and hospital security), the unstable psychiatric patient is receiving substandard care while awaiting transfer to a higher level of care. Because of the special needs for their transport, these patients may experience longer than usual times for transfer, and this is placing undue burdens on rural health care teams.
- f) Rural communities in general do not have access to paramedics with advanced training and skills. There is a need for more education for rural first responders, to allow them to provide more care at the scene (such as iv fluids when appropriate) and during inter-hospital transport (such as intravenous medication and appropriate analgesia).

VI. Promote Widespread Adoption of No-Refusal Policies

- a) No-refusal policies between rural communities and regional centres can greatly increase the speed of emergent patient transfers and dramatically decrease the pressure on rural EM physicians to care for patients needing resources that are unavailable in the rural community. All rural communities should have a no-refusal policy with their regional centre to expedite and ensure timely transfer and care for critically ill patients. Health Authorities need to ensure these policies are functional and effective.

VII. Build Capacity by Exploring More Flexible Remuneration and Scheduling Systems

- a) Rural EM physicians both need and rely heavily on local colleagues to provide back-up in the ER during critical care situations. Both formal and informal second on call systems exist around the province, and this back up is an essential support for the rural EM provider. As many communities currently lack formal forms of on-call remuneration, physicians use existing funds creatively, often making personal financial sacrifices to support their colleagues who provide emergency back up. Systems of on-call remuneration that give the local medical community the flexibility to allocate funds based on local needs, rather than rigid guidelines, are an important support. All remuneration systems should include local physician input into allocation schemes, and should be responsive to the local community needs
- b) Physicians dedicate significant amounts of time to their role as patient care advocates, and to their positions in local medical administration (e.g. Head of Department), yet they are not compensated or recognized for this. This contributes to burnout and frustration. Systems that recognise and support the value of these roles (e.g. by providing remuneration for this work) would improve the capacity of physicians to fulfil them.
- c) Older physicians struggle with long ER shifts and night shifts in particular, and retire from EM work earlier than they otherwise might because of the burden of these shifts. Rural medical communities could facilitate the continued provision of EM care by older physicians by providing some support for their special needs (e.g. fewer and shorter shifts, and less night shifts).

VIII. Develop Real-time Support and Feedback Mechanisms for Rural EM Physicians

- a) Rural EM physicians rely heavily on EM colleagues in regional or urban centres to provide real-time advice regarding patient care. Systems that support rural EM physicians getting this advice from regional or urban EM physicians on issues of patient care should be enhanced.
- b) Many rural physicians have unsatisfactory interactions with urban physicians (in the context of both education offerings and patient care) due to an apparent lack of understanding, on the part of urban physicians, of the specific issues and realities of rural practice. All urban physicians who interact with rural physicians need to understand these issues and realities. The best way to address this in the long term is to build this awareness into the education of all medical students. Until that time, urban physicians who deal with rural physicians should be made aware of this issue and have access to education to improve their understanding of the realities of rural EM care. Building a culture of support between urban and rural physicians can help rural physicians feel more supported and less alone.
- c) There is a need for rural health care teams to enhance the feedback they are giving and receiving, yet there is a lack of training on how best to provide this feedback. Rural health care team

members have identified a need for training on how to give and receive constructive feedback to other team members. This education should accompany support for cultural change that leads to increased opportunities for this feedback.

- d) Rural physicians lack access to feedback on the outcomes of patients they refer to higher levels of care, and have little or no ability to learn from patient outcomes to improve their skills and patient care. Health Authorities should create educational feedback opportunities around the care provided at rural sites, and the ultimate diagnoses and outcomes of referred patients. This information should flow from the receiving regional or urban-based physician back to the rural sending physician routinely and automatically.
- e) It is well recognized that self-assessment of one's abilities can be highly inaccurate. Rural physicians, particularly EM physicians, are more vulnerable than others to the general lack of feedback on performance, because of the relative isolation in which they work. The rural EM team could be an excellent source of information to the rural physician, yet physicians in our study, while interested, expressed reservations around providing and receiving this feedback, due to its sensitive nature. Rural EM physicians should create a culture and an expectation of feedback from physician and non physician colleagues on patient care issues and performance. This feedback should be supportive, educationally directed, and aim to improve EM care. There is also a need for educational support to develop and facilitate formal systems of feedback to interested health care teams.

IX. Foster Collegiality among Rural Health Care Teams and Referral Centres

- a) Collegial relationships within and between health care teams are an essential part of sustainable rural practice. Rural communities and Health Authorities should develop and implement plans to support healthy relationships within the local interprofessional EM team, as well as between local physicians, and between local physicians and the regional specialists. Opportunities to build relationships with medical students and residents training in these communities should also be encouraged.
- b) Rural physicians and nurses often feel they lack support for and recognition of the important work they do from local and regional health care administration. This can lead to feelings of dissatisfaction, frustration and disengagement. Health Authorities need to work on improving their support for and recognition of the work done by rural physicians and nurses to support strong health care teams.

X. Standardize Resources and Equipment in Rural BC Communities

- a) Rural EM physicians who practice in multiple communities struggle with providing a high standard of care because they are unsure of the resources and equipment they can expect to have in each community. Health Authorities should ensure that rural ERs have the equipment and supplies required to deliver the level of care needed at the site, and should ensure equipment and supplies are standardised between community ERs of the same size.

XI. Augment System-Level Support for Rural Locums

- a) Rural locums have specific needs which are frequently unmet by the current system. They require a mechanism through which they can advertise their availability, receive information about locum-

specific CPD opportunities, deal with unexpected problems and unmet promises in the community (e.g. inadequate housing and unavailable transportation, lack of orientation), and network and advocate for their needs.

XII. Promote Development of Customized, Local & Team-Based Education

- a) Education support systems need to recognise that the rural EM skill set of a community draws on the special skills of many in the community – GPs, available specialists, and other members of the health care team, such as RNs with special skills, and RTs. The provision of EM education that addresses the needs of the whole health care team, rather than just the needs of individual physicians, can strengthen the medical care in the community. There are specific types of education that can address these needs and these should be more supported.
- b) Rural health care providers recognise that the most desirable education for rural EM staff is community-based, delivered to the entire local interprofessional health care team, and is responsive to the particular needs of that community. There needs to be more support for the creation and delivery of this gold standard type of education.
- c) Access to mobile, rurally-available, and site-specific simulation education programs that meet the educational format desired by rural practitioners, are seen as an ideal means of supporting the educational needs of the rural health care team, and are currently inadequate in most areas of the province. A program that developed and delivered this education to all areas of the province is seen as an optimal way to maintain the clinical skills and knowledge of rural EM staff, and is also a means to upgrade that knowledge and skills. Having a provincial-level focus to this program would allow all areas of the province equal access to a means of staying up to date with EM treatment recommendations and guidelines.
- d) Currently, the creation of community-designed and driven CPD sessions, which are another ideal way of meeting the education needs of the rural health care team, relies on a local physician or RN champion, and as such, is not sustainable. Systems that offer educational supports to the community (e.g. administrative support for logistics, tools to identify local learning needs, support for educational development and local engagement, access to a scenario databank, the provision of CPD credits) would greatly enhance availability of this local education by supporting and empowering the team to participate in the provision and design of the education.

XIII. Provide Additional CPD Funding to Rural Locums, IMGs, Remote or Isolated Rural Physicians, and Non-Physician EM Team Members

- a) Rural locums provide an essential service to rural communities but do not receive the same financial educational supports as other rural physicians. By definition they are not attached to a single community, and thus are not eligible to the educational funding available to rural physicians in permanent practice. There is a need for more financial support for their educational needs. Locums also need better access to information about educational opportunities available to them.
- b) IMGs require more support for education in the first years of their practice in rural BC. They may need help identifying and filling specific gaps in their education that need to be addressed to work successfully in rural BC.

- c) Locums and IMGs have identified a lack of knowledge regarding REAP funding, leading to missed opportunities to address their CPD needs. REAP funding opportunities need to be better publicised, especially to locums and IMGs.
- d) There is a need for more funding to support the educational needs of health care teams from remote and very small communities. These teams are currently unable to access many desired CPD opportunities due to the small amount of educational funds available to them. (Due to small physician numbers, they do not have the same access to reverted CPD funds as larger sites.) Since these are the funds that tend to support team-based learning, these teams have even less ability to offer interprofessional learning opportunities than other sites.
- e) There is a need for specific funding to support the CPD needs of non-physician EM team members (e.g. RNs, RTs, paramedics). These health care providers generally do not have any educational funding to contribute to team based learning opportunities, even though this type of education is seen as the most desirable educational delivery format by all members of the health care team.

XIV. Offer Education Opportunities that Reflect Specific Gaps Identified in this Study

- a) There is a pressing need for educational opportunities for rural physicians on transport issues. Physicians need a better understanding of the issues and the complexities of the BC Transport System (such as Transport Canada aviation requirements), how to best navigate the Patient Transfer Network (PTN), and how to prepare patients for transfer.
- b) Rural EM physicians find immense value in point-of-care ultrasound (POCUS) to support patient care, however there is a lack of access to training on POCUS, and very few opportunities to take this training closer to home. There is a need for more access to POCUS education for rural physicians.
- c) There is a need for rural paramedics to have more training and access to protocols that allow them to provide more care for patients in transfer (e.g. IV analgesia and infusions). The lack of these skills and protocols often requires that rural physicians or nurses leave their communities to accompany patients on transfers, putting small communities with manpower shortages under increased stress. As well, those health care providers are often left to their own devices to arrange transportation back to their community, and physicians receive no financial payment for the time spent returning home.
- d) Many rural EM physicians struggle to access ATLS, a course often required to maintain hospital and EM privileges, and are often forced to travel to Vancouver, out of province, and even out of the country, to access the course. This puts a financial burden on the physician and puts pressure on other physicians in the community in terms of reduced manpower. There needs to be more opportunities for physicians to attend ATLS (or a similar course that could meet privileging requirements, such as The CARE Course) and to be able to access this education closer to home.
- e) While many EM health care teams function well, there are many learning opportunities that can enhance teamwork and overall team functioning. One such source of education is the concept of crew resource management, which provides education on how teams can most optimally utilise their strengths and resources to provide high quality patient care. There is a need for more education around crew resource management principles in the rural ER.

3. Introduction

The unique challenges associated with providing health care to rural Canadians, primarily due to the lack of access to resources and personnel and the geographical isolation of much of rural Canada, are well-documented. Nowhere are these challenges more apparent than in the rural emergency room (ER), where treatments for unstable patients must be delivered urgently or emergently.

Emergency medicine (EM) care has been referred to as "the canary in the coal mine" of health care¹; nowhere is this truer than in a rural setting. Supporting rural physicians to provide quality EM care will improve the health care of rural Canadians, but there is much work to be done to achieve this. In a 2005 survey UBC CPD conducted a needs assessment of rural physicians living in British Columbia (BC), focusing particularly on continuing medical education/continuing professional development. In this needs assessment, EM education and skills enhancement was identified as the number one learning need.² Since this survey was conducted, there have been many changes in the rural BC Continuing Professional Development (CPD)³ landscape. These changes include the establishment of the UBC Rural CPD Program, the Rural Coordination Centre of BC (RCCbc), and the BC Divisions of Family Practice, an increased focus on interprofessional care, the development of new rural emergency medicine education courses and programs, and increased resources for rural EM providers such as telemedicine initiatives.

Even with the many opportunities in place to support rural emergency medicine practice in BC, there continues to be shortages of rural physicians who are willing to provide EM care, as well as an increasing discomfort among new physicians to provide emergency care services. This study aims to understand these phenomena by examining the factors that support or hinder the provision of emergency medical care, from a broad and holistic point of view, with a special focus on educational needs.

Prior to conducting this study, our team conducted an in-depth literature review of studies related to the provision of emergency medical care in rural areas, as well as studies of recruitment and retention efforts to support the rural health care system. The search yielded a large body of literature, but there was no cohesive or integrated set of studies, and that little work has been done to assess the needs of or the myriad factors that impact the work of the rural EM practitioner. Three distinctive groups of literature emerged in our research: 1) Examinations of rural recruitment and retention issues in a broad sense; 2) Studies related to continuing education and emergency medicine skills enhancement; and 3) Literature that focuses on rural physician workforce and system design issues, such as the supply of

¹ Emergency Medicine And Universal Health Care: A Call For Compassion', part of the 2001 Canadian Association of Emergency Physicians Romanow Commission

² "British Columbia Rural Physicians Continuing Professional Development/Continuing Medical Education (CPD/CME) Needs Assessment for General Practitioners/Family Physicians." (UBC CPD, 2005)

³ Continuing Medical Education (CME) and Continuing Professional Development (CPD) are terms that refer to different elements of physicians' efforts to improve their skills and knowledge, and apply them to practice. CME refers to education that occurs after receiving certification and licensure. CME traditionally involves lecture-based, teacher-driven medical conferences emphasizing the medical expert role. CPD is a broader term that expands the concept of what education for practicing physicians, and encompasses a wider variety of activities that support physicians' professional development such as (e.g. self-directed learning and reflective practice. CPD topics go beyond the traditional medical conference to include business management and communication skills.). Medical educators support an evolution of CME to CPD. We and we will use the term CPD throughout this report to refer to physician learning in a comprehensive way.

residency-trained emergency medicine physicians. Indeed, there is a dearth of literature that explicitly examines the intersections between these three important and, arguably, related areas. To guide our work, we developed overarching research questions for our study that capture the larger forces that impact the rural EM practitioner. These questions are grouped into three major categories:

Recruitment/Retention

- What factors impact a physician's decision to move to a rural community?
- What factors impact a physician's decision to start practicing rural emergency medicine?
- What factors impact a physician's decision to continue practicing EM in a rural community?

System/Workplace Factors

- What are the existing system and workplace factors that allow rural physicians to feel adequately supported in providing rural EM care?
- What additional support systems, either formal or informal, would promote physicians' comfort and confidence in providing rural EM care?

Emergency Medicine Education

- Are physicians practicing EM in rural British Columbia able to acquire and maintain the knowledge and skills required to provide optimal care to patients? If so, how do they do this? What is perceived to be the best mode of delivery for this education? If not, what are the unmet educational needs of rural EM providers?
- How do rural physicians navigate existing CPD options, formal or informal, to address their EM educational needs, and are these CPD options reasonably accessible and effective? Are there gaps that need to be addressed? If so, how might these be successfully addressed?

Health care professionals who provide emergency medicine care in BC are a diverse group: they are family physicians and specialists who live full time and work in their communities as well as locums they are internationally-trained and Canadian-trained, full-time EM practitioners and generalists, graduates of rural family practice residency programs and urban training programs, and they are nurses, paramedics, and other allied health care professionals. These individuals face challenges unique to their situation and community, and 'one-size-fits-all' approaches to education and support are inappropriate.

Keeping in mind the diversity of physicians practicing EM in rural BC and the complexity of the system in which they practice, we wanted to examine the factors that contribute to the confidence and comfort of physicians providing rural EM care. We also wanted to examine how these factors impact rural physician recruitment and retention. Using an Appreciative Inquiry approach⁴, we investigated barriers to and facilitators of EM care in the following areas: the broad health care system, local system including team and workplace issues, and continuing professional development. Our intent was to identify the factors that support rural EM care, and to formulate key recommendations to address barriers and challenges.

⁴ Cooperrider, D.L., and S. Srivastva. "Appreciative Inquiry in organizational life." *Research in organizational change and development* 1, no. 1 (1987): 129-169.

4. Methods

To assess the needs and challenges of EM providers who live and work in rural and remote communities in BC, we wanted to speak with these individuals directly to get their input and hear their stories. We used a focus group methodology because we felt it would offer the best opportunity to capture unique perspectives and ideas. Focus groups allow researchers to explore complex questions in an in-depth, non-threatening way, and to generate a considerable amount of information in a short period of time. Each 90-minute focus group was built around a semi-structured set of interview questions, allowing us to focus the discussion on a few key questions, while also allowing space for the conversation to flow and for issues of importance to the participants to emerge spontaneously.

An alternative approach would have been to collect data using a large survey, similar to the one we administered in 2005. However, we felt many rural health care providers suffer from ‘survey fatigue’ and this approach might be less engaging. Surveys have the advantage of allowing researchers to collect information from a much larger group of respondents, but we felt the focus group interviews would provide us with richer data. The focus group methodology enabled us to pursue themes as they arose by making room for follow-up questions around specific factors that influenced opinions or behaviours, and encouraged interaction and dialogue between participants. Our study was approved by the University of British Columbia (UBC) Behavioural Research Ethics Board.

I. Study Design

Our study team received considerable input into the design and focus of the study prior to data collection. Input came from our Advisory Committee and the study team, and further direction for the design of the study came from a focused literature review.

The study team synthesised this input to inform the design of research questions and focus group interview protocols, allowing us to determine the composition of each focus group, recruit participants to each group, conduct interviews, code and analyse the data, and prepare this final report.

A full list of Advisory Committee members can be found in [Appendix 8.I](#).

II. Participant Recruitment

Focus group participants were identified through an online recruitment survey and were selected to ensure the focus groups included a diverse group of physicians based on inclusion criteria such as:

- Community in which they practice (e.g. Rural Subsidiary Agreement, or RSA designation⁵)
- Practice profile (e.g. office, emergency, walk-in clinic)
- Community-based resources (e.g. number of physicians)
- Experience (e.g. years of practice)
- Medical training (e.g. country, speciality)

⁵ RSA communities in BC are categorised on a scale from A to D, where RSA-A communities are the ‘most isolated’ and RSA-D communities are the ‘least isolated’; see [Appendix 8.II](#).

Focus group participants were not recruited to ensure statistical representation but rather to represent the variety and diverse perspectives of rural health care practitioners. For example, while International Medical Graduates (IMGs) account for about 40% of rural family physicians (FPs⁶) in Canada (National Physician Survey, 2013), we did not attempt to ensure 40% of focus group participants were IMGs. We do not claim the composition of the focus groups is statistically representative.

The online recruitment survey was sent to 1056 rural physicians in BC using contact information held by UBC CPD. These physicians had previously consented to being contacted for research purposes. The recruitment survey collected demographic information to aid in the purposeful recruitment of participants to focus groups composed of specific types of rural health care providers. For example, we asked respondents to tell us where they practice, information about their training, the length of time they have spent in rural practice, and how they divide their time among various clinical and non-clinical activities (e.g. emergency room, teaching, and inpatient care).

The information collected in the recruitment survey was used to determine eligibility to participate in the study as a whole, and to purposefully invite particular physicians to each of the focus groups. Based on the guidance of the Advisory Committee and the study team for the project, we recruited nurses and allied health care professionals (AHPs) using professional contacts.

III. Focus Group Composition

We conducted a total of nine focus groups, each composed of a distinct group of rural EM providers. Eight focus groups were made up of physicians only, and one focus group was made up entirely of nurses and allied health professionals (AHPs) who provide EM care in rural BC. Although the eight physician-only focus groups were created to represent the diverse groups of physicians providing EM care, this is clearly an artificial representation of real life, as many physicians would have qualified to be in several groups. (For example, an IMG may also be a full-time EM practitioner, or a generalist practitioner may also be a locum, even though these were distinctive groups in our study.)

We used information collected in the recruitment survey to ensure that participants in each focus group met all of the inclusion criteria for specific groups, but also ensured that the focus groups as a whole had a broad demographic representation in terms of geography, age, sex, scope of practice, years of practice, and nationality. Physicians from 39 communities in BC participated in our focus groups. The 39 communities are listed in **Table 1** and are categorised by RSA designation.

The recruitment criteria and rationale for the focus groups and the number of participants in each focus group (n) are outlined in **Table 2**. The general requirements for all participants were that they:

- a) Needed to work in at least one Rural Subsidiary Agreement (RSA) community, and
- b) Needed to currently practice or have previously practiced EM in a rural BC community.

⁶ In this report, we will be referring to all Family Physician participants in this study as “FPs” rather than General Practitioners, or GPs. For the sake of clarity and ease, we will not be distinguishing between FPs and GPs.

A summary of the demographic composition of our focus groups is included in [Appendix 8.IV](#).

Table 1: Communities represented in the Rural Emergency Medicine Needs Assessment Study

RSA – A	RSA – B	RSA – C
<ul style="list-style-type: none"> • 150 Mile House • Clearwater • Cortes Island • Cranbrook • Fernie • Golden • Grand Forks • Hornby Island • Kimberley • Mackenzie • Nakusp • Port Alice • Port Hardy • Queen Charlotte • Stewart • Tofino • Vanderhoof • Williams Lake 	<ul style="list-style-type: none"> • Castlegar • Chase • Nelson • Powell River • Prince George • Rossland • Scotch Creek • Trail 	<ul style="list-style-type: none"> • Chemainus • Cobble Hill • Cumberland • Gabriola Island • Lake Cowichan • Oliver • Osoyoos • Port Alberni • Salmon Arm • Saltspring Island • Sechelt • Squamish • Whistler

IV. Focus Groups

Using the results of the recruitment survey, potential focus group participants were identified and invited to complete an online poll indicating their availability for a 90-minute focus group. Focus groups were not scheduled unless there were between four and six participants available. Study participants were geographically distributed across the province, so it was not feasible to hold the focus groups and interviews in person; instead, all focus groups and interviews were conducted via teleconference. Participants were remunerated for their participation.

Each focus group was attended by our rural physician facilitator and several study team members. While the facilitator guided most of the conversation, other study team members also asked questions. All study team members at the focus groups took detailed notes. Each focus group was audio-recorded.

A semi-structured interview protocol was used for all focus groups and interviews. While the protocols for each focus group were developed to highlight the themes specific to each group, the major themes of interest in this study were covered in each focus group.

Table 2: List of focus groups, inclusion criteria, and rationale for including them in the study; n = number of participants in each focus group.

Focus Group	Nickname	Inclusion Criteria	n	Rationale
FG 1: Rural physicians no longer practicing emergency medicine	No longer practicing EM	Actively practicing Previous rural EM experience No time currently spent in EM	4	The experiences of this group help us understand why people leave EM practice, and whether the challenges of rural medicine are the same as the challenges of rural EM, or if reasons for leaving EM are due to challenges specific to EM.
FG 2: Physicians new to rural emergency medicine	New to practice	≤ 3 years in practice ≥10% of time in EM	4	This group has recently transitioned from residency to rural EM practice and we wanted to investigate their needs and challenges with regards to EM and the factors that led to them including rural EM in their practice.
FG 3: Physicians practicing emergency medicine in very small and/or remote communities	Remote	<4 physicians in community ≥10% of time in EM	4	This group lives in small or isolated rural communities. We wanted to investigate the unique challenges they experience because of the size and/or isolation of the communities they practice in.
FG 4: Rural generalists practicing emergency medicine	Generalists (Group 1)	≥4 physicians in community ≥10% of time in EM	5	This group makes up the largest portion of physicians who practice EM in rural BC. Given their prevalence, we decided to speak to two groups.
FG 5: Rural generalists practicing emergency medicine	Generalists (Group 2)	≥4 physicians in community ≥10% of time in EM	5	This group makes up the largest portion of physicians who practice EM in rural BC.
FG 6: Physicians who practice rural emergency medicine full-time	Full-timers	Most of time spent in EM (45-100%)	5	This is a growing group of rural EM providers. We wanted to investigate their unique perspective and potentially unique needs.
FG 7: Nurses and allied health care professionals	Nurses and AHPs	Practicing EM in a rural community ≥10% of time in EM	6	This group has a unique perspective on the skills and needs of rural EM physicians and aspects of the health care system that may be invisible to physicians.
FG 8: Physicians practicing emergency medicine as locums in rural BC	Rural Locums	Rural locums ≥10% of time in EM	6	We wanted to understand the unique challenges and needs specific to locums who provide EM services in rural BC.
FG 9: International Medical Graduates (IMGs) new to Canada and practicing EM in rural BC	IMGs	≥4 years in practice ≥10% of time in EM	5	IMGs new to BC are required to practice in rural communities and most are required to practice EM. They face unique barriers and have unique needs.
Total Participants			44	

V. Filling in the Gaps: Key Informant Interviews

Once all nine focus groups were completed and we began analysing the data, we had a better idea of the gaps in our data. With these gaps in mind, we purposefully selected expert key informants to interview. Key informants were physicians who, through their work and professional experience, were uniquely qualified to comment on the questions raised in the study and the emerging findings.

Key informants were recruited using professional contacts. The key informants were selected specifically for their unique perspectives on rural EM, EM education, and/or and the EM system as a whole, and their abilities to help us fill in gaps or confirm what we heard in the focus groups. The key informants represented, among other important factors, perspectives relating to the transport system, residency medical training, and CPD for emergency medicine. Key informants were asked, for example, to comment on the emergency transport providers' perspective on the emergency transport system, perceived and unperceived learning needs of rural EM physicians, the successes and shortcomings of existing CPD for EM, and the benefits and challenges of rural residency training in BC. The protocols for the key informant interviews were developed by the study team and focused on the particular area of expertise each of the key informants represented.

We spoke to seven key informants and held five interviews. Each interview lasted 60 to 90 minutes, and study team members present took detailed notes and audio-recorded the conversations.

VI. Data analysis

As described earlier, each focus group and key informant interview was attended by a small group of study team members who took detailed notes in addition to audio-recording the conversations. The recordings were transcribed verbatim. One member of the team reviewed the transcripts in detail to ensure there were no errors, such as misspellings.

The study team came up with a coding structure for the data. Based on the principles of qualitative data analysis, the codes were designed to be mutually exclusive and emerged from the data (notes taken during the focus groups and interviews and the transcripts), the research questions for the study, and the semi-structured protocols. The study team met several times to discuss the findings and to collaboratively generate the coding structure. Several major themes emerged from the coding structure, each with several subthemes. The major themes are: Recruitment and Retention, System and Workplace Supports and Barriers, and Education, Knowledge, and Skills. Once the transcripts were edited and the coding structure was finalised, study team members worked in pairs to code each transcript. The pairs met to compare their codes and ensure they reached agreement on each code used. This step helped assess the validity and reliability of the codes and some codes were added during this process.

After the transcripts were coded, they were transferred into NVivo, a software program designed specifically for organising and analysing qualitative data. Using NVivo, the study team pulled out data according to the code it was assigned, and developed summaries of each of the codes. The summaries we created were used to write this final report.

VII. Study Limitations

Though a qualitative methods approach to this study enabled us to collect rich information and stories from rural health care practitioners, it necessarily limited us to speaking to a relatively small group of individuals. As well, holding the focus groups via teleconference presents unique challenges in flow of conversation and data collection (e.g. in-person groups allow for the inclusion of body language and other behavioural subtleties in the data). Another limitation of qualitative research is that it yields deeper information on a few topics compared to other research methods, which can enable much broader information on many topics. As such, depending on the direction certain conversations during our focus groups went, there are issues that are relevant to rural EM practice that are not addressed in this report. Some of these issues are highlighted in **Section 5.II - Areas for Further Investigation**.

For example, we noticed participants were hesitant to broach some topics such as remuneration or money in general, leading to a potential reporting bias. Some of these issues are highlighted in **Section 5.II – Areas for Further Investigation**.

Recruitment bias may have arisen in our study in two ways. Firstly, the people who responded to the recruitment survey and were willing to participate in our focus groups are those who were already more likely to be more engaged and keen to participate in the improvement in the system. Secondly, some physicians we wanted to speak to most were also the least able to commit to a focus group due to busy schedules and workload. For example, one physician we invited felt that with her responsibilities at work and at home, she was not able to make time for the focus group. These challenges are common among rural EM physicians and her inability to attend represents exactly the type of challenges we wanted to address with focus group participants.

We also were limited by time and resources, and had to hold focus groups on specific days at specific times, and occasionally had to exclude physicians we might otherwise have greatly benefited from speaking to. We also had to limit the number of focus groups we held and were therefore very strategic about the composition of focus groups; however, we would have liked to speak to many others if time and resources had allowed, including more rurally-based specialists and allied health care professionals.

Finally, our interviewer is a full-time rural EM practitioner with a rural generalist family practice background, and she implicitly understands many of the experiences of our focus group participants. The direction of our conversations, beyond the key questions covered in each focus group, reflected our facilitator's perspective and understanding in a different way than if a non-physician had facilitated the focus groups, and may have introduced some bias. It is possible that there were some topics that were not probed as deeply, and others that were probed more deeply, than if the focus groups had been facilitated by a non-physician.

5. Findings

Our study team was time and time again impressed by what we heard from study participants, particularly their dedication to rural medicine in British Columbia and their concern for the health of their patients. It is clear that many of the physicians, nurses, and allied health care professionals we spoke to have an immense passion for rural medicine, a strong dedication to their patients, and a willingness to sacrifice their own needs for the sake of the health care of their community. We very much appreciate their willingness to share their stories and perspectives with us. The findings section is organised thematically rather than by focus group. To get a better sense of the tone, content, and themes emerging from each specific focus group, please refer to [Appendix 8.III](#).

I. What Leads Health Care Providers to Rural EM Practice in BC?

A major focus of this study was issues around recruitment and retention of rural physicians, and particularly rural physicians who practice emergency medicine (EM). Since EM work is often a mandatory part of rural practice in BC, we felt that it was important to explore the reasons physicians chose rural practice in general as it provides additional context for why some physicians find themselves practicing EM in rural areas. In each of the focus groups, we investigated factors that drew those physicians to rural practice and to EM in particular. For physicians no longer practicing EM, we explored the reasons why they left EM practice. The main factors identified by focus group participants for choosing or not choosing rural and EM practice are also summarised below. [Appendix 8.V](#) outlines these factors in more detail.

Factors that drew physicians in our focus group to rural practice and/or rural EM practice are:

- Positive experiences in rural BC during childhood or medical training
- Attraction to the rural lifestyle
- Having a personality that is drawn to the uncertainty and risk associated with EM (described by one key informant as a “rational risk taker”)
- Working as a member of a supportive health care team with a strong sense of community and collegiality

Factors that push physicians away from EM practice and make rural practice challenging are:

- Lack of adequate support from the system and colleagues
- Negative experiences with colleagues or in clinical settings
- Insufficient exposure to rural practice and EM during training
- Lifestyle demands that compete with the demands of practice
- Demands of office practice conflicting with those of the provision of EM care

The findings from this study reveal a wide variety of factors that pull or push physicians towards or away from rural practice, and rural EM practice in particular.

II. Preparing for Practice: Rural EM Physician Training

Experiences during medical school, residency, and other training can be pivotal in drawing a physician into rural EM practice, or pushing them away from it (Eley and Baker, 2006; Glasser *et al.* 2008). We explored the impact of these experiences by asking focus group participants to comment on their level of exposure to rural EM practice, the skills they learned in training, and the relevance of those skills to rural EM practice. We also wanted to investigate whether physicians in rural EM practice felt that their training had adequately prepared them for their work.

i. BC Family Practice Residency Programs: Then and Now

While all the physicians in our focus groups who were new to rural EM practice described feeling prepared for their work, some more experienced physicians in other focus groups felt the current FP residency programs do not adequately prepare new physicians for rural EM practice. For example, FPs in our focus groups felt that exposure to anaesthesia and obstetrical training during residency is beneficial for rural EM practice. One focus group participant said, *“I think the current family practice program doesn’t really prepare a lot of the new graduates to work in emerges” (Rural generalist)*. Many physicians observed a shift in the types of skills FPs are being taught in training, and they feel FPs graduating today have fewer skills than FPs from 20 or 30 years ago. One physician who is new to practice told us, *“Back in the day docs learned a lot more than we do now.”*

a. Value of Rural Residency Programs Confirmed

Many FPs in the focus groups completed their residency training in rural training programs in BC. These programs were generally described as providing good exposure to EM, and especially to rural EM. All of the new-to-practice physicians felt their program had adequately prepared them to practice rural EM. This was in stark contrast to those undergoing training in urban-based programs who, almost universally, felt unprepared for rural EM practice.

One of our key informants, who is very knowledgeable about rural residency programs in BC, feels the UBC FP residency program needs to open more positions in rural sites. From his experience, there are many more applicants than there are positions and there is a shortage of rural physicians. Since this key informant has observed that few physicians training in the urban residency program end up practicing in rural settings, it seems that dedicating more positions to rural programs could address this shortage.

Participants described how mandatory exposure to EM early in their training is ideal, because a resident might be unaware of their interest in EM. One physician new to rural practice said, *“Our residency [program] had a lot of flexibility, and if I’d had an interest [in EM] at the time, I could have sought out those opportunities and been much more prepared.” (FP new to rural EM practice)* This physician felt earlier exposure to rural EM training would have uncovered her interest in EM sooner, and would have allowed her to be better prepared for rural EM practice. Another physician new to rural EM practice described how exposure to EM led her to pursue it later on:

“There was no single thing that turned me on to [EM] except just doing it more and realising it was a good fit for me. I never considered it, and then got exposed to it and realised it was a good fit.” (FP new to rural EM practice)

b. Urban-Based Training Programs

In contrast to rurally trained physicians, many physicians in our focus groups described how training programs based in urban centres are not relevant to rural EM practice and do not provide them with skills they can take back to their practices:

“In bigger centres, I heard comments such as, ‘You shouldn’t do this’ or ‘You should do more training’. It was quite difficult because I don’t want to be doing things I shouldn’t be doing [or if] somebody thinks that I shouldn’t be doing [it]. The training I got from the rural community really made me see, ‘I have to be able to do this and I’m not the best trained but I’m the only one there and we’re gonna figure it out.’” (FP new to practice)

Another physician described a similar experience:

“I was doing my ICU electives at St. Paul’s [and] when they heard I was a family doc they’re like, ‘Why are you doing ICU training?’ For them to think that the only people that need ICU training are people working in Vancouver, and family docs could never possibly need those skills, I was appalled.” (FP new to practice)

These physicians felt the attitudes they experienced while training in urban centres were discouraging, unsupportive, and reflects of a lack of understanding of the needs of rural health care practitioners. This attitude, from the very people rural physicians look to for support and education, is troubling and increases the sense of isolation rural physicians experience.

ii. St Paul’s IMG Residency Program

Many IMGs are required to begin full-time practice in BC in areas that are designated to be ‘high need’. Typically, these areas are rural communities where EM is a mandatory component of practice for all physicians in that community. The current IMG residency training program in BC, however, does not include rural EM exposure:

“I’m lacking experience in rural medicine and during my first year of residency I had only one month for emergency rotation at St. Paul’s. I can’t say that was a real emergency because you have support from all the specialists.” (IMG new to rural EM practice)

iii. CCFP-EM Program

The CCFP-EM program is a certification that is open to members of the Canadian College of Family Physicians who successfully completed the Examination of Special Competence in Emergency Medicine. Rural practitioners did not always see this program, which provides an extra year of EM training after a two-year family practice residency program, as a positive thing. Many physicians described how the creation of the CCFP-EM program has changed the nature of EM practice for FPs, and has created the impression, especially among new graduates, that they must do the CCFP-EM program to be able to practice EM. Experienced FPs noted a lack of confidence to practice EM among new graduates without extra training or the CCFP-EM certification.

Also, in the experience of these physicians, most of the graduates of the CCFP-EM program do not practice rural medicine and instead go into full-time urban EM practice. Physicians indicated the need for a shift back towards FPs being generalists who are able to practice full-spectrum medicine, including EM, without needing special certification to provide EM care:

“The CCFP-EM program has actually made things challenging for a lot of people. The goals of CCFP-EM training [are] not well defined at this point and it creates confusion for a lot of new grads as to what they should be doing and what their appropriate skill set is. All grads should be comfortable practicing emerg at some level.” (Locum)

Our key informant with experience with BC rural residency programs discussed how FP residents choosing the CCFP-EM program claim they intend to use the training to prepare for rural EM practice, but in fact most graduates of the CCFP-EM program use it as a way to get their foot in the door of urban EM practice, with no intention to practice rural EM:

“They all [say] ‘I don’t feel comfortable in emergency medicine, that’s why I’m getting the training.’ But only one out of 25 of our graduates who have gone through and done [CCFP-EM] are actually in rural [EM] practice.”

Another key informant feels the designation also creates problems within EM teams saying, “As soon as you get a designation like CCFP-EM, as soon as you create barriers and divisions [between physicians], you’re already going down the wrong road.”

III. The BC Health Care System: Does it Help or Hinder the Provision of Rural EM Care?

Rural health care providers function within a large, complex system composed of a variety of players and processes. The changing culture of rural medicine, presence of multiple Health Authorities, various physician payment schemes, emergency transport issues, local and regional resources, and local and remote colleagues all contribute to the system within which rural EM physicians work. In addition, rural locums are a special group of physicians whose experiences with the BC health care system are even more complex, often involving several communities in different health authorities. We asked focus group participants to describe ways in which the system supports or hinders their provision of care.

i. Emergency Transportation – “Make the Transport Headaches Go Away”

a. An Overview of the System

Focus group participants identified challenges around patient transportation as the single greatest barrier they face in their EM practice. In several focus groups we asked participants to name one or two items on their ‘wish list’ items in terms of making their work in EM easier. One physician summarised very well what we heard repeatedly in our focus groups: *“The main issue is transport. If someone could make the transport headaches go away, I would be very happy”* (FP practicing EM full-time).

As most rural emergency departments lack at least some essential services to manage critically ill or injured patients, these patients are routinely stabilised in the rural ER, and then transferred to a regional or provincial referral centre for further care. This necessarily involves interacting with the provincial services for patient transportation.

The BC Emergency Health Services (BCEHS) system is comprised of the BC Patient Transfer Network (PTN; formerly known as BC Bedline), Trauma Services BC, and BC Ambulance Services (BCAS), and represents the largest emergency transport provider in BC. As a whole, BCEHS provides pre-hospital EM services and inter-facility patient transfer coordination and transport services across the province.

In addition, many rural communities rely on support from other emergency transport service teams, such as the HART team, and STARS. The Interior Health Authority (IHA) High Acuity Response Team (HART) is a mobile team of RNs that provide critical care support for patients requiring transport between facilities in Interior Health. This program was designed to allow rural physicians and RNs to stay working in the community, rather than having to go on patient transfers. The Shock Trauma Air Rescue Society (STARS), a helicopter based air evacuation medical transport team, is based in Alberta but also provides emergency transport services to certain communities in BC, near the Alberta border.

b. Physician Perspectives on the Transport System – “They want to know help is on the way”

When physicians request transfers for their patient, their primary concern is the stability of their patient. Physicians want patients to be transferred out because they recognise their lack of resources and potential inability to manage the patient, should the patient’s condition deteriorate. Once they have decided that a transfer is necessary, they feel that the system must respond and send transportation.

One of our key informants, an expert in the emergency transport system, told us that the primary need of a rural EM physician interacting with the emergency transport system is more information: *“He wants to know the plane is coming. They want to know that help is on the way.”*

Physicians and transport advisors (TAs) have different roles in the system, which leads to markedly different perspectives on priorities for patient care. These differences are often a source of tension and we heard numerous accounts from physicians in our focus groups of disagreement with TAs or other emergency transport staff, and physicians often leave those interactions feeling unsupported.

Confusion in the System

Focus group participants identified that one major source of difficulty around transport is the number of different players involved in emergency transportation (e.g. PTN, STARS, HART), causes confusion and often requires multiple phone calls for a physician to figure out whom to call. While there have been many changes to the provincial system in response to this common complaint, confusion still exists.

“We have a lot of different sort of players in this transport business. [We have] BC Ambulance, HART, and the PTN. [With] all those different players [it is] sometimes confusing, which causes multiple phone calls for the doctor while they’re at the bedside trying to manage a ventilated patient.” (FP practicing in a remote community)

Circumventing the System

Sometimes rural physicians understand that the ‘rules’ of the transport system will not lead to ideal patient care, so they have developed ways to work around perceived roadblocks. For example, over time, rural physicians become familiar with their colleagues in regional referral centres, and learn how much, or how little support to expect from specific specialists. Physicians in our focus groups described how they try to avoid unhelpful specialists as much as possible. For example, one tactic described to mitigate challenges with specialists is to keep a list of call schedules for specialists in the nearest referral centres, and choose which centre to refer to based on which specialist is on call at the time. Some physicians also delay non-urgent patient care to wait until a different specialist is on call:

“There are certain specialists [whose] opinions I don’t trust all the time. If [I have a patient] I feel like I don’t need an urgent opinion [on], usually I’ll call and ask who’s on-call and then decide if I want to talk to them. If someone’s really sick I’ll always call and talk to whomever is available, but sometimes I wait an extra day to talk to someone I trust more. (FP practicing in a remote community)

Additionally, physicians in our focus groups feel many urban specialists don’t understand the reality of rural medicine, such as the delays in transport or lack of access to sophisticated diagnostic services, which negatively impacts patient care. One physician described her feelings about interacting with specialists who do not provide support:

“Certain specialists don’t quite understand the situation, don’t understand the delay in the transport. We have to fight a bit to say, ‘We can’t wait three hours and see if they get worse because it’s another eight hours to get them anywhere!’” (FP new to practice)

Many physicians described the importance of learning the nuances of the systems in which they practice, and developing effective strategies to negotiate the system to ensure that transfers occur in a timely manner. An example of this is knowing what to say when speaking to PTN staff. One physician described a hypothetical interaction with PTN, which leverages his understanding of the system:

“If I’ve got a good sense of where [the patient is] gonna [be transferred] and I know there’s likely to be a bed, I’ll pre-call the [specialist] and then, having done a lot of the initial work for them, I’ll call PTN. Then they’re just arranging transport. That’s how I can use [PTN] in an efficient way.” (FP practicing in a remote community)

With experience, such as learning whom to call, rural physicians can “game the system”, as one key informant put it, to access the advice or care they think their patient requires. For locums, IMGs, and other physicians new to the community, who may lack this specialised local knowledge, this process is not available. There is no doubt that this has the potential to negatively affect patient care.

Time Required to Activate the System

Most physicians in our focus groups interact with the PTN transport system, and despite the recent positive changes that have impacted the speed of transfers for the better, there was considerable discussion about the barriers PTN continues to create:

“The wait times and reliability [are] pretty terrible. They say there’s gonna be a plane there in two hours, then they say, ‘There’s no planes, it’s gonna be another four hours.’ I had a [case last year] and it took me two hours on the phone, I talked to seven different physicians. That was an extreme experience, but it takes longer than it should.” (FP practicing in a rural community)

Many physicians consider the support provided by PTN to be lacking and unaccommodating. We also heard that PTN staff who arrange transfers are ill-equipped to make decisions about transfers. Physicians feel the people they speak to when arranging transfers do not trust their judgement.

“I don’t want to have to explain to someone without any medical background why I think this patient is potentially life and limb. They need to trust that I’ve made that decision based on my clinical background.” (Rural generalist)

Due to the small number of staff typically present in rural ERs, one of the biggest challenges facing physicians is they are too busy providing care to the patient to speak to the TAs on the phone. In some physicians’ experience, PTN staff are unwilling to talk to nurses, which means the physician is pulled away from the patient. Additionally, physicians in our focus groups describe often being put on hold by PTN when they call. This means the physician gets stuck waiting on hold while they’re trying to manage a patient in the ER, which is perceived as being a big problem.

“We have limited bodies here so if we have a sick patient everybody needs to be hands-on. We don’t have the option to have one person who’s on the phone for 45 minutes answering ridiculous questions in order to get a transfer.” (Rural generalist)

A physician described her challenges with this and an approach her team has taken to address it:

“Arranging transport in a timely manner has been our biggest frustration. The various phone calls, people calling back right in the middle of what you’re doing. We wear headsets now on the phone so we can be doing things when we talk. It’s been a real problem because they won’t talk to the nurses, they want to talk to us and when there’s only one and you’re looking after a patient.” (Rural generalist)

While this solution seems to be meeting the needs of the physicians in this community, we heard from focus group participants that when it comes to the initial telephone communication between the staff at PTN and physicians on the ground, a better approach is needed. Initiating a transfer for a patient should not impact a physician’s ability to provide good patient care while waiting for transport.

Physicians who use Alberta’s STARS program to transfer patients to Alberta much prefer STARS to the BC transport services because of the quick response times and good support.

“We got very spoiled [using STARS]. The STARS physician flies in and stays here with us and then takes our sick patient out right then and there. We’re definitely dealing with problems with BC Ambulance now not flying, changing their flights. Nothing comes in. But STARS is a wonderful system.” (FP new to rural EM practice)

However, our key informant explained that the type of service STARS provides cannot be made available in BC through the BCEHS. He described how STARS has more financial resources than the BC system and comparing the two was like comparing “apples and oranges”:

“STARS is a boutique charity organisation. [In Alberta] they dispatch several hundred flights a year. We dispatch 7,500 flights per year. They have dedicated people available within an instant, [whereas] we can have two or three phone calls coming at the same time. STARS receives donations and runs as a charity and spends around five to six times more than we do per flight. In Manitoba, [STARS] spent 10 times more than we spend.”

Data from STARS’ 2013-14 annual Community Report shows that STARS dispatched 1645 missions in Alberta, and an additional 94 in BC⁷. This is compared to the 6,600 calls the BC Air Ambulance, including the Patient Transfer Network, responded to in 2013-14⁸. This key informant went on to explain that in BC, each transfer is “extraordinarily expensive” and PTN faces issues such as lack of human resources.

Lack of Communication within the System

Physicians in our focus groups explained how there is a problematic lack of communication between staff in the emergency transport system and physicians on the ground. One physician described an example of this lack of communication where he was not kept up to date on the status of the air ambulance he requested:

⁷ http://www.stars.ca/upload/media_element/70/01/stars-community-report-2013-14.pdf

⁸ <http://www.bcas.ca/about-us/factsheets/bc-ambulance-service-factsheet/>

“I had a patient come in from a remote community – she was 30 weeks [pregnant], possibly in labour. [We] contacted the Patient Transport Network, and [they said they’d] dispatched a team. I delivered her and made sure the baby was stable. The team arrived, looked at the baby, and left again because they didn’t have a bassinet. They promised to send someone first thing in the morning. When I phoned them they told me that they had dispatched an air ambulance and it just hadn’t happened.” (Rural locum)

One physician described his experience in a community where there is no dedicated ambulance service and physicians are not told if or when an ambulance will be available for them:

“You manage your patients knowing when you’re gonna get transport. If I don’t know I can get the patient out at all, then I have to hold that patient for four or five hours. Whereas if I have an ambulance in town, then I have that patient going in 15 minutes or half an hour and they’ll be met by an ambulance coming from the south so the transport time [is] 3 hours. Otherwise, we’re doubling that.” (FP practicing in a remote community)

Our key informant acknowledged that it is a major challenge when information about transport is not fed back to sending physicians. He said that one of the barriers to providing feedback and updates to sending physicians is due to staff shortages at PTN:

“That is basically running one of the biggest emergency departments in the province because we have two docs on 24 hours a day, and that takes 40 some odd docs. PTN is the same, they can’t staff right now. They have clinical nurses with critical care experience, either emergency, ICU, cardiology. Trying to staff that 24/7 365, is an issue.”

The lack of communication back from the BC transport system to the sending physician has serious implications for patient care, as physicians in sending hospitals manage their patients based on estimates of how long the patient will be in the department. For example, certain procedures may not be undertaken because of a presumption of lack of time, and an unwillingness to add to any further delays in transport. Transport team plans often change *en route*, due to competing demands and unavoidable weather issues. However, to expect rural physicians to operate without this knowledge speaks to one of many ways that the current system frustrates physicians.

Lengthy Turnaround Times

Some communities are many hours away from regional centres where the emergency transport services are based. For example, communities in interior BC rely on HART and frequently encounter delays:

“[HART] is dispatched from Cranbrook so they may be in Invermere or Cranbrook, so that’s a three-hour wait [to get to us], and then three hours back. [It’s] a six hour round trip. That’s why [we’re developing] our specialised [transport] team.” (Rural generalist)

This physician went on to explain why they are considering creating their own back-up transport system: *“We’re looking at certifying nurses so they can go with patients who need [transfer]. We haven’t got time to wait for the HART team.” (Rural generalist)*

Another cause for delays in transport turnaround times is related to the fact that critical care teams, and the BCAS as a whole, use equipment that is often incompatible with the equipment used in rural hospitals (e.g. different IV tubing). The way patients are ‘packaged’ by the sending physician is often not aligned with the equipment the paramedics have. The variation in this equipment across the province and the frequent issue of equipment incompatibility is a barrier to timely transport.

Challenges with Road Ambulance Service

Physicians rely on ambulance services to arrange inter-facility transfers. Focus group participants from some remote communities explained they do not have a dedicated ambulance service in their communities, and the single ambulance is staffed by volunteers and, in the case of at least one community we heard from, covers a stretch of highway 500km long. For physicians in communities like this, it is extremely difficult to know whether they will have ambulance support at any given time:

“They won’t tell us when there’s an ambulance available or not. We may have a patient coming in with something catastrophic and we don’t know if there’s an ambulance available (to transfer the patient out of town).” (FP practicing in a remote community)

Paramedic Skills

There are similar challenges with road transport provided by BCAS, which physicians in our focus groups described as being unreliable. They pointed out a major challenge related to paramedic credentialing: in other provinces, paramedics are trained to do procedures such as starting an IV when transporting a patient. In BC, there are few advanced life support paramedics working in rural areas, and this has a big impact on physicians, who are forced to go with their unstable patients on transfers because paramedics are not able to intubate, sedate, or administer intravenous medication to patients.

“I have seen people come in from what I would consider minor MVAs all shocky because nobody on scene could even contemplate starting an IV and then you have to resuscitate them. Part of it comes to do with how BC Ambulance is staffed or trained. People have a much higher exposure to morbidity, mortality than they ought to.” (Rural Locum)

Some communities have road ambulance crews who are reluctant to travel at night, as a result of previous incidents where transport vehicles have been in accidents and transport staff has been killed. In these communities, patients needing transfer can back-up overnight causing delays in care, and increase the need for local health care teams to manage more patients overnight.

Physicians Travelling on Transfers

Lack of access to highly skilled transport teams in many parts of the province means rural physicians and nurses are, at times, required to travel in the ambulance with unstable patients. This leaves the community without a dedicated physician or nurse, and scrambling to find a replacement at short notice. This also causes problems for payment for physicians because, while they are paid for the transfer, the return trip is not covered and they are required to arrange their own transportation home. If the patient is not from Canada and does not have health insurance, the physician cannot be compensated for their time. This leads to hours of time during which the physician is unable to work.

“[Transport is] a constant headache. The big problem is drawing resources out of the community to affect a safe transfer [when] the helicopter and the ATLS team [are] not available. You either cross your fingers, or you send people. Then you have to decide whether you’re gonna send the nurse or the doctor. We’ve had lots of experiences where we made the decision based on not wanting to send too many people and then having problems along the way. It’s not good patient care.” (FP practicing EM full-time)

To avoid traveling with patients on transfers and drawing valuable resources out of the community, physicians sometimes are faced with making difficult decisions about predicting which patients might require MD or RN support in transfer, and which may not. And sometimes physicians are forced to hedge their bets and prepare a patient as best as possible for transport without critical care staff. A common situation where this arises is in the stable patient who requires significant pain control, as paramedics are typically not allowed to administer intravenous or intramuscular medication during transfers. We heard examples of physicians giving their patients nerve blocks to manage pain and hoping the drugs do not wear off before the patient reaches the referral centre.

c. Transferring Psychiatric Patients

We heard from numerous physicians in our focus groups that transferring psychiatric patients is a significant challenge. Unstable psychiatric patients can pose a danger to themselves or others, and may need to be physically or chemically restrained to provide for their safety and the safety of the transport crew. This can involve services outside of the transport system, such as the RCMP. This often leads to significant delays in transport, requiring rural hospitals to keep these patients in the department for hours, or days. This poses significant problems in communities that are not accredited to keep such patients, and do not have adequate staffing, training, or secure rooms to deal with potentially violent patients. One physician we spoke to feels that the issue around psychiatric patients stems from a system-wide lack of clarity and support for these patients:

“Psychiatry is a complete disaster. BC needs to look at how to transfer the committed psychiatric patient. There needs to be clarity on how to handle the violent, agitated psychiatric patient. PTN takes the fall for that but I think there’s something more fundamental about how we treat psychiatric patients.” (Rural generalist)

Another physician described the situation in the remote community in which she practices, illustrating the complicated nature of caring for psychiatric patients:

“Here we are not allowed to hold psych patients at our hospital. It’s not deemed safe and we don’t have the staffing or appropriate rooms. So it creates a big problem and often we ended up having to hold them here which really makes the nursing staff uncomfortable and rightfully so.” (FP practicing in a remote community)

Unstable psychiatric patients are a unique source of anxiety for rural physicians because of the additional challenges in treating them in rural areas. The lack of support to transfer these patients or the resources to manage them safely in the community is a major issue.

d. No-Refusal Policy

Several communities have no-refusal policies, which state that a regional referral centre cannot refuse to take a patient who meets certain criteria from a community within its referral area. These agreements speed up the transfer of seriously ill patients, in that the rural physician is able to immediately activate the transport system, without the need to secure a receiving physician first, something that is not possible under usual circumstances. As well, sending physicians know their seriously ill patient can get the care they need at the closest appropriate centre, regardless of how busy that centre might be. These no-refusal policies are universally appreciated by rural physicians, and can significantly reduce some of the stress of managing unstable patients. These no-refusal agreements are made at the Health Authority level, and are independent of the BCEHS. These no-refusal agreements apply only to Life, Limb, or Threatened Organ (LLTO) cases.

e. Feedback on Patient Outcomes Following Transfers

Sending physicians feel they generally don't get sufficient feedback from receiving physicians with regards to the care provided at the sending hospital, a patient's condition on arrival, whether the patient was appropriately packaged for the transfer, and final diagnosis and outcome. The physicians we spoke to felt there isn't an established culture permissive to providing feedback between physicians. One physician described this challenge in his work:

"[We want to] get follow-up on patients you send to the city. But you don't actually get that typewritten report or a discharge summary. We've tried to tighten up [by] making sure the referring doctor's name is on the referring documents, but often a resident or a fellow is dictating the discharge summaries and you really have to take it upon yourself to find out how patients do." (Rural FP practicing EM full time)

Lack of automatic feedback on outcomes of patients transferred to higher levels of care is a problem for rural physicians because it does not enable reflection or opportunities for learning.

f. Transport Advisor (TA) Perspective

The transport system key informant we spoke to shared his perspectives on the BC transport system. TAs are responsible for the entire province's transportation needs at any given time, and must consider multiple requests for transfers at any one time. TAs are constantly having to juggle resources to best manage patients. TAs make decisions about transporting patients based on the need to receive immediate treatment at the receiving site, time of day (not all pilots are certified to fly at night) and the stability of the patient. This need to be responsible to the whole system is a very different perspective from that of the sending physician: the needs of the many versus the needs of the individual.

A hypothetical situation our key informant posed to us is a physician needing to affect a late-night transfer when there are no beds available in the receiving centre and all but one transport aircraft are on other calls. In this case:

- A TA may decide not to transfer the patient because the patient would not require immediate treatment when they arrived at the receiving site

- The pilot on call may not have sufficient flying hours or experience with a particular community to be allowed to land there at night
- The TA could decide not to transfer the patient immediately, in order to keep the single remaining aircraft free for a potential case with a higher acuity level

This illustrates the complexity of the system and the number of different regulations and challenges the TAs are required to keep in mind when arranging emergency transport for patients. Sending physicians would greatly benefit from having a better understanding of the transport system as a whole and the steps between a physician making a call to a TA and a patient being picked up from a community.

In some cases, receiving physicians refuse to accept patients even if the sending physician and the TA agree that a transport is necessary. In this case, a new measure called an ‘escalation matrix’ has been implemented to support sending physicians. If a receiving physician refuses to take the patient, but the TA and the sending physician believe a transfer is in the best interests of the patient, then the decision ‘escalates’ up the administrative chain to initiate a transfer.

Navigating challenges, such as weather and geography, create other barriers to transport that physicians might not be aware of. Our key informant described this saying,

“Our issues here are huge. We’ve had comments where we’re saying we can’t come in there and [the physicians will] look out of the window and go ‘It’s blue sky.’ [From our perspective we say,] ‘Yeah, but the pilot’s looking at the weather system that’s coming in.’ So there’s a whole bunch of stuff that can affect [whether we can send transport].”

The key informant also described another important element of the system where pilots are not given any information about the nature of the case or the type of patient they are being sent to transfer.

“We blind our pilots to what we’re going for so they don’t know what the call’s for. They don’t know that this may be a two year old that’s been hit by a car. They don’t know anything. They just know they’ve got to fly into a place. So we make sure that our pilots aren’t being affected by any emotional pulls of what they’re going to go for.”

This policy was created to take the emotional factors of the case out of the pilot’s consideration in order to ensure the transport system is at all times considering the safety of the transport staff. While the sending physician is emotionally invested in the wellbeing of their patient, the emergency transport teams, by design, follow standard protocols when transferring patients.

Understanding Canadian Aviation Regulations

In BC, weather and geography pose major challenges to providing flights, winter and summer, day and night. The aviation aspect of the emergency transport system means the system functions within the larger Canadian Transport system and is beholden to its regulations. Transport Canada’s regulations outline the procedures to be followed to ensure the safety of the airplane crew. In general, our key informant feels physician’s lack of knowledge about these policies and regulations makes it difficult for them to understand the limitation in the air transfer system:

“I don’t think rural physicians understand the Transport Canada aviation aspect. It’s really binding. If a helicopter pilot landed on the roof of a hospital without clearance, his license is gone. It’s very, very rigid, there’s no wiggle room in any of this type of stuff. That also is part of the thing is with physicians when you’d be talking to them they’d go, ‘Well you guys flew in here last week.’ [We have to say,] ‘Well, we did fly in there last week, but the pilot this week has so many a thousand hours less than the pilot who flew in last week and is not rated to land on that size of a runway yet.’ [For pilots, there are] certain runways around the province that if you’ve landed there so many times during the day and you’ve become familiar with it then you’re allowed to land on it at night. But unless you’ve done so many then you can’t, and if you did do that you’d lose your license. There’s a bunch of aviation regulations that come into play behind the scenes.”

Our key informant believes that increasing physicians’ understanding of these requirements will help manage expectations from the system and will increase overall system functioning.

This key informant identified another problem stemming from a lack of resources for transports, which involves some physicians trying to 'game the system'. A TA must keep every patient's interest in mind when making decisions to avoid situations *“where somebody pushed the system and we’ve gone to get their patient and now we’ve left somebody who was sicker and may have needed the resource more.”*

Many participants in our focus groups described how they feel there is considerable opportunity for education around support for physicians, nurses, and AHPs to improve the functioning of the emergency transport system. These opportunities for education are discussed in [Section IV.vi.b](#).

ii. Remuneration Schemes

Physicians in our focus groups are satisfied with the systems through which they are paid and feel these systems support effective and satisfying EM care. However, they explained the availability of payment for stand-by and on-call hours can impact the willingness of physicians to provide that type of support.⁹

Some physicians prefer fee-for-service (FFS) because they feel it pays well, especially for full-time EM physicians who do not have to cover office overheads. Some negative effects of FFS were also described.

“[AP] promotes better handover and I prefer that. When your shift is over and you’ve been there 8 or 10 hours you can hand over. In [FFS] we are encouraged to [finish something] once you start it, [even] if that means you’re four hours over your shift. There is something to be said for the [AP] emerg physician in terms of a good cohesive group that hands over and has good continuity of care.” (Rural FP practicing EM full-time)

FFS can also be a disadvantage to physicians in communities with seasonal changes in number of visits to the ER. Despite the variations in patient volume, physicians must still cover the ER year-round.

⁹ In BC, physicians are compensated through a fee-for-service (FFS) system, or through a variety of ‘alternative payment’ (AP) systems, including salary and per diem payments. For clarity, where physicians in our focus groups referred to payment systems other than FFS, we have amended their quotations to refer to “AP”.

“Our group is fee for service as well. One of the problems is the seasonal coverage. We contract out to [Medical On-Call Availability Program (MOCAP)] to provide 24/7, 365 coverage to the community. Summers and winters are fairly busy, but spring and fall are not and you still have to cover it. That seasonal variation is a challenge when you’re fee-for-service.” (Rural FP practicing EM full-time)

Payment systems for physicians can have an influence on call schedules and how much time physicians typically spend on a shift. Some physicians in our focus groups feel that AP systems support better hand-over compared to fee-for-service systems. They feel AP systems support comprehensive consultations and better patient care.

“I do find with fee-for-service there’s a lot of, ‘See them quickly and get them out’, but then they bounce back. Whereas on [AP] you’ve not got that pressure to see the numbers, so you can deal with it comprehensively.” (Rural FP practicing EM full-time)

AP physicians expressed the view that they feel more like they’re working together and that there was an increased likelihood physicians they would spend time sharing information, teaching, or cross-referencing. Physicians in our focus groups also noted that AP positions may work better in a single coverage, because some have experienced situations where multiple physicians on AP working together can lead to one person taking on a lot more work than the others.

Physicians using Rural Emergency Enhancement Fund (REEF) and MOCAP funds feel these programs provide financial support to enable year-round ER coverage, which is seen as being very valuable. Some communities use these funds creatively to support patient care, (e.g. to cover the cost of call-ins for physicians who are not formally on call). This provides a measure of support and recognition to the work of those physicians not on call, but who still make themselves available to provide patient care when needed. In at least one community, full time ER physicians take a smaller portion of the MOCAP fees, and subsidise the work of FPs who have to cover the costs of running a practice while they also do shifts in the ER. In general these funds are seen as offering favourable support to EM work. An important aspect of why these funds have been so successful is that the local community can to a degree adapt and direct the funds to best support the needs of that community.

Locums in the Rural General Practitioner Locum Program (RGPLP) function under a different payment scheme, which was generally viewed positively. Locums receive a per diem AP, which the locums we spoke to valued for its simplicity and lack of need to bill.

iii. Health Authorities

Physicians in BC work within larger provincial Health Authority (HA) systems. Many physicians in our focus groups felt they do not receive adequate support from the HAs overall. Our impression was that, while this was not universal, there was a sense that HAs create barriers that impede the ability of rural physicians to provide care, rather than supporting that work. We heard that physicians often feel voiceless and powerless when advocating for patient needs and services.

a. Varying Requirements between Health Authorities

Physicians across the province are required to have certain skills and certifications to practice emergency medicine. However, there is considerable variation in these requirements between communities, which can be a major barrier, particularly for locum physicians.

One physician said, *“The requirements for people who work in emerg are very different everywhere in terms of the size of the community” (FP practicing EM full-time)*. While this can be a challenge, some communities have requirements that are so stringent that physicians in those communities are unable to attract locums. One physician described a situation in his community:

“We’ve made it mandatory that everybody has their NRP [Neonatal Resuscitation Program certification] to work in emerg to satisfy the obstetrical call groups. We can’t get emerg docs to do locums because they haven’t got their NRP.” (Rural generalist)

b. Equipment and Local Resources

Physicians we spoke to feel Health Authorities do not do enough to ensure all hospitals have the basic ER equipment available to them. In particular, very remote and rural community physicians struggle to provide care without access to basic diagnostic services, like lab and X-Ray. As well, there is a lack of consistency in terms of access to resources between different communities in the same Health Authority. In many cases, it is often up to the community itself to conduct fundraising efforts to purchase essential equipment (e.g. ultrasound units), which some physicians feel should not be the case. Physicians in our focus groups advocated for more standardisation of access to basic ER supplies and equipment, and would like to see the HAs do more to ensure that there is a level playing field in terms of ER resources between communities of equivalent size.

c. Physician Advocacy

Several focus group participants described the significant amount of time they spend advocating for the needs of their patients, their colleagues and their community, and they are generally not compensated for this work. Advocacy work, which is one of the CANMEDS roles of a physician¹⁰ is not recognised or supported in any formal way, even though it can occupy a lot of their time and energy. This is also true of most administrative roles. Physician input into the day to day running of the emergency department is essential to support the quality of the care given, and is required at many levels. For example, Heads of Departments are volunteer positions with considerable responsibility and time requirements (attend meetings, manage rosters, arrange MOCAP and REEF checks, carry legal liability as the Head of Department) but these positions are generally not financially supported by the Health Authority. One consequence of the lack of recognition and support for the amount of work required for these roles

¹⁰ The CanMEDS-Family Medicine roles were developed by the Working Group on Curriculum Review and were adopted by the Board of Directors of the College of Family Physicians of Canada in June 2009. CanMEDS-Family Medicine (CanMEDS-FM) is an adaptation of CanMEDS 2005, the competency framework for medical education developed by the Royal College of Physicians and Surgeons of Canada (RCPSC). In keeping with CanMEDS 2005, CanMEDS-Family Medicine guides curriculum and forms the basis for the design and accreditation of residency programs. Its ultimate goal is to improve patient care and to ensure that postgraduate training programs in family medicine are responsive to societal need.

physicians are expected to take on is many physicians avoid taking on these responsibilities and communities flounder with the lack of leadership.

“It gets tiring fighting [the Health Authority] for services for the community without any other help from anybody else. It is definitely one of those things that we are trying to do which is not recognised by anybody.” (FP practicing in a remote community)

d. Lack of Recognition for Nurses

Though some physicians described how they struggle with not having enough of a voice and feeling that they are under-valued by the Health Authorities, they observed nurses generally get even less credit, support, or recognition from the Health Authority for the work they do:

“My biggest problem is how the Health Authority does not recognise these nurses who are the backbone of the community. If it wasn’t for the nurse who’s been here 25 years, I would not work. She knows everybody, everything that’s going on. [She’s] exceptionally competent and helpful. The whole thing pivots on her. One of the biggest problems I see is this not recognising the real contributors to emerg and the long-time nurses and staff that really make a difference. I find that the staff is not rewarded for their contributions in the same way that [physicians] are.” (FP practicing in a remote community)

Please refer to [Section IV.iii.](#) – ‘Staffing Rural Hospitals’ for more information on this issue.

e. Barriers to Securing Locums

Another systemic issue raised was the various barriers associated with securing locum coverage in the rural ER, and the lack of programs that provide assistance. Many EM physicians in our focus groups described barriers in finding locums for EM work compared to finding locums for their office practices, which they indicated are easier to find. Physicians feel the HAs should be doing much more to support this process. Credentialing systems managed by HAs can cause problems for physicians seeking locum support. A locum needs to apply for privileges in each HA, which can be a barrier to moving about the province. While the RGPLP is helpful to some communities, most medium and larger rural communities do not qualify to use this resource. For these communities, there is no mechanism to support the recruitment of rural locums, and physicians must make their own individual arrangements for coverage. This often means physicians who practice EM are unable to find locums to cover their EM shifts, and are required to do make up shifts before and after they go away. Rural communities are particularly vulnerable to gaps in ER coverage due to the small number of physicians in the community. When a physician moves away, this can create huge holes in the call schedule which can take months to fill. While there is some support to find permanent replacements (e.g. via HealthMatchBC), there is no process to support locums who provide coverage on a short-term basis. This creates a very stressful situation for the remaining physicians, and can imperil the operation of ERs.

One physician with experience in Australia described an Australian system for arranging locums. The entire region has locum agencies that liaise between locums and medical administrators in individual hospitals, and it is the administrators who are responsible for ensuring the physician roster is filled. The physician felt because this system makes hospital departments, rather than individual physicians,

responsible for arranging locums, it is easier on locums seeking work and physicians seeking locums. In comparison, the BC system is felt to be cumbersome and it makes finding a locum difficult:

“When I came here [to BC] there are no locum agencies and it’s very hard to find a locum. I had to give up my family practice when I had my baby because you just can’t find locums. And same for the emergency – we’re always looking for locums and we don’t even know how to find them.” (FP practicing EM full time)

Another physician described how he has to take on more ER shifts to make up for the time he is away because he has difficulty finding locums:

“In this day and age, it seems crazy that the Health Authority can’t set up some sort of website to match need and demand. I don’t ever get a locum, I just have to squish my shifts to the side. So I do double work one week and go on holiday for two weeks and do double work when I get back. Once in a while I can find a locum, but [it] would be nice to improve locum availability.” (Rural FP practicing EM full-time)

iv. Locum-Specific Issues

The locums we spoke to felt that while the Rural GP Locum Program (RGPLP) is in some ways an easy program to deal with, it is not so much a ‘program’ as a system through which their payments are processed. The program as it currently stands does not provide support for the issues faced by locums. Our focus group locums unanimously identified the following needs:

- Support and advice when arrangements fall through, e.g. when a locum arrives in the community and housing and transport are not arranged as promised
- A mechanism through which to advocate for their needs as a group
- A way to find and communicate with each other
- An avenue through which they can share knowledge and information
- A system to enable locums to match their availability with physicians in need of a locum

The processes for privileging and paperwork are different for all the different Health Authorities, which is a big barrier for locums interested in travelling to different areas of the province. For example, some of the paperwork requires references and copies of medical degrees which is felt to be problematic:

“[Different paperwork needed for each region and each hospital to set up a locum] for me is actually the biggest barrier that I won’t go to another health region where I’m not credentialed currently ‘cause it’s just way too much of a headache and asking for three letters of reference [from] people that have already written me 10 letters is just, it’s something I don’t want to go through.” (Locum)

Inherent to locums’ work is the challenge of treating medically complicated patients whose medical history is unfamiliar to them. To mitigate this challenge, the locums in our focus group felt it would be helpful for them to have access to data from the physician they are replacing through the EMR system.

EMR systems vary from community to community, however, and it can be challenging for locums to adjust to new EMR systems, especially since there is rarely sufficient orientation to these systems.

The RGPLP has restrictions on the kind of information they are willing to circulate to locums due to concerns about privacy, which lead to challenges for locums in terms of having adequate access to information about resources available to them. For example, we were told that it is against the RGPLP's policy to send out information about CPD opportunities. In one example, a locum participant told us that the RGPLP did not send out a notice about a CPD opportunity available for rural locums. Often, locums are not aware of these CPD opportunities, though they are eligible to enrol and would benefit.

Some locums described feeling that their special contribution as a locum was not valued by the community. They feel they offer a useful service and want to be appreciated. Experiencing this attitude in a community can lead to locums avoiding it in the future.

The locums we spoke to shared their experiences about some of the conditions they have dealt with (e.g. accommodation, transportation). Some communities were unable to accommodate locums travelling with family or children; this means these communities cannot recruit locums with those needs. Some locums feel like they're not treated with the same level of respect as a local physician and this can make their work more difficult and it makes some communities unattractive to them. One locum described it this way:

"[It's] not a common thing but I think that's something that's unique to locums that sometimes you're really respected when you show up somewhere and somewhere else you're just kind of the one that takes all the crap."

Many locums do not receive adequate orientation to the ER when they arrive, and since they are often working in the ER alone with only a nurse or an ambulance attendant, this is a big challenge. Due to the frequent lack of proper orientation, locums find they don't know where equipment is, who's on call, or who to call in for additional support. This is a significant stressor. In cases where orientation is provided, nurses mostly conduct the orientation. Often the only information a locum gets from the physician they are covering for is a typed up or handwritten letter, the usefulness of which can be "hit or miss".

Locums experience different levels of satisfaction in various communities based on the support they receive from local physicians, nurses, and other health care professionals in the community:

"One of the challenges that I've found in going to a new place is in terms of the support that you have in that community. Pretty much as a rule, as GPs doing emergency, generally you're in single coverage ERs I don't really have a clear sense of who's on-call or who I can call if I need help. I don't have a personal relationship with GPs in that town so if I get into trouble it's a little bit nerve wracking. (Rural Locum)"

Some very small communities don't even have a nurse, which means the locum is handling emergency situations on their own while also taking on the tasks a nurse would normally do (e.g. vitals, EKGs, starting IVs), often with no warning that they would be expected to take on this expanded role. Many

physicians rely exclusively on nurses to perform these tasks and they are not as familiar with them, rarely practice these skills, and may not have done it in many years.

v. Helping IMGs Integrate into the BC Health Care System

Another group that forms the backbone of the rural healthcare system in BC is the International Medical Graduates (IMGs). One of our focus groups consisted entirely of IMGs, although they were present in nearly every focus group due to overlapping eligibility criteria.

IMGs who wish to practice in BC must initially practice in an area of need, which is typically a rural community, for at least the first two years of practice. These 'return of service' agreements are tied either to residency training in BC (for IMGs who are in BC residency programs), or to the processes involved in immigration to BC. EM work is a required aspect of practice in most rural communities, and for IMGs entering into return of service agreements in rural communities, this can lead to resentment and fear because they feel they were forced into the work and may not feel trained or prepared for it.

These feelings of not having the right skill-set to take on EM work are further impacted by differences in medical training and expectations for physicians trained in different countries. One IMG we spoke to commented on the difference between what physicians are allowed to do in the UK and in Canada:

"[In BC] I have colleagues who have never had any formal training and they're intubating people. The norm in the UK [is] you have to have a piece of paper saying you're competent to do X, Y, and Z. [In Canada] it's based on the system that there's no one else to do it so you'd just better get on and do it." (IMG)

IMGs in our focus groups felt that because training in their home countries is different than in Canada, IMGs new to Canada should have access to orientation regarding the expectations and standards of practice in BC. Most newly arrived IMGs do not understand these expectations and are unprepared:

"I [trained] in the UK in emerg but [it's] a very different beast in Canada. I felt far more alone in doing far more than in the UK. It was the practical procedures that I felt I didn't have enough experience [with]. Being the medical attendant doing the ambulance transfer down to Vancouver seemed very odd to me. It wasn't something that I felt trained to do. I don't think it's fair on my patients." (IMG no longer practicing EM)

IMGs are required to write several exams during the process of becoming fully certified to practice in Canada. IMG physicians we spoke to explained the time they spend studying for these exams in their first few years of practice in BC takes away from time they could spend attending useful CPD opportunities, which would have helped them adjust to their new practice environment.

"[One] thing to bear in mind is the exam process. That really cut into the time I would have spent going to conferences for the first few years. I was too absorbed trying to study and get through all the exams again in Canada. That was the biggest barrier to going to CPD conferences." (IMG)

The same physician went on to say, *"I think we should be pouring resources into people who have just arrived because they've got the biggest learning needs."* (IMG)

Another IMG in this focus group described how he feels he needs to take time off from work to do some shadowing in the residency programs to help speed up his preparation for the required exams. For him, having to take this time off was impacting his decision to remain in BC or Canada:

"I suspect I'll need to take time out of practice to go to shadow some of the residency programs to get up to speed with things. I think that's part of the decision making about whether I continue working in Canada, and it's whether I can actually be able to afford the time out of practice to go and shadow a residency system." (IMG)

Many IMGs also felt more exposure to rural EM training (e.g. fellowship in EM if they did their residency training in BC) or EM practice (if they were not trained in Canada) before studying for exams and completing a return of service would be helpful.

IV. Local Systems: Community, Workplace, and Team Dynamics

The focus group participants were unanimous in their assertion that support from their rural health care colleagues, especially physicians and nurses, was one of the most important, satisfying and sustaining elements of rural EM work. Rural physicians in general draw tremendous support from their health care team. In those few communities where this support was lacking, it had a major impact on physician retention. Practice set-up, community demographics, geography, and collegiality among teams also play major roles in supporting physicians.

i. Culture of Support

Most participants described being grateful for support from colleagues and said they perform their jobs better and with more satisfaction when they feel they can call on colleagues whenever they need to. Having a core group of physicians who work together and know the patient population is valuable.

Making sure they don't "feel alone" in the ER is one reason collegial support in rural communities is so highly valued. One physician living in a remote community felt it's important to have "*someone else you can talk to and at least and share your pain with*" while working in the ER. He went on to say, "*We all struggle with always, always feeling like you're not quite up to what might walk in the door*", and having a supportive colleague to speak to can mitigate some of this fear. Most participants reported their colleagues are willing to help at any time and give advice by phone:

"I rely on my colleagues quite a bit for traumas, airways, or if I have someone I'm worried [is] about to code, and I want an extra set of hands or another opinion. Part of the reason I came here is because the doctors are willing to help out. Whenever I've needed backup, I've always been able to get someone. (Rural FP)

While many physicians have supportive colleagues, others do not have this experience. One physician described their situation in a larger RSA community:

"I didn't think there was a culture in most communities where anaesthesia would respond to emerg. In 10 years of working in emerg, every single time I asked for help [from] the anaesthetists, it was very clear to all of us that we would never get help from an anaesthetist unless the patient was on the way to the operating room. If you don't have it you really do miss it. That's a very valuable resource." (Rural generalist)

Collegiality among physicians is important to providing good patient care and getting sufficient support in a rural EM environment. A key informant who is an experienced rural physician commented on the importance of relationships in his own work.

"There's knowledge and education and procedures and all that, but equally or more important is the establishment of relationships. If I'm working with guys in [a regional centre] and they know me, that relationship is helpful in managing critically ill patients."

One IMG commented on the importance of developing relationships in his work. When he first started out, he found EM work challenging, but with time, he grew to not only become more comfortable with it, but also to like it once he was able to gain familiarity with the systems and the people:

"Initially I found it pretty terrifying and over time as you get to know the other staff in the hospital and feel more comfortable and know where you can refer people to, and what the expectations are, it's become far easier. Now I enjoy my emergency work; I'm looking at trying to do more of it and it's exciting, it's interesting..." (IMG)

Shortages of FPs in rural areas are leading to increased patient flow to local ERs which puts a strain on the ER. Additionally, due to this lack of access to FPs, EM physicians are seeing more non-urgent cases in the ER. This is related to the observation from many focus group participants that fewer physicians are willing to be full-service anymore, or include ER, obstetrics (OB), or in-patient care on top of office practice. One FP said she feels physicians are no longer "all in this together".

"[I worry about] the bigger picture about where we're going. Everyone is seeing an increase in traffic in the emergency department and lack of access at the family doctor level and these things are intimately related. When I graduated 10 years ago I really felt I knew what the profession would entail. In a small town, it would include having a full service family practice. [Now I'm] feeling [there is] a division among the different branches of family medicine and an erosion of support of those different practice styles." (FP practicing in a remote community)

a. Physicians Supporting Physicians

Having a diverse workforce, including having access to well-rounded internists, GP-surgeons, and GP-anaesthetists was considered valuable. We have heard from various physicians about the importance of having support from physicians with specialised training.

One physician said, "We're fortunate to have an OR that still functions. We have GP anaesthetists and GP surgeons here, which is nice backup when I'm in the emerg" (Rural generalist). Another physician described the benefit of having lots of support from colleagues with specialised training: "We have a couple of surgeons, an obstetrician, gynaecologist, a GP anaesthetist. It's a comfortable situation to work in and it's very well supported" (Rural generalist). One physician also described how her community used to have good support from GP surgeons and GP anaesthetists, and then these physicians left the community. The loss of this type of support forced the physicians in the community to dramatically reorganise the way they were supporting each other:

"We had a functioning OR and GP anaesthetist and a surgeon. Then we lost [them and] I've seen that transition from having surgical and GP anaesthetist backup to then having none, which was quite a significant loss to our medical community. As a result of we've put in a system of second on call so that we have always an extra pair of hands to call when we need that support. That's made a big difference to the quality of care and the feeling of not being alone when you need extra help." (Rural generalist)

ii. Scheduling and Call Schedules

Most of the EM physicians we spoke to feel one of their biggest challenges is being in the ER on their own. Many small communities have low volume ERs, and physicians practicing are required to do frequent ER shifts, typically on-call every other night, or one in three nights. There is often no second on-call system. A physician described some of the disadvantages of not having a second on call system:

“Sometimes you’re on a shift and you’ve got people waiting for six hours, and that’s pretty standard here. I do feel like we’re understaffed. There’s no one that coordinates the roster in that you cannot call in sick because there’s no relief or second on call in case it gets very busy, or those sorts of things.” (Rural physician practicing EM full-time)

Additionally, several physicians in our focus groups observed a lack of planning regarding overall staffing needs, such as ensuring enough physicians in the community on a holiday weekend.

In communities where physicians have good relationships with each other and there is a good cohesion within the team, formal second-on-call procedures are replaced by informal ones, which also work well.

“There’s no second on-call, it’s just informal and people will tell you the weekend you’re on call ‘I’m around if you need anything’, so you always know who’s in town and no one really has ever said no to coming in if they’re in town. But it’s an informal system we have amongst each other. It is really supportive.” (FP new to practice)

Formal second-on-call systems are helpful for physicians because they create a structure for calling in additional support. This is preferable to the common alternative where physicians have to randomly call colleagues trying to find someone to come in, as this system depends on having sufficient numbers of physicians in the community. Some communities have tried to get around this by having requirements for a minimum number of physicians to be in the community at any given time, so there is adequate support for physicians working in the ER. Another community has allocated some of their refunded CPD monies towards remunerating physicians who are called in to provide support in the ER on days when that physician is not officially on-call.

Many physicians arrange creative setups such as practice sharing to enable the flexibility to do locum work for each other, while also having a practice. Additionally, job sharing allows physicians to be fully-on and then fully-off at certain times of the year, so it helps mitigate burnout. Some physicians prefer certain shifts (e.g. weekends in a community near a ski hill) because of the income these shifts provide. If this is amenable to the other physicians in the community, this seems to work well.

Emergency departments with six-hour (instead of 12 or 24-hour) ER shifts, are often preferred because this supports other work, like clinic hours. It also supports physicians nearing the end of their career to continue to practice EM. However to do this, there must be enough physicians willing to participate.

“When I first arrived [in the community in which I practice] they had been doing 24 hour shifts and had just started doing 12 hour shifts. We have now just changed to 12-hour shifts on the weekends and nights, but week days [it’s] divided it into six hour shifts

which I really love. I can go full tilt for six hours and know that at the end I'm done and I still have time to add a clinic or do my other family medicine work. That's worked very well for our group." (Rural generalist)

iii. Nurses and Allied Health Care Providers

Support from a multidisciplinary team of MDs, RNs, and paramedics is considered highly valuable, and most doctors in the focus groups feel the overall support they receive and the skills of their nursing colleagues to be exceptional.

"I find that the nurses in rural areas where I've worked tend to have incredible skills and they're very competent at what they do. And it absolutely makes a difference in terms of the enjoyment, the comfort of working in the Emergency Department when you're working with competent nurses. I think it's one of the key things when I'm coming on to the emerg at night, knowing which nurse I'm working with. I know right away whether I'll be sleeping well or not that night, or sleeping at all." (Rural generalist)

One of our key informants who is an experienced rural physician observed, "A lot of the rural nurses are incredible generalists – they'll deliver babies and do emergency and work their four-bed ICU". A focus group participant also said, "I find our paramedics and our nurses and are incredibly well intentioned and they work very hard and are quite conscientious" (FP practicing in a rural area).

Nurses were most especially appreciated by locums, who found their local system knowledge and knowledge of specific patients to be hugely helpful.

"Every nurse is different, but generally I rely quite heavily on my nurses. The nurses in BC do more procedures than they did in Australia. For example they do like all the arterial blood gases and all the intravenous cannulas and that sort of stuff takes a lot of the work off you so you can see more patients faster." (Rural FP practicing EM full time)

a. Training and Skills

Physicians in our focus groups noted there is considerable variation in the abilities of nursing staff, and this variation affects their work. Locums travelling around the province have little ability to anticipate what skills the nursing team they will be working with will have possess:

"Sometimes small communities have a great difficulty attracting nursing staff and the nurses that come in maybe they're fresh off the boat and they need the training and they don't really have the skills. Then you have places where the nurses will put IVs in a two year old, set up a ventilator, all those things I'm not comfortable with." (Locum)

Skilled RNs and paramedics are often called in to provide extra support to physicians in situations like multiple traumas. Some nurses are skilled and are able to do many procedures, which takes work off the physician's plate. Some rural communities are working to get their nurses EM skills upgraded, so nurses can accompany patients on transfers instead of physicians. This is partly to address the shortage of Advanced Life Support (ALS) paramedics in rural areas, which often requires physicians to travel with

patients on a transfer. One of our key informants, an expert in rural EM education, noted that in his experience, *“all of [the nurses] seem to want to be better”* and they are keen learners.

In some communities, physicians do not have access to nursing support, which increases their stress, workload, prevents them from seeing more patients, and is financially disadvantageous:

“For somebody with nausea and vomiting, it could just be a gastro but instead of walking in, assessing them, ordering some labs and then going back and reassessing later, you’re there constantly for an hour and a half because you have to start the IV’s, get fluids in, schedule meds and everything else. If you’re fee for service you’re getting paid your physicians fee, but many communities [don’t have] a recognised emerg, so even though you’re doing emerg call, you’re billing an office code. It’s certainly not equitable remuneration, especially given the increased work.” (Locum)

b. Understanding Scopes of Practice

The RTs we spoke to described how physicians in their communities, especially locums and IMGs, often do not fully understand their roles or scopes of practice. This can lead to poor resource utilisation:

“They’re unfamiliar with who [RTs] are and our role. And a lot of times our services aren’t utilised to the fullest just ‘cause they don’t recognise what we’re capable of doing.” (RT practicing in rural communities)

Paramedics, who generally do not work inside the hospital, are seen as somewhat external to the ER team and they experience the team dynamics in a different way than members of the hospital-based team. Paramedics described experiencing greater job satisfaction when they are able to interact directly with physicians. For example, being able to give the report on the patient to the nurse and the physician at the same time increases their sense of being part of the team and improves patient care because the physician gets the report directly from the source.

“We’re not under the same roof [as the rest of the EM team] so there’s less familiarity and that brings up [issues around] familiarity with scope of practice and familiarity with the person. It’s knowing who that person is, having some sense of respect for them, what they can do, and knowing their scope of practice.” (Paramedic)

c. Nurses as Leaders in the ER

Nurses and paramedics feel the comfort level and leadership skills of physicians in the ER can make or break the functioning of the team. Nurses feel part of their role is to gently guide a floundering physician into being a better leader or having a cooler head. Nurses have a common understanding of which doctors need this extra support in the ER. One nurse we spoke to described how nurses he works with often share tips on how to help *“make things run more smoothly with the different doctors and what the tricks are with the different people”*. Conversely, physicians also relate to various nurses in the same way by accommodating to each nurse’s strengths and weaknesses. A key informant who is a very experienced rural physician described this as a natural part of teamwork:

"That's just human nature and human team work. But if we had the ability to share this information amongst our teams in a non-threatening, light humoured way, we could appreciate our strengths and challenges and be [a] better team."

Our key informant has observed nurses provide guidance to physicians in subtle ways. He explained, "At least once a [teaching] session, we would see some sort of little deviation from the protocol just to get the doc to do stuff, little hints laid, little pats on the back".

Nurses see themselves as 'assistant managers' to the physician who is the 'manager' in an ER setting. One of our key informants called this "covert leadership" where nurses do not openly take over. One paramedic described seeing this 'covert leadership' in action:

"[They are] helping to steer the management of the situation and they're doing that in a very subtle, gentle, and tactful way. The docs are overwhelmed, floundering, maybe because they haven't [been taught] the management skills they need, maybe because they're overwhelmed, and the nurses take up the slack." (Paramedic)

Some ERs have a 'senior nurse' who covers the ER at night and the role of this person is important; an RT observed when the 'senior nurse' is not in the ER, procedures seem to break down, and she knows from experience she is more likely to be called in to provide extra support when the senior nurse is away.

iv. Communities in Crisis

Some communities in rural BC have an unsustainable medical system due to manpower shortages. Such communities in crisis¹¹ are often staffed primarily by short term locums, which lead to poor continuity of care for patients. These communities can develop problematic patterns in care because locums attempt to follow existing practice norms which have become entrenched in the community, in the absence of a system to address the issues in a long term sustainable way. Since locums generally don't have a relationship with the patients, they find it easier to provide the care the patient requests, rather than confronting the patient. One locum described her struggle with requests for narcotics prescriptions:

"[There are] places where there's just been a series of locums [so] it was easier to just write the darn prescription, so now there's this expectation that people will just come in and get their narcotics for things that have not been diagnosed or worked up. When you are the person who says, 'No' and you have no relationship with [the patient], that's where I had some really unpleasant, uncomfortable situations. It happens in more than one place, especially in communities in crisis where it's just locum after locum." (Locum)

¹¹ *Communities in Crisis are communities that are suffering from critical shortages of physicians. Among other things, the definition includes measures of the number of physicians in the community and how long vacancies for physicians in the community have gone unfilled. There are currently 17 communities in crisis in BC. They are: Bella Coola, Burns Lake, Chetwynd, Clearwater, Cranbrook, Galiano Island, Hazelton, Kitimat, Nakusp, Pemberton, Port Alberni, Port Hardy, Princeton, Quesnel, Terrace, Tofino, and Tumbler Ridge (accurate as of Nov 31 2014).*

v. Adopting New Procedures, Technology, and Approaches

In our conversation with a key informant, we discussed how CPD can support rural physicians to develop new skills and try new approaches. Our key informant feels some rural communities develop resistance to new ideas. He has found it difficult to change these engrained behaviours. He said, *“We found going to these rural sites that it’s very hard to overcome what had been done for the last 20 or 30 years. The uniform answer was, ‘Well, we make do and we’ve been doing it for 20 years so why change?’”* Another of our key informants noticed a similar tendency in rural communities. *“I would say rurally, maybe for lack of exposure or lack of support from the team looking at new equipment or supplies, sometimes [they are] slower to take on new approaches to things or newer procedures”.*

vi. Feedback On Performance

Focus group participants strongly supported the need for feedback on performance, if delivered in a safe and respectful way. Feedback that is tied to specific cases is seen as particularly valuable, as well as feedback from specialists on shared patients. Participants were also keenly aware that the current culture of medicine does not support this process well. In general there was a strong desire from participants to receive more feedback.

Focus group participants said support in the form of feedback and advice was valuable, especially for new physicians. Receiving feedback from colleagues depends on the atmosphere of the workplace; not all physicians are comfortable asking for and sharing feedback with each other. One of our key informants who has worked extensively with the rural FP residency training program in BC observed feedback between practicing physicians as *“not as rigorous”* as feedback during residency:

“Once you’re out [of residency], if you don’t ask for feedback, you don’t get it. If you work with colleagues that you can be open with, then they’ll tell you when that patient came back to emerg after you sent them home. But it’s a very informal thing.

Nurses also feel physicians should be providing more frequent feedback to them and other non-physician members of the ER team. They feel this would improve the satisfaction and functioning of the team. The same is true for other members of the team giving positive feedback to each other. Feedback is particularly valuable coming from someone who is in a leadership role.

The physicians we spoke to in our focus groups feel that they do not have adequate access to feedback on their performance, knowledge, and skills. This means that most physicians do not know what their areas of weakness are or where they can improve.

One physician gave an example of receiving formal feedback in the form of data on emergency department care that was collected in a patient survey by her Health Authority, and described how helpful it was. Physicians in our focus group described how they value this type of feedback.

“They’ve presented data [from] a bunch of surveys sent out to all the hospitals asking patients to rate their experience – It was to do with physician communication, nursing staff, length of time to get procedures done, how long they waited, their length of stay, it was great. It was helpful to receive that feedback.” (Rural generalist)

Another physician described having to rely on self-reflection or the input of others to learn about the gaps in their skills and knowledge. He felt this was an insufficient form of feedback because not all colleagues are receptive to feedback. Another physician in the same group commented on the importance of trust and safety with regards to feedback from colleagues. *“You have to trust that your colleagues are receptive, supportive, and safe to discuss with” (Rural generalist).*

“When there’s a bad outcome, I’ll reflect on my role and where I could have done better. That’s not a good way of looking at your practice because a lot of [patients] come and go and you never see them again. If I make a howling error, that’s obvious, but there’s a lot of things that probably fly under the radar I don’t know I’ve goofed up on. [Feedback from colleagues can be helpful] because we’re a mix of ages and skill levels. People are stronger in parts of their practice than others, having a collegial approach is important so that if people need help they can come or I will ask, ‘Do you want a hand with that?’ It depends on the individual. Some people don’t want help.” (Rural generalist)

One-on-one peer assessment can be difficult to manage, and physicians we spoke to noted that there is no real culture for peer-feedback in health care:

“I wish there was a way of subtly mentioning things to colleagues. I have some colleagues that are happy to have a comment or a criticism and they’re happy to share it back, but it’s not universal. If you mention something someone could have done better, it’s sometimes seen as an accusation rather than education.” (Rural generalist)

Another physician described how they use morbidity and mortality (M&M) rounds to reveal gaps in skills or procedures:

“We’ve been doing M&M Rounds. We take cases where eyebrows have been raised. We have one doctor present and we make suggestions. It’s not a culture of pointing fingers. Everyone learns from it and it’s been a very helpful way of making sure the same thing doesn’t happen again. When things go wrong, usually a whole bunch of things line up to do it, as opposed to one person being completely at fault. It’s been very helpful for identifying glaring errors.” (Rural generalist)

While M&M rounds are valued by physicians, they can be onerous to organise, and may require considerable time and initiative from leaders.

A key informant who is a very experienced rural physician educator commented on the evidence that self-assessment is a poor tool for physicians to identify gaps in their skills and knowledge. He suggested simulation and peer assessment as two alternatives that are more effective:

“There’s nothing like simulation to uncover areas of weakness. This is as close to real life as you’ll get safely, so that’s probably the best way to uncover them, although peer evaluation will also uncover your unperceived needs. [We did a project on peer assessment at our hospital and] the best chart we had, in my opinion, was the page that

had your self-assessment score and then the nurse's assessment, specialists, family doc, and your emerg colleagues, all going right down the list of questions so you could see 'Oh look, I thought I was pretty good here, but no one else did.'"

This key informant feels that another good source of feedback is from physicians at referral centres where a particular physician regularly sends patients.

"If I keep sending the same patient and I don't get any feedback about it and the guys at the receiving centre are saying, 'That guy, he's sending another stable chest pain,' and they roll their eyes when I phone, it behooves them to educate me on the critical things I need to consider in sending this patient."

vii. Supporting IMG Colleagues

Many IMGs in our focus group mentioned they did not receive adequate orientation to the hospital or ER before their first ER shift. In addition to the usual orientation requirements, new IMGs need orientation to the Canadian system in general, and need to understand how the system is different from the one they came from. One participant described the experience of being expected to begin practice without any proper orientation as *"quite unnerving"*:

"There are subtle differences or maybe not so subtle differences, (from my home country), but there was no orientation to know that those differences existed. [For example] drug names being slightly different and just even just processes and procedures were slightly different from my training and my previous experience." (IMG)

Several IMGs felt there are a lot of requirements and upfront costs to moving to and setting up a practice in a new country, and they require additional support for, and orientation to, these requirements. There are many costs associated with moving to a new country including immigration fees and travel. While IMGs are provided reimbursement for their relocation costs, the costs are reimbursed many months after the actual move, and some of the very large up-front costs can be a significant burden. IMGs feel they need support in managing these expenses such as being made aware of all the requirements before moving to BC and getting resources to guide them through the processes.

"It was mandatory, [in order] to maintain a license, to attend a course run by the BC College. It was a two day course in Vancouver, [and] you had to pay the course fee and the travel and the accommodation. It was all about starting practice and how to work in Canada, but they only run it twice a year and I'd already been working for seven months by the time I actually could go to the next available course. It just seemed a bit backwards. They make you go to an orientation to obtain your license, but it's actually after you've already worked for six months. I appreciate there's no perfect way of running that, [but] it's just another example of some of the slightly bizarre things that would go on for IMGs that they have to do." (IMG)

viii. Back-up Inside the Community

In general, physicians in our focus groups described receiving good support from health care team members within their communities. They described how successfully accessing support is a learned process: partly a function of time and experience as they learned more about their community resources and skill sets. For example, physicians described the importance of developing relationships with colleagues and learning where clinical issues are best managed (i.e. within the community or outside the community), and how to navigate transport systems.

a. Lack of Resources in Remote Communities

Physicians in our focus groups described how a lack of resources in rural areas is a constant source of frustration. While rural physicians understand the reality of rural EM practice and they are inclined to take this in stride, they still struggle to provide adequate care to their patients. Some commonly reported resources lacking in remote communities are:

- **Lack of services for psychiatric patients:** Many communities do not have physicians or nurses with specialised training in psychiatric issues, and many remote hospitals are not allowed to hold unstable psychiatric patients, but simultaneously struggle to transfer them. Physicians are then forced to hold psychiatric patients in the ER, sometimes for days, until beds become available in a referral centre. The patients can be difficult to manage, often posing security risks, which create an extra burden on physicians and nurses, and less than ideal care for patients.

“Having a specialised psychiatric nurse response system which is 24/7 would be really, really helpful. I find that that worker can get that patient moving faster than I can as the doctor, ‘cause they know the system much better, they know all the individuals involved. It’s been very helpful. So extending that service I think would be part of the solution.” (FP practicing in a remote community)

- **Lack of access to blood products:** Some remote communities are not permitted to store blood products, which create problems for patients requiring regular transfusions (e.g. patient on chemotherapy). Physicians do not understand how such decisions support patient care, and feel Health Authorities should do more to maintain as many community-based services as possible, to minimise the need for patients to travel out of town.
- **Hospital bed shortages and ER wait times:** Shortages of beds in hospitals leads to domino effects that create overcrowding and bed shortages in the whole hospital, including the ER. Ward patients admitted in the ER due to bed shortages in the ward receive nursing care from the ER nurses, although they do not require ongoing ER care. This creates an increased workload in the ER, as well as lack of space to care for new patients. This situation leads to stress on the ER health care team, which in turn can lead to less than ideal patient care and outcomes. Some physicians we spoke to felt that empowering nurses to manage lower acuity cases (e.g. CTAS 4s and 5s) could help reduce ER wait times. They suggest BC should adopt this model universally as it allows the physician to see cases of higher acuity while nurses can manage the less urgent ones. Such a system would help reduce physician burn out.

ix. Back-up Outside the Community – “My favourite diagnostic tool is the phone”

When physicians practicing in rural communities are faced with challenging cases or cases requiring resources beyond what is locally available, the typical first step is to access specialists’ advice for support. One physician from a remote community described the importance of this support in rural practice by saying, *“My favourite diagnostic tool is the phone.”* Telephone support from the trauma team at Vancouver General Hospital was described as being particularly valuable. The physicians we spoke to explained the value of having good relationships with physicians in referral centres, and they felt they usually receive good advice and support from these physicians.

The physicians we spoke to felt it was important for physicians in support centres to have an understanding of the realities of rural health care. Specifically they should *“at least have some sympathy for our situation”* and *“know we’re working with pretty limited resources and we’re doing the best we can in the circumstances.”* They need specialists who have an understanding of the rural context and are able to be a supportive ear at the other end of the line during an emergency situation. One physician said sometimes all one needs is a *“five minute chat to reassure you that you’re not doing anything crazy, you’re on the right track.”*

During our focus groups we heard stories of creative ways that regional specialists support their rural colleagues. Some specialists in referral centres travelled to the rural community when transport to the referral centre was not possible and some specialists are willing to provide consultation advice after looking at cell phone pictures taken by the sending physician. Some physicians suggest physicians should call the regional centre ER physicians directly, rather than specialists on-call. This approach was described as being particularly effective because physicians in ERs in referral centres *“really understand what it’s like”* to be in a rural community and in general are seen to offer practical and useful advice.

V. EM Continuing Professional Development (CPD)

“We struggle with always, always feeling like we’re not quite up to what might walk in the door. There will always be deficits in your abilities and skills no matter how much you practice and train. [You have to be] the jack of all trades and hope you’re not slipping even further down as time goes by.” (FP practicing in a remote community)

Our study team was particularly interested in gaining a better understanding of the educational needs of rural ER physicians. In each focus group, at least a third of the discussion focused on participants’ perceptions of education that was useful in supporting their EM practice, as well as to identify gaps in skills and knowledge that could be addressed by education. We also wanted to know how participants felt CPD might even better support them in the rural ER, and ultimately, provide better patient care.

We asked focus group participants about specific EM education they were aware of or had previously experienced, preferred learning format(s), specific areas of educational interest, accessibility of existing programs, and funding opportunities. We investigated perceived gaps in knowledge and skills, as well as unperceived learning needs. The unperceived learning needs were addressed by speaking with EM educators who have extensive knowledge and experience working with this group of learners.

i. What is Working Well

Focus group physicians indicated they participate and find value in a number of CPD events available within the province. Courses mentioned include The CARE Course¹², ACLS, ATLS, the UBC RCPD Shock Course, AIME, the EDE Course, NRP, the SEMP Course, the IHA Mobile Simulation Program, and the UBC RCPD Rural Rounds and UBC CPD Webinars. Valuable conferences mentioned included the Rural Emergency Continuum of Care Conference and the St. Paul’s Emergency Medicine Update Conference. EM-Rap Podcast, a self-directed online CPD opportunity, was also mentioned as useful. ATLS was noteworthy for being particularly hard to access for rural physicians.

ii. Preferred Learning Format

Living and practicing EM in a rural setting comes with challenges for accessing relevant and suitable educational opportunities. Our focus group participants told us they most value education that is community-based, interprofessional or team-based, and rurally specific. Asynchronous education¹³ is also considered extremely valuable. Rural physicians also expressed a need for required courses to be offered more frequently in regional centres or in their communities. Furthermore, they value small-

¹² The Comprehensive Approach to Rural Emergencies (CARE) Course is an accredited education package for physicians, nurses, and paramedics. Developed in BC by and for rural health care professionals, the two-day course provides hands-on learning in a supportive, interprofessional environment. Medical, trauma, and obstetric emergency management are featured. The focus is appropriate to the realities of rural practice. This course is delivered to small groups of health care providers, normally in their own rural facility. For more information, please see: <http://www.thecarecourse.ca/>

¹³ Asynchronous learning refers to education that occurs when the ‘teacher’ and the ‘learner’ are not present in the same space at the same time. Asynchronous learning is often facilitated by e-learning systems including recorded webinars, videos, and online learning modules. Many learners are drawn to asynchronous learning because it enables greater flexibility and can be worked into busy work and life schedules.

scale, less expensive 'refresher courses' which are not time or resource intensive to meet their immediate needs for increased knowledge and skills.

a. 'Closer to Home' CPD

Most rural physicians agree one of the challenges of living in a rural area is that high-quality CPD is often inaccessible. One physician said, "It's sort of just the reality of living in a rural area – to get any quality course you have to leave." Focus group participants clearly expressed a need for more community-based courses that teach EM procedures in the context of their hospitals and health care teams:

"CPD that can be brought to the community is great because you get to work with your team, your equipment, your hospital. A lot of the challenge with an acutely ill patient isn't the actual procedure. The problem is if you can't find what you need or you're not comfortable doing it in your [setting]. Support or funding [to] bring CPD to rural communities is beneficial." (Rural generalist)

Learning that occurs outside the community is considered useful, but is not always seen as directly transferrable to a real-life setting as local team-based learning:

"What's missing when you take a course outside of your rural area is you go as a lone physician and then you come back to your hospital and you haven't been with your team and your hospital. That can be helpful, but in terms of things that keep flowing smoothly in your department, CPD locally is critical." (Rural generalist)

Due to the lack of access to relevant, formal CPD in rural areas, many communities organise their own CPD events. Rural physicians described how it is typical for one or two physicians or nurse educators in the community to take on a leadership role to organise local educational events, and these individuals tend to drive decisions around the content, format, and frequency of the events. An example of an event like this was described by one physician living in a small, remote community:

"We're very committed to maintaining our skill sets so we frequently work with the ventilator, we apply the mask for non-invasive ventilation. We have lots of education here. We have an emergency skills night practically weekly. We go through different scenarios and we work on some team building stuff." (Rural generalist)

Locally-organised CPD has low time and cost barriers for participants and is valuable for these reasons.

Colleagues who are willing to take on the role of improving CPD and hospital systems are highly appreciated and considered vital to creating opportunities for local learning. Many communities have a local 'champion' who organises CPD. One physician described the importance of the local 'champion':

"[All it] takes is somebody who's willing to run [it]. We did it two or three times over five years and intended to do it more but it just never happened. Somebody has to be willing to run the show and say to themselves, 'I've got some time next Thursday afternoon, I'm gonna do the mock code, set up something.'" (FP practicing in a remote community)

Though local CPD is highly valued, for the local CPD champion, the time and resources necessary to organise it are considerable and often prohibitive as the work is often unsupported by administration, and is done on a volunteer capacity. Physicians in our focus groups who had taken on the role of organising courses feel they burn out; this role can be very burdensome.

“I find myself spending a lot of time just on logistics and things I never thought I would really have to do. I thought [Interior Health Authority] would look after it. [For example] researching [equipment] and I know nothing about how to order equipment and what we need. I’m still new to [the role of organising CPD for the doctors in my community] but I’m feeling burnt out. I feel like I’m getting tired of doing everything.” (Rural FP practicing EM full-time)

b. Rurally Specific Education

The physicians we spoke to explained how many courses geared towards urban audiences, and some travelling courses, are not appropriate for rural communities. Some courses designed for urban practitioners were described by focus group participants as being impractical:

“[It is] frustrating going to these very urban focused courses. There are times when I can’t get a chest x-ray, where it’s me or the nurse doing the blood work. So when they [say], ‘Okay, you’ll call in your anaesthesia and you’ll have RT’s setting up the ventilator...’ that’s just not my reality. [Urban-focused courses make] assumptions that may seem like basic things, but aren’t the reality of rural [FPs].” (Locum)

Large travelling courses can also be prohibitively expensive for physicians in rural communities:

“The CARE Course is too big for [remote] settings. The Shock Course is a little more portable but, something more pared down where [it’s] directed at small teams [with] only two or three physicians, four or five nurses, and four or five paramedics is the most [we] could manage.” (FP practicing in a remote community)

c. Interprofessional and Team-Based

A key aspect of the value of community-based CPD is it creates opportunities for interprofessional learning. One physician explained how team-based education and learning helps enhance the “sustainability” of rural health care: *“If we were to have more local education opportunities to work as a team, then I think that would be additional help for maintaining sustainability” (Rural generalist).*

Many physicians, nurses, and AHPs in our focus groups reported their local CPD events are often interprofessional in nature with all health care professionals in the community being invited to participate. This is valuable and was described as one of the most effective forms of EM education.

A key informant experienced with designing education for rural physicians described the importance of considering individual physicians’ knowledge and skills within the context of the community. Physicians develop skills that complement their colleagues’ skills, allowing them to shore up gaps in the collective

skill set of the community. Together they build a strong team, even if individually they have multiple areas of weakness. Training as a team helps identify the strengths and weaknesses of all team members.

“The gaps [in physicians’ skills] depend on what their training was. My gaps will be different than [my colleagues’] gaps [so] we learn to adapt in a complementary way. Rural doctors do this well [by adapting] in a way that complements all the skills and knowledge of the different physicians. For example, if you look at a community that has GP anaesthetists, the skill set for airway management by the non-GP-As is very different than the rural physician who’s in a community with no GP-As.”

One key informant described how simulation in a community setting is an excellent opportunity for interprofessional learning.

“The simulations provide an opportunity for [team work] because [when] you’re sitting there in a simulation, and you get even 20 percent of the stress you would have in a real patient and you deal with it and [get] feedback, that’s so much more valuable. When I go away to an experiential course, I don’t have that nurse I have worked with for 15 years. But if I’m in a simulation [with] that nurse [it’s] that whole in situ education for both soft and hard skills that’s much more powerful.”

Other members of the health care team also value interprofessional learning. A paramedic we spoke to described how paramedics are typically located off-site from the hospital at the paramedic station, and they do not typically interact with EM teams unless they are bringing a patient to the hospital. Courses bringing paramedics into team-based learning are highly valued:

“In The CARE Course, there are 8 paramedics, 8 nurses, and 8 doctors getting together and saying, ‘How do we work, how do we deal with trauma and critical issues together?’ When the various parts of the beast get together and [go through] the educational processes together, that is a much bigger step, where we’re cross pollinating and getting familiarity and understanding how each other work.” (Paramedic)

A key informant reiterated this saying,

“Physicians, nurses, and paramedics need to be taught together so they develop that true resource management philosophy when they’re looking after critical patients. [This means] they know where the equipment is and they’re familiar with [the] equipment.”

He went on to describe how the interprofessional, hands-on rural EM course he is involved with is about teamwork. In this course clinical skills and knowledge are important learning outcomes, but teamwork and communication are equally important, though perhaps more subtle learning outcomes:

“We joke that emergency care education is a smoke screen [and the course] is [actually] a teamwork, interpersonal skills course. You do it under the guise of good quality emergency medicine education [because] they wouldn’t know that they’d love a course on interpersonal skills and team work.”

This key informant described how learning in team- and scenario-based settings allows learners to observe themselves in a way that is not possible in real-life EM settings where much of the work is done alone and/or in highly stressful situations, with limited opportunity for reflection:

“You don’t ever really see yourself. But if you’re sitting in scenarios for two days, you’re used to seeing how people react to what you say and do, and how use your language. You get a much better idea about what bits of your leadership style are useful and what bits are not useful. You get practical experience that’s very difficult to get.”

Notwithstanding the merits of team-based education, our key informants with experience with this type of education believe team-based education does not provide the safety of anonymity as much as education where health care professionals are trained separately, or train outside of their communities. As such, it’s important that physicians have the opportunity to learn in an emotionally safe environment:

“It’s great to train and do courses in team and community groups, but there’s also some safety in isolating them [and] teaching differently to different groups. More so in things like intubation and chest tubes where the docs [may] feel more exposed. You see a bit more of an appetite for learning and for revealing gaps when the docs are amongst the docs, compared to if they have mixed groups.”

d. Asynchronous Learning

Asynchronous learning refers to education that occurs when the ‘teacher’ and the ‘learner’ are not present in the same space at the same time. Asynchronous learning is often facilitated by e-learning systems including recordings of webinars, videos, and online learning modules. Rural physicians are busy and CPD that is accessible asynchronously for self-directed learning is valuable:

“Whether it’s a journal club or a staff meeting where you can talk about issues that have come up and have some sort of mechanism for improving things, there needs to be some mechanism within your emerg department for self-learning and CPD.” (Rural FP)

Many rural communities have access to education offered through videoconference technology such as RCPD’s monthly Rural Rounds series. However, physicians cannot access the live videoconferences from home. Other rural communities have no access to videoconferencing services at all, so this type of education is inaccessible. One physician suggested that groups developing distance education for rural physicians should offer the education in a format that allows physicians to access it from anywhere. She said, *“To be able to access the archived [Rounds, so] I can watch it on my own time, that’s very valuable.”*

Some courses required for certification (e.g. ACLS) are being offered online, and this format is more useful for many rural physicians who either cannot find live courses to take, or the expense and time required to travel to take the course is prohibitive:

“To fly to Vancouver is a huge expense. It’s two days of getting there, doing the course, coming back. When I was looking into these courses, I was disappointed there wasn’t more offered in the North because there are a lot of communities up here and there’s a

lot of people that need to do these courses. I did ACLS online for exactly that reason. It's not as good as doing a live [course] but it was way more convenient." (Rural FP)

Many physicians in our focus group described other forms of asynchronous learning they access such as Up to Date, Procedures Consult, the EM Rap podcast, and focused blogs.

iv. Accessibility

Many courses physicians are required to take (e.g. ACLS, PALS, ATLS) are hard to access because they are offered infrequently and mainly in urban or regional centres where travel is required:

"It would be nice if some of the mandatory courses were offered more frequently. One of the challenges of working in a remote community is finding courses. It's hard to find the time and to pay out of pocket for the courses, if you have to, but also it's a huge expense to the Lower Mainland, which is where most courses are offered. Availability of courses for physicians [from remote places] is a challenge." (Rural FP)

v. Enhanced Skills Training

Many physicians in our focus group have accessed educational opportunities to develop enhanced skills or knowledge in a specific area. This was primarily achieved through the REAP Enhanced Skills Program, and most frequently was used to upgrade critical care skills, such as airway management, and other ER specific skills. REAP was praised as being a valuable program that supports rural physicians to learn and maintain skills that are important to their EM practice. The Enhanced Skills Program was described as simple to access and set up, and physicians appreciated the financial support that allowed them to take time away from their practices for this learning. Many other physicians however were not aware of this program, especially rural locums, new grads, and IMGs.

a. Training Needs for Residents

In general, physicians who are new to rural EM practice felt their rural residency training prepared them for rural EM practice as well as could be expected. But most felt that it was not reasonable to expect that they would be fully prepared for rural EM practice immediately after graduating. New physicians identified several areas where they felt they needed more training before entering rural EM practice:

"After residency I did a month of re-training in anaesthesia through REAP. I was terrified of airways and wanted to get better with them. I needed to prepare myself to go into communities [with] limited backup. It helped my confidence." (FP new to EM practice)

This was corroborated by one of our key informants who said he has heard "over and over and over again" that "the emergency training in residency is not sufficient to give people (enough) comfort (level) to be successful in rural places."

Many physicians in our focus groups spoke to this inevitable gap between training and practice, and of the need to continually be learning on the job. For them, this is a "trial and error" process, and is often a result of personal efforts to improve skills and knowledge (e.g. consulting the literature, seeking out a colleague to work with). A critical moment in a physician's career when on-the-job learning is very

important is during residency. Experiences of residents learning on the job vary considerably, and physicians in our focus groups experienced different levels of support and input from senior colleagues while doing their residency training. One physician new to practice described her experiences during her residency training saying, *“Some physicians would let you run the whole thing and just want to hear about it at the end. Others wanted to be involved every step of the way”* (FP new to practice).

One key informant described how he has seen many residents receive inadequate supervision during their rotation placements, and how this leads to a lack of opportunities to learn necessary skills while working in a rural EM setting:

“[Residents] tend to get used just for their manpower, and it’s not a positive experience. The role modelling is more of crisis management, as opposed to a healthy balance between lifestyle and work.”

Another key informant made a similar comment about role modelling:

“I believe that residents and learners going through rural emerges need supervision so that they can develop a reasonable approach to problems ‘cause that’s essentially what emergency boils down to, ‘How do you approach a certain problem?’”

b. Training Needs for Rural Locums

Most locums in BC are physicians who have been practicing in urban or rural areas as permanent physicians for many years, or they are physicians who are new to rural practice. In either case, many locums are uncomfortable with knowledge and skill requirements for practicing rural EM. Many locums require training to prepare for rural EM practice in a wide range of communities.

“I had to really [prepare] when I was heading back to work [as a locum]. I’ve been working [in a community] which didn’t have an emergency room. So I went through the REAP program which gave me emergency anaesthetic and hospital experience.” (Locum)

The courses that are required for rural EM practice are not felt to be sufficient on their own.

“I really do need to spend time in some kind of formal training setting. I do my ACLS update every two years, I do the ATLS course but if I’m going to spend any more time [in] busier emergency departments, I would have to [get formal training].” (Locum)

Another significant challenge identified by locums is lack of training and orientation to specific equipment. Equipment varies from hospital to hospital, leaving locums with the need to be familiar with multiple brands. This is especially problematic for equipment that is rarely used, such as a ventilator. One locum said, *“There [are] lots of challenges with equipment for sure. I’ve ended up bagging people for hours because I couldn’t get the ventilator to work.”*

c. Training Needs for IMGs

An IMG physician described his difficulty in having to perform procedures he does not feel comfortable with. He felt that the expectations for rural physicians in BC are very different from the UK, where he

trained. He was taught to only do procedures he was specifically trained for. However, his impression of BC is that rural physicians are expected to do what is needed, even if they are not fully trained.

“It’s a self-imposed do-whatever-you-want. Some of the specialists I’ve consulted are not willing or happy to do a procedure which they say other doctors (should) be willing to do. But [I am not comfortable doing those procedures] because I couldn’t say I’ve been trained to do that. I’ve faced opposition for that [and] told I’m not as good as other doctors, not as qualified, and not as competent.” (IMG trained in the UK)

vi. Main Gaps and Needs Identified

a. Perceived Learning Needs

Procedural Skills

One physician said, “[On] every [ER] shift I expect something unusual to come [in the door]”. The particular challenge for rural EM physicians is to maintain their skills, even if they haven’t performed a particular procedure or task for months or years. The lack of exposure to a high volume of critical cases in rural EDs means that it is an ongoing struggle.

One physician said, “When you’re not doing [procedures] routinely, it can be scary.” We asked focus group participants to give an example of something in their EM work that ‘keeps them awake at night’. Many of the answers we heard were around procedures related to airway emergencies. We heard numerous suggestions from physicians for CPD providers to create regular opportunities for rural physicians to continually refresh their procedural skills.

“It would be useful to have refresher courses on things we do not do very commonly, central lines or things like that, but even shoulder dislocations. If you’re only seeing one of them every couple of months, depending on where you’re working, it’s something that you’re never feeling quite comfortable with. So even though we could try and muddle through it just fine, I wouldn’t mind having refreshers on less common [procedures] but still procedures we can expect to need.” (FP new to practice)

Another physician who practices as a locum described her experiences:

“I find if you haven’t done a high volume of something your knowledge doesn’t keep up with it. The last chest tube I actually did myself, apart from the ATLS course, was probably 30 years ago and maybe I did two at that point, so I absolutely don’t feel confident with that. And there’s no place to go and do a volume of chest tubes. (Locum)

Physicians in our focus groups described how getting additional training for procedures and opportunity to use those procedures in a real-life setting contributes greatly to comfort and confidence in EM.

“I did the training which gave me the confidence to go [to] rural areas and [then] I’ve had the opportunity to use that training so that it’s not just a theoretical knowledge. It’s, ‘Yes, I did the course, and I applied it and it was successful.’” (Locum)

Several physicians we spoke to described how they take on tasks and procedures in their rural EM practices because they are the only ones there, and they have to be responsible for those skills. Some of these skills might normally be considered outside the domain of family practice today, but are requirements of rural family physicians. Some examples are obstetrics and ICU training.

Ultrasound Skills

Several physicians particularly identified point of care ultrasound as a skill they wished to acquire, and one they felt was relatively difficult to access. Some physicians travelled outside of the country to access this education. This need has also been identified by one of our key informants, a physician involved with educational support for rural physicians.

b. Education about Transport

Many rural physicians felt they do not have sufficient knowledge around patient transportation systems. Many physicians do not know where to access support or what information they should provide to transport advisors:

“The other thing I would have liked to have seen made [available] for rural medicine and training would just be a little bit more education about how to deal with transportation issues: how to deal with the patient (transfer) network, the best places to transfer the patients, just a bit more guidance on that during training so you’re not quite so lost when it comes time to practice. At least in terms of referral, getting the patients out to where they really need to go” (FP new to practice)

Our key informant with expertise with rural emergency transport systems described many aspects of the air emergency transport system that are highly technical and closely regulated. He felt that, overall, physicians do not have any knowledge about these systems and regulations, and so they don’t have a full understanding of the limitations of the system or the restrictions that are placed on pilots to ensure the safety of all crew, patients, and health care professionals involved in emergency transfers. Another key informant felt one of the best ways to teach physicians the intricacies of the transport system is to allow them the opportunity to “wear both hats”. He felt real-life experience dealing with the transport system was more effective than formal education. He described how he asks residents training at his referral hospital to make calls to sending physicians so they can experience the other side of the system.

This particular key informant felt that BC currently lacks educational opportunities to teach physicians how to package their patients for transport and navigating the transport system:

“I know when I left STARS they were doing that formally with sending sites. ‘This is what we hope you’d have done for your patient so that we can efficiently transfer them.’ We certainly do that with our regional educational program – try and teach people how to package. What are the necessary things you need to have done and you know asking up front, what do I need to do? I think education is key. Every time I’ve given a talk on trauma, we could spend two hours going over transport.”

Some physicians we spoke to described how being new to a community leads to struggles to understand

the transport systems because of lack of familiarity. This is particularly true of physicians who are new to rural EM practice or locums who move around a lot:

“Our locums and the residents flounder when they’re asked to use [the transport system]. We’ll debrief about it afterwards but essentially, there’s a script that they follow and if you know that script and you can follow your own script because you’ve done it a few times then I don’t find it nearly as frustrating.” (Rural generalist)

Our key informant who has expertise on emergency transport systems noted that he has seen this many times in his experience:

“Part of the issue is the transient nature in some communities with physicians working there. Locums, for example, just don’t know the system or are not familiar with the resources they have or who to call.”

c. Unperceived Learning Needs

Closer to Home Team Based Simulation Education

Locally-delivered simulation-based EM education was identified as an educational need by one of our key informants. Physicians in our focus groups suggested this type of education meets the most important objectives for CPD. It is closer to home, interprofessional, team-based, and rurally relevant. Our key informant with considerable experience in this form of education elaborated on this issue by describing the IHA SIM program. He has seen the success of this program, and feels it should be more widely available. He explained that the SIM program is not available province-wide, so he recommended a coordinated approach at the provincial level to increase access to this program and others like it:

“Every time you go to a place with the SIM [course] they love it. They say, ‘When can you come back?’ But then life gets in the way, funding gets in the way, trying to get the team together to go there gets in the way. It’s so difficult and it’s money-intense. It would be great [to have] a unified provincial approach to this so there’s a simulation department based out of [every regional centre, which could travel and cover] the whole province. If a new guideline comes out, [they could] develop education around it and roll it out with simulation and educational materials in communities throughout the province.”

Decision-Making Skills

One of our key informants who has expertise with EM education described how he believes physicians need more education on decision-making skills with regards to EM procedures, rather than the procedures themselves.

“The skills people struggle with most are airway decision-making skills, not manual airway skills. [For example deciding] ‘Do we need to intubate the patient or do we not or at what point might we?’ I think people struggle [with] the decision-making.”

A key informant explained that in his experience working with rural residents, a big part of becoming better at making decisions in critical situations is simply a matter of experience and confidence.

“You have to be committed in your diagnosis enough to follow through with the management. I’m quite sure it’s a confidence [issue], because when I actually talk to those people, they know more than me. They frequently know more than me. But I realise that it’s not only knowledge that allows you to make decisions.”

Crew Resource Management (CRM)

CRM is a set of training procedures used in environments where human error can have devastating effects. Used initially for improving aircraft safety, CRM in health care focuses on interpersonal communication, leadership, and decision making in the ER. One of our key informants described the importance of teaching CRM to EM teams, and another of our key informants corroborated this in a separate interview. Both agree that knowledge of CRM principles among rural physicians is generally low:

“We recognised that the main goal and the main thing we felt we could teach was not strict CRM principles, but introducing it and getting people to talk about it. [It involved] talking about making a plan, having tasks to do, formal communication loops. It was all foreign to everybody so we spent a lot of time as a group of educators trying to come up with ways of how to best teach this.”

vii. Funding for Education in BC

a. Educational Funding Opportunities

Rural Education Action Plan (REAP)

REAP funds are available to physicians practicing medicine in RSA communities, including IMGs. There is also a separate pool of funds available to physicians involved in the RGPLP.

REAP provides funds for education for rural physicians through the Enhanced Skills Program which allows physicians are able to request funding for specific types of educational needs. For example, many physicians use the REAP Enhanced Skills Program to access training in EM, and anaesthesia. REAP also provides bursaries to small rural communities to bring educational events to their communities.

Reverted CPD Funds

Reverted CPD funds, known as RCME, are funds that are available to rural communities for educational needs.¹⁴ These money represented in these funds had originally been allocated annually to individual rural physicians but ‘expired’ when not fully used within three years, and then were ‘reverted’ to the local community to use. RCME funds generally provide funding for CPD for the community as a whole, rather than for individual physicians. Each HA has its own process for designating appropriate RCME activities based on advice provided by the local medical staff. The amount of CPD funds available to physicians in a particular community is based on the number of physicians living there and is tied to the

¹⁴ The RCME benefits are provided by the Ministry of Health Services and are described in the Subsidiary Agreement for Physicians in Rural Practice. This agreement came into effect in September 2012, and can be read in its entirety here: http://www.health.gov.bc.ca/pcb/pdf/rcme_policy.pdf.

home address of the physician, rather than the address of their clinic or hospital. Very small communities, or those with physicians on AP systems, do not have access to RCME funds.

Physicians described how doctors living in very small communities are unfairly excluded from accessing larger and more costly educational opportunities because they do not have RCME funds. Additionally, they mentioned that some rural physicians lack access to any educational funding. A physician described how some of her colleagues do not have access to CPD funds saying, *“We actually have some physicians that work in our community but live further north, and because of where they live, they don’t qualify for the rural CPD funding” (Rural generalist)*. Another physician explained why this approach is problematic.

“It shouldn’t be that because you have a certain number of physicians and a certain amount of reverted CPD funds that you can afford to [access educational events] and if there’s only three of you, you can’t. There needs to be a way for [small] communities not to have to pay out-of-pocket, and have courses organised for them.” (Rural generalist)

Residents

The UBC Department of Family Medicine has funding available for family practice residents in their second year to access more rural practice experience. However, our key informant who is experienced with rural residency training in BC told us this pool of funds is not being regularly accessed, possibly because it is not well-advertised.

“All residents in BC have to do two months rural in their second year. And programs in Kelowna and Prince George do 8 months in a row. We do have the funding to offer second year family practice residents more time in rural if they want it, and we’ve been taken up on that a little bit, [but] not as much as I would like.”

Divisions of Family Practice (DFP)

Some rural communities access educational funds through local Divisions of Family Practice (Division) to support community-based CPD. Not all communities are currently supported by a Division, however, this may change soon. The newly formed Rural and Remote Division, which will include ‘chapters’ from small communities throughout BC, may help address this challenge for some communities. This new Division is hoped to expand access to the benefits of Division membership to physicians in communities that are too small to be a Division. Many physicians feel they would benefit from the support of a Division but the administration necessary to form and maintain a Division is a big barrier for some, which means physicians cannot access the supports and benefits stemming from being part of a Division.

b. Educational Funding Gaps

Funding to Support Local CPD in Small Communities

Very small rural communities often lack the financial resources to purchase educational tools and resources to support local educational needs. The lack of access to equipment like CPR and airway mannequins is a barrier, especially in very small communities, to the creation of community-based education that is relevant to rural physicians.

Courses that involve simulation can be very costly, and often access to some of these courses is only available to larger communities as very small communities usually cannot afford these courses. An example of another simulation-based course that can be prohibitively expensive for rural physicians in very small communities is The CARE Course. Physicians in our focus groups described how creating less expensive, scaled-down versions of this and other simulation courses would be valuable.

IMGs and New Physicians

During their first three years of practice, any physician who is new to a HA, such as a new graduate, an IMG, or a physician relocating from another area, does not have access to full pool of CPD funds available to rural physicians. This is seen as a huge barrier, especially for IMGs. When IMGs are new to Canada and to BC, this is the time when they feel they most need educational support.

When you're wanting to learn the most and you're at the steepest part of your learning curve, there's not a lot of funding to support that. After (you're here) a few years the money starts flowing in to allow you to get to the bigger conferences and such like, which seems a little back-to-front in my mind." (IMG)

Another IMG described his experience with this problem.

"[They] told me that I didn't become eligible to access any of that money until I've done three years of practice. They said that you start accumulating the money from day one but you've got no access to that money until you've been practicing for three years. So I don't actually have any funding for CPD which is slightly off putting, because a lot of these courses and conferences are very expensive." (IMG)

Locums

Provincial rural retention payments are only available to physicians who work full time in a rural community, which means most locums are not eligible for these funds. Beyond the \$1,800 provided annually to locums by the Doctors of BC, locums do not have access to the other funds that are available to permanent practice rural physicians:

"A lot of their rural retention amounts assume that you're going to be solidly in one community for nine months a year and then you get a rural retention amount, but if you're solidly in different rural communities for nine months of the year, you don't qualify for the four to five thousand dollars education amount that you get if you're in one place. You don't qualify for a lot of the benefits." (Locum)

Funding for Interprofessional and Team-Based Education

Interprofessional and team-based education can be challenging to arrange because health care professionals have different levels of funding based on their profession, and most non-physician health care providers do not have access to funds to support CPD. One key informant said:

"The big fly in the ointment for interprofessional learning and training is funding. Nursing educational budgets have their own set of rules and regulations and first responders have those

and it just goes on and on. None of the streams of funding are complimentary to this greater goal of interprofessional learning and that's part of the problem. The question is how do we fund that and how do you align streams of funding to support that? It's not easy."

However, a key informant said, *"That's where some of these CPD bursaries are helpful--to help local docs run educational events in a context that's helpful to them."* Bursaries provided by REAP can be used by communities to support interprofessional community-based educational events when other sources of funds are inadequate. REAP funding is available for physician-driven education; there is no specific funding for nurses or allied health care professionals. These members of the health care team generally receive this education because physicians think it's important to include them.

6. Discussion

While rural physicians as a group are generally busy and pressed for time, we had no difficulty in recruiting participants for this needs assessment. This speaks to rural physicians' and health care team members' concern for their communities and for the future of rural medicine in BC. With their input, this study has collected a plethora of data on the needs of rural physicians and has revealed key concepts and directions for future support and sustainability for rural ERs.

The health care system in British Columbia is complex and ever-changing. These changes bring both solutions to existing problems as well as new pressures. As elsewhere, there is a move away from the generalist physician of the past, towards specialisation of practice. Rurally this is most evident in the gradual move away from a FP-run ER, where all members of the community do shifts and call, towards a ER staffed by dedicated full time EM physicians, many with special training in EM. This transition creates physician groups who have differing educational needs. For example, it is commonly known that many new graduates of family practice do not feel comfortable working in the rural ER. With this in mind, this needs assessment examined, in detail, the factors that help physicians feel comfortable in rural EM practice, at a systems, local workplace, and CPD level.

Findings from this study reveal that many aspects are working well in the support system for rural EM. However, there are common barriers and frustrations experienced by physicians in their provision of patient care. These systemic gaps are either previously unrecognised, or well-known and persistent.

A critical finding of the needs assessment is the importance of *relationships* in sustainable rural EM practice. Relationships between local physician colleagues and with the local health care team are perhaps the most important factor in supporting the rural EM physician. Healthy relationships between rural physicians, regional specialists, and key urban specialty services are also very important. In an age where there is a move away from generalism and towards specialisation, even in a rural community, local relationships can be a casualty as there is less opportunity to interact with colleagues. This is especially true at a regional level, where it is quite possible for a physician to speak on the phone with a regional specialist for over the course of a decade, and never to meet that person face-to-face.

I. Recruitment and Retention

The importance of relationships begins prior to the recruitment of rural physicians. Doctors tend to move to rural areas because they have a previous positive experience of living in a rural area, often from childhood or medical training. Professional relationships are an important factor in choosing a specific rural community, and once settled, many rural physicians gain tremendous satisfaction from their relationships with patients and seeing how their work makes a difference in their patients' lives. Lifestyle issues are also important: many physicians are drawn to the quality of life and access to the outdoors that rural living offers. Our focus groups also highlighted the importance of a personality fit between the rural EM physician and the work. In general, our rural EM physicians described enjoying the diversity and excitement, the ability to perform procedural skills, the need to have a broad range of skills and knowledge, the instant gratification of applying those skills, and enjoying working with a team.

Issues identified as detracting from the work of rural EM include lack of access to necessary resources, feeling inadequately trained for the work, and lifestyle demands, such as scheduling issues, the demands of family life, and the physical effects of shift work, especially as one ages.

II. Transport Issues

The most frustrating aspect of rural EM expressed by our focus group members is wide range of barriers associated with needing to transfer patients to a higher level of care. While the transport system can work well to support patient care, the majority of physicians we spoke to identified numerous issues with the process that impedes their ability to provide good patient care.

There is a clear clash of values between the rural physician with a single unstable patient, the needs of the provincial system (which has a mandate to serve the entire province that is often hampered by matters of geography and weather), and the need to maintain the safety of air transport staff.

There is confusion about who to call to access the emergency transport system. While physicians are encouraged to call PTN as the first step to activate this process, many experienced physicians will bypass this initially, in an attempt to speed up transfer and to identify the best place for the patient to be transferred to. While this can work well for experienced physicians who understand the system and have established relationships with regional specialists, locums, recent grads, and IMGs new to Canada do not have this knowledge. These physicians experience more stress when managing unstable patients.

There are systemic problems related to poor patterns of communication from the PTN back to the community hospital once a transfer has been arranged. Rural physicians are often left outside of the loop in knowing what the plan for transport is, or how it might change once arranged. This lack of knowledge of how long the patient will be in the emergency department often leaves them unable to make the best decisions for patient care. Rural physicians find it hard to believe that this lack of communication is not something that could be easily resolved, if there was the political will to do so.

Issues of how best to provide care for patients requiring transfer by road ambulance are also significant. Decisions on which patients require physician or nurse support during transfer, how to adequately support the ones who do not require MD or RN support during transfer (for example, for analgesia needs), lack of paramedic skills, and lengthy delays in transfer due to the availability of a regional critical care transport team (some hours away) all lead to situations in which navigating the best care for the patient is uncertain, potentially difficult and has the potential for undesirable health consequences.

Transfer of the unstable psychiatric patient is particularly challenging. Rural communities are often not physically equipped to hold these patients, and yet, typically experience extended delays in transferring them elsewhere. The additional need to restrain or sedate the potentially violent patient in a safe manner adds another layer of complexity to the transfer. There is a need for more support for these patients on a systemic level.

The province-wide escalation matrix and regional no-refusal policies meet an important need for rural ER physicians in helping them access the patient care they need. These are seen as very valuable.

III. Other System Issues

We clearly heard from our focus group participants that new graduates of rural residency training programs have the skills necessary to work in the rural ER (although they need additional support) while those from urban programs are nearly universally unprepared. Programs such as REAP, that provide opportunities for further training for both new and experienced physicians, are seen as very valuable.

IMGs are a group with a number of special needs. They have a variety of hurdles to overcome once they arrive in rural BC and begin to practice. This includes issues such as a lack of familiarity with the system and the culture of medicine in this country, lack of rurally-specific education, and lack of financial support to address gaps in training. As well, IMGs are hampered by the absence of pre-existing relationships with specialists and other local and regional colleagues—that is, the support network identified in this study as a significant source of support to the EM practitioner. It takes time to build these relationships and to understand the ideal way to access the system to support patient care.

Rural locums perform an important service and are an essential part of the rural health care system. Yet, many do not perceive their work to be valued and they are at a considerable disadvantage in many areas compared to permanent rural physicians. Supports at the community level are often inadequate. Rural locums have difficulty accessing the education they need, and do not receive the same financial support to do so. They are not always aware of educational opportunities. They currently have no easy way to advertise their availability. Rural physicians also experience barriers in trying to arrange locum coverage. This group of physicians, much like IMGs, does not have a means to network or lobby the system for change. They currently do not have a collective voice to speak for their unique needs.

Many rural physicians feel that some urban specialists, transport advisors and educators lack an awareness of the issues and challenges of rural practice, and find that at times that this lack of awareness is accompanied by a condescending attitude. This lack of sensitivity and support creates a sense of isolation and alienation for rural physicians.

Focus group participants agreed that they were generally well remunerated for the work they do in the ER. In addition, funding programs like MOCAP and REEF that allow the local medical community discretion in how to direct the funds were described as very supportive of rural ER services. Local communities tend to use these funds in creative ways to best support local needs.

IV. Health Authority Issues

Physicians are aware of areas where they feel they lack the support of their Health Authority to provide the care they feel their patients need. Many find advocating for these services to be time-consuming, frustrating, and demoralising—leading to physician burn-out. The lack of recognition or support for this important advocacy role is disheartening. Physicians expressed a similar degree of frustration for the lack of recognition and support for the work done by their nursing colleagues.

Focus group physicians felt that Health Authorities should be doing more to provide essential diagnostic services in small communities, and provide more standardisation of supplies, equipment, and support services. A rural physician's inability to understand the lack of appropriate and necessary services to treat their patients leads to their disenchantment with the Health Authority. Locum physicians also

requested more coordination and standardisation of privileging requirements across health authorities to reduce duplication of paperwork, and to improve physician portability.

Local administrative issues require considerable physician involvement. The need for physician leadership on local ER issues, such as department organisation, scheduling, administration of REEF funds, and other issues, contributes to physician workload and burnout. This time is financially unsupported, and can be considerable.

Physicians expressed powerlessness and frustration with their lack of recognition for their efforts on the part of Health Authorities, and as well felt this same frustration for the lack of recognition and support for the work done by nursing colleagues.

V. Local System Issues

As previously mentioned, local collegial support from physicians and other members of the health care team is seen as hugely important to the job satisfaction of physicians who provide EM care. If this is not experienced, it can lead to physicians choosing to leave the community or their ER practice. The importance of the overall functioning of the team cannot be overstated, and is under-recognised and under-supported by the larger system that supports rural ERs.

Part of the support system of the rural EM physician is back-up support. This support can be provided by formal or informal second on-call systems. Without such systems in place, physicians can struggle to provide the level of care they desire, and this is an additional source of anxiety.

RN colleagues were seen as an essential support for rural ER functioning, and the high skill-level of many nursing colleagues was valued and praised. RNs can function as leaders during critical situations, and can be very skilled at supporting the emotional needs of the physician during times of crisis. Both physicians and nurses recognise the importance of this type of teamwork.

While feedback on performance is seen as desirable to physicians, opportunity for feedback is generally lacking. There are several barriers in the system and medical culture to sharing feedback on performance with colleagues. Beyond feedback on performance, there are barriers to receiving feedback on patient outcomes.

VI. Continuing Professional Development

Several educational programs were mentioned as being useful to rural practitioners. Interestingly, many of these programs are 'made in BC' and most are rurally specific. This reflects a strong commitment at various political levels to support rural EM providers, and this support needs to be recognised and commended. There are some barriers to accessing information about these courses, especially courses offered on a regional level, and a coordinated, province-wide approach to this would be beneficial.

Rural physicians have clearly identified critical care skills maintenance as one of the biggest challenges of practicing rural EM. The lack of back-up, especially in house back-up, combined with the relatively low patient volumes in some rural ERs contributes to a perfect storm – the need to provide critical care skills without the opportunity to perform the skill enough to achieve or maintain competency.

Rural physicians have clearly articulated the type of education that is most desirable to them. This consists of education that is delivered in the rural community to the whole interprofessional health care team. The education needs to be rurally specific and adaptable to the needs and resources of the specific community. Education that offers opportunities to practice rarely used skills is seen as very valuable. Asynchronous educational offerings are also very desirable for rural physicians.

Educational experts have identified simulation-based education as an ideal way to meet all of these needs. The CARE Course has been widely praised by participants for its low fidelity simulated learning program. HAs are developing their own simulation programs. Interior Health has been running the travelling Interior Health Mobile Simulation program for several years, in an innovative educational model that offers high fidelity simulation to the interprofessional team in the local trauma room. This education, beyond covering the approach to the diagnosis and management of common critical care conditions, also ensures local interprofessional teams review the organisation and stocking of critical care drugs and supplies and local treatment protocols. The instructors are physicians and nurses from within the region, so this program also helps to build local relationships. This type of simulation based education is an example of how rural CPD programming may be paving the way for the future of CPD programming across Canada, for rural and urban practitioners alike.

Although simulation based education is seen as valuable, there is uneven access to such programming across the province. There is a need and appetite for much more access to locally-available, rurally-relevant simulation programs. Indeed, past participants of such programs have asked for yearly access to such programs in their community as a way of keeping their skills fresh. Such programs, especially when combined with the opportunity to practice critical care skills, go a long way to meeting the most pressing educational needs for rural physicians.

Another way to meet the needs of EM education at a community level is 'home-grown' CPD. Many participants mentioned the value of this type of education, which involves a fairly informal gathering of members of the health care team to run through simulations, review treatment plans, ER supplies and equipment, and practice procedural skills. This education is especially valuable because it addresses the specific learning needs of the local team in a way that other education cannot achieve because the education is specific to the community. While the value of this type of education is widely recognised, the work required to organise and conduct such sessions is considerable, and without the support of a local administrator, nurse educator, or a very enthusiastic physician, this type of education is difficult to implement and maintain. A program that supported and assumed some of the administrative workload of planning and organising for such education would increase the number of communities that could offer this in a sustainable fashion.

While much of the education that currently exists is highly valued, this study has revealed significant gaps in the CPD support for rural practitioners. Those that fall into the gap are patient transport issues, and supporting IMGs, rural locums and EM practitioners in remote and very small communities.

Physicians based in very small and remote communities—that is, those in the very places with the least resources to deal with health care emergencies—face significant challenges to meeting their educational

needs compared to other rural physicians. Due to economies of scale, large and more expensive courses do not go to these communities, and it is even more difficult for these doctors and nurses to travel for education. These communities often lack access to the reverted CME funds that many larger places use to support large and more expensive locally available CME. Simulation and team-based learning opportunities are also less likely to occur in such communities.

Groups with special educational needs are rural locums, IMGs, and allied health professionals. Neither locums nor IMGs have the same access to educational funding as rural physicians practicing in a single community permanently, yet these groups have the same, or greater, educational needs. Non-physician health care providers have very little funding to spend on interprofessional education, and this is a barrier to accessing the type of education identified as most valuable to all members of the team.

Two other major educational gaps that need to be addressed are the gaps in education around the transport system, and ultrasound. Both rural physicians and the BC Transport System have identified lack of education for physicians around how the system works, and how to best work with the system, as areas of significant need. This education should be made available to all emergency department physicians in rural BC, as transportation issues have been nearly universally identified as one of the biggest stressors for the rural physician. While education alone will not resolve all the difficulties that rural physicians continually face when dealing the transport system, it can be expected to reduce some of that stress, while potentially also being a means to facilitate other system improvements over time.

Many rural physicians have also identified the need for more and easier access to point-of-care ultrasound (POCUS) training. While it is available across the country, the demand far exceeds the supply for these courses. These courses are also very expensive, and not necessarily tailored to the needs of the rural physician, or the needs of his community. POCUS skills can have even more impact on improved patient care in rural areas than in the hands of urban practitioners. In the urban area there are often other means of obtaining the information POCUS provides, however rurally, to obtain that same information might require transfer to a higher level of care. POCUS skills should be an essential part of the skill set of all rural EM physicians; however, it is going to take a significant amount of time and resources for this to happen universally. The first step towards that end is the provision of POCUS education that meets the needs of the rural physicians.

VII. Areas for Further Study

While this study allowed us to capture rich data about many aspects of rural EM care in BC, there are numerous findings in this report that warrant further investigation. These areas include resident, locum, and IMG preparation for rural practice, specific programs needed to fill in identified gaps in CPD opportunities, and provincial and local system issues related to patient transport and hospital staffing.

Patient transport was the prevailing source of frustration among focus group participants, however this study was only able to scratch the surface on some of the issues raised, such as caring for and transporting unstable psychiatric patients in rural communities. Related to this is the issue of personal safety in a rural ER setting, a subject that was raised in this study but that we were not able to tackle in

any detail. Further study is also needed to document the presumption that patients suffer needlessly because of limitations of BCAS to provide care, for example in providing IV analgesia during transport.

When it comes to preparing physicians for working in a rural emergency setting, there are numerous areas that would benefit from further investigation, for example:

- What factors have led to the perception that rural residents require further postgraduate training in emergency medicine? Specifically, where are the shortcomings and what is the right amount of support for on-the-job learning for residents?
- What are the implications of the CCFP-EM certification upon new grads? How comfortable are they providing rural EM care without it?
- How effectively are IMGs being supported through the exam process and their integration into rural communities and the specific learning needs of that work environment?
- What incentives or training opportunities would encourage urban-based FPs and EM-trained physicians to do rural locums?
- What are the best ways to facilitate the practice of respectful case-based feedback on patient care issues between local community physicians, and between local physicians and regional specialists, such that this is seen as an acceptable practice and an essential part of patient care?

More research and study on best practices for patient management in resource-limited areas would shed light on many of the system issues raised in this study, as would further investigation on how payment systems affect rural ER issues such as staffing and handover.

CPD is an area of special interest to our study team, however the scope of this study focused on other intersecting and 'bigger picture' factors in addition to CPD. Further study on what types of educational experiences might be best delivered outside of the team environment, or alternatively, how to create conditions in the team that support physicians assuming the role of learner in front of their team, would be valuable. Other questions that arose relating to CPD that we were not able to fully explore include:

- How can local team-based learning be more fully supported and funded?
- Could a mechanism be developed that would help communities identify gaps in ER skills and suggest educational opportunities, and what might this look like

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8. Appendices

I. Advisory Committee Members

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Paul Winwood MD; Regional Associate Dean, Northern BC; Vice President Medicine, UNBC

Bob Woollard MD; Associate Director, Rural Coordination Centre of BC

Section 8 – Appendices

II. RSA Communities – A, B, C, D Designation (Effective April 1, 2014)

A COMMUNITIES			
100 Mile House	Fort St. James	Lytton	Sayward
Ahousat	Fort St. John/Taylor	Mackenzie	Seton Portage
Alert Bay	Fort Ware	Masset	Sirdar
Alexis Creek	Fraser Lake	McBride	Skin Tyee
Anahim Lake	Gold Bridge/Bralorne	Miocene	Smithers
Ashcroft/Cache Creek	Gold River	Moricietown	Sointula
Atlin	Golden	Nadleh	Sparwood
Bamfield	Granisle	Nakusp	Spences Bridge
Bella Bella/Waglisla	Greenwood/Midway/Rock Creek	Nee Tahi Buhn	Stellat'en
Bella Coola	Halfway River	Nemaiah Valley	Stewart
Blueberry River	Hartley Bay	New Aiyansh	Tahsis
Blue River	Hazelton	New Denver	Takla Landing
Bridge Lake	Holberg	Ocean Falls	Tatla Lake
Burns Lake	Hornby Island	Port Alice	Tatlayoko Lake
Canal Flats	Hot Springs Cove	Port Clements	Telegraph Creek
Canoe Creek	Houston	Port Hardy	Terrace
Cheslatta	Hudson's Hope	Port McNeill	Tofino/Ucuelet
Chetwynd	Invermere/Windermere	Port Renfrew	Tsay Keh Dene
Christina Lake/Grand Forks	Kaslo	Port Simpson	Ts'il Kaz Koh (Burns Lake Band)
Clearwater	Kimberley	Prince Rupert	Tumbler Ridge
Clinton	Kincolith	Princeton	Ucluelet
Cortes Island	Kingcome	Quatsino	Valemount
Cranbrook	Kitimat	Queen Charlotte	Vanderhoof
Creston	Kitkatla	Quesnel	Wardner
Dawson Creek	Kitsault	Revelstoke	Wet'suwet'en (Broman Lake)
Dease Lake	Kitwanga	Rivers Inlet	Williams Lake
Doig River	Klemtu	Saik'uz	Winlaw
Edgewood	Kootenay Bay/Riondel	Salmo	Woss
Elkford	Kyuquot	Samahquam	Woyenne (Lake Babine)
Fernie	Lower Post	Savary Island	Zeballos
Fort Nelson			
B COMMUNITIES			
Balfour	Galiano Island	Pender Island	Slocan Park
Barriere	Lillooet	Powell River	Teppella
Big White	Mayne Island	Prince George	Texada Island
Castlegar	Merritt	Saturna Island	Trail/Rosland/Fruitvale
Chase/Scotch Creek	Mount Currie	Skatin	Wasa
Crescent Valley	Nelson		
C COMMUNITIES			
Agassiz / Harrison	Duncan / N. Cowichan	Madeira Park	Salmon Arm/Sicamous
Blind Bay	Enderby	Mill Bay	Saltspring Island
Bowen Island	Gabriola Island	Nitinat	Sechelt/Gibsons
Campbell River	Hope	Oliver/Osoyoos	Shawnigan Lake
Chemainus	Keremeos	Parksville/Qualicum	Sorrento
Cobble Hill	Ladysmith	Pemberton	Squamish
Courtenay/Comox/Cumberland	Lake Cowichan	Port Alberni	Whistler
Denman Island	Logan Lake	Quadra Island	
D COMMUNITIES			
Armstrong / Spallumcheen	Lumby		

Section 8 – Appendices

III. Observations from Each Focus Group

While we aimed to address all of the research questions in each focus groups, some findings emerged from each focus group that are either unique to the group, or stood out as being particularly important in the conversation. What follows is a brief summary of the salient points emerging from each of the nine focus groups, drawing mainly from the questions exploring the factors that made each particular group different from the other groups.

FG1: “No Longer Practicing EM”

The physicians in this focus group discussed a variety of reasons for no longer practicing EM:

- Long, late-night shifts – could not tolerate the nights, shifts impinged on their commitments
 - *Night shifts are difficult to manage in the absence of support from other health care team members*
- Practiced EM because all physicians are required to take on EM, but did not enjoy the work
 - *Stressful*
 - *Did not enable longitudinal relationships with patients*
- Changes in the type of patients who present to the ER in more recent years (more mental health, more low-acuity cases) has made the work less enjoyable
- Enjoyed EM work (collegiality, teamwork, variety), but left EM for other reasons (e.g. family commitments)
- Better back-up and support in the ER was described as a factor that could convince them to return to EM work. Collegiality and feeling connected in their work were also important

FG 2: “New to Rural Practice” (≤ 3 years)

This group discussed their reasons for choosing rural practice and how prepared they felt for rural EM practice.

- Personal and professional connections to the communities led them to their communities
 - *Grew up or spent time in those communities as children*
 - *Had peers or older colleagues who encouraged them to settle there*
- Residency training programs prepared them for their EM practice as best as could be expected, but they felt more training would always be useful
- Many found themselves practicing and enjoying EM by chance
 - *Rural residency training programs should require more exposure to EM so residents can learn, earlier on in their training, whether they enjoy/are well-suited to EM practice*
- Level of access to courses required for certification (e.g. ACLS) is inadequate
- Other opportunities for CPD through programs such as REAP are poorly advertised
- These physicians had frustrating experiences in urban training programs where the training does not reflect or acknowledge the reality of rural practice and questions family physicians seeking extra training in skills such as obstetrics and Intensive Care Unit (ICU)

FG 3: “Remote”

This group talked about what attracted them to EM in very small or remote communities and about the challenges they face because of where they live and practice.

- Major attractions of practicing in a small and/or remote community were related to:
 - *Lifestyle (e.g. access to nature, slower pace of life in small towns),*
 - *Ability to practice “quintessential” family medicine (i.e. full-spectrum, longitudinal care)*
 - *Variety and excitement of the work*
- Support and skills of their physician and nurse colleagues were praised and highly valued

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- *We heard a story of a hospital closing due to a shortage of Registered Nurses (RNs) – the support of these healthcare professionals is invaluable to the sustainable functioning of emergency departments (EDs) in very small, remote communities*
- Physicians face barriers unique to their geographical location and/or size in terms of:
 - *Challenges around transporting sick patients to larger centres*
 - *Staffing (e.g. public health nurses)*
 - *Do not have easy access to ambulance and diagnostic services*
 - *Small communities cannot support community-based courses (e.g. CARE); physicians must travel large distances to attend courses offered in larger centres*

FG 4 & FG5: “Generalists”

The two groups of generalists we spoke to were mostly from stable communities and with low levels of physician turnover or no notable shortages of physician support.

- Physicians were engaged in their work
 - *Feel a sense of duty and responsibility to care for patients in their communities*
 - *Have a strong desire to contribute to a sustainable number of physicians*
- Collegiality in their workplace is important
- Need backup in the community (especially GP-Surgeons and GP-Anaesthetists)
- Use reverted CPD funds to bring educational events to their communities (e.g. CARE course)
 - *Not always possible for physicians living in communities with three or fewer physicians because these communities do not have the same amount of funds to use*
- In one case, full-time EM physicians shared some of their MOCAP payments with local FPs who cover shifts in the ER in addition to managing their clinic-based practices to help the FPs defray the costs of office overheads
- Having a local champion who can take on the responsibility of organising local CPD and bring up the standards of EM care is a huge support

FG 6: “EM Full Timers”

- Personality can play a huge role in one’s fit in and enjoyment of EM practice:
 - *Enjoy the variety of the work and procedures*
 - *Thrive on the adrenaline and sense of urgency*
- Lack of a high volume in rural ERs was a problem for some, but many value the small-town lifestyle over having a higher volume in the ER
- Some physicians shoulder disproportionate the responsibility for EM coverage
 - *Hard to take time off – many unable to find locums or local colleagues to cover shifts*
- Interprofessional, community-based education is highly valued
- It is necessary to develop courses to meet the requirements for hospital privileges (e.g. ATLS)
 - *These courses are currently difficult to find and expensive to attend*

FG 7: “Rural Locums”

The group of locums we spoke to had a wide range of experience in communities of varying sizes across most of the Health Authorities in BC. We learned about a number of challenges they face, and what is working well.

- Locums tend to be attracted to rural communities:
 - *With great need for locum support*
 - *That met their needs in terms of the commute to their primary residence*
- Locums praised the Rural General Practitioner Locum Program (RGPLP) because:
 - *It enables them to travel and see different parts of the province*
 - *Removes some of the barriers, such as billing, permanent physicians face*

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- The RGPLP was described as not being truly a ‘program’, but rather a mechanism through which they receive payment and arrange locums. Major gaps in support provided by the RGPLP are:
 - *An avenue for advocacy*
 - *A source of information and resources regarding CPD opportunities*
 - *A source of funding to access CPD*

Locums move around all the time, spending several days or several months in different communities each year, and this means they are not eligible for educational funds rural physicians would normally be eligible for if they practice permanently in a single community. Without this financial support, the cost of many courses and conferences is a significant barrier for locums, especially when compounded with the loss of work and travel and accommodation costs.

FG 8: “Nurses and AHPs”

The participants in this focus group included two paramedics (one of whom was also a critical care nurse), two RTs, and two RNs.

- In general, all the participants were happy with the training they received and their access to educational opportunities
- They emphasised the importance of interprofessional education and opportunities to train as a complete EM care team (i.e. physicians, nurses, paramedics, RTs)
- This group described their experiences navigating the often tricky dynamics between physician and non-physician co-workers in an EM care setting and the importance of good leadership skills and other supports to enable more productive and effective teamwork
- One of the most interesting points we heard from this group is the role non-physician healthcare professionals play in EM care settings
 - *They described a variety of techniques and approaches they use to work more effectively with physician and non-physician colleagues (e.g. if a particular physician is easily flustered, a nurse may know how to guide the physician through an emergency, and in most cases the physician would be completely unaware of the subtle guidance they are receiving from other members of their team)*
- They described experiences with the use of name tags and the large positive impact it had on team functioning; this illustrates the importance of inexpensive, simple approaches to address challenges around teamwork and group dynamics
- Participants do not have access to sufficient or adequate feedback from physician colleagues and the need to find ways to obtain better feedback

FG 9: “IMGs” (≤ 6 years in Canada):

The participants in this focus group represented a broad range of IMGs practicing in BC. The participants were one woman and four men from Scotland, New Zealand, China, Romania, and England. They varied in age and where in BC they currently live and practice. Speaking to this group gave us an overview of the variety of challenges IMGs in BC face and what their needs are with respect to educational, workplace, and system supports.

- The process IMGs go through to earn full licensure in BC is onerous and time-consuming and precludes the ability to take time away to access CPD
- Due to the return-of-service agreements IMGs enter into either through the FP residency program or as new immigrants to BC, many are not eligible to access funding for CPD in the first few years of their practice
 - *One participant described this as “putting the cart before the horse” as the time IMGs new to practice in BC need CPD the most is in their first few years of practice*
- Several participants also described their transitions into their practices in BC and the lack of orientation procedures.

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IV. EM Study Participant Demographics

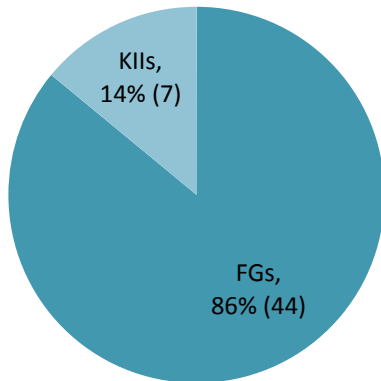


Figure 1: Number of participants in Focus groups (FGs) and Key Informant Interviews (KIs)

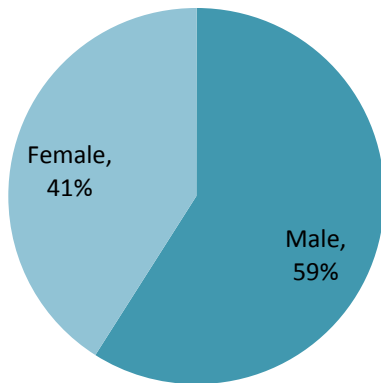


Figure 2: Sex breakdown of study participants

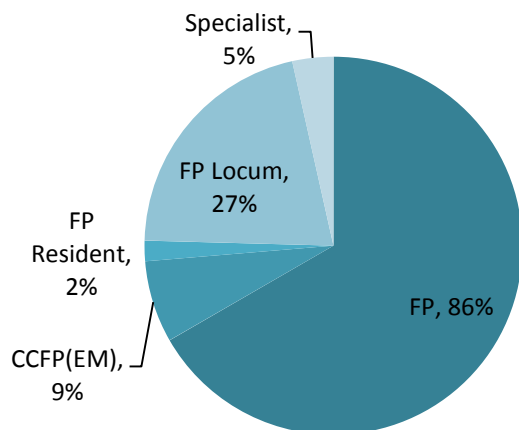


Figure 3: Types of physician participants in the study

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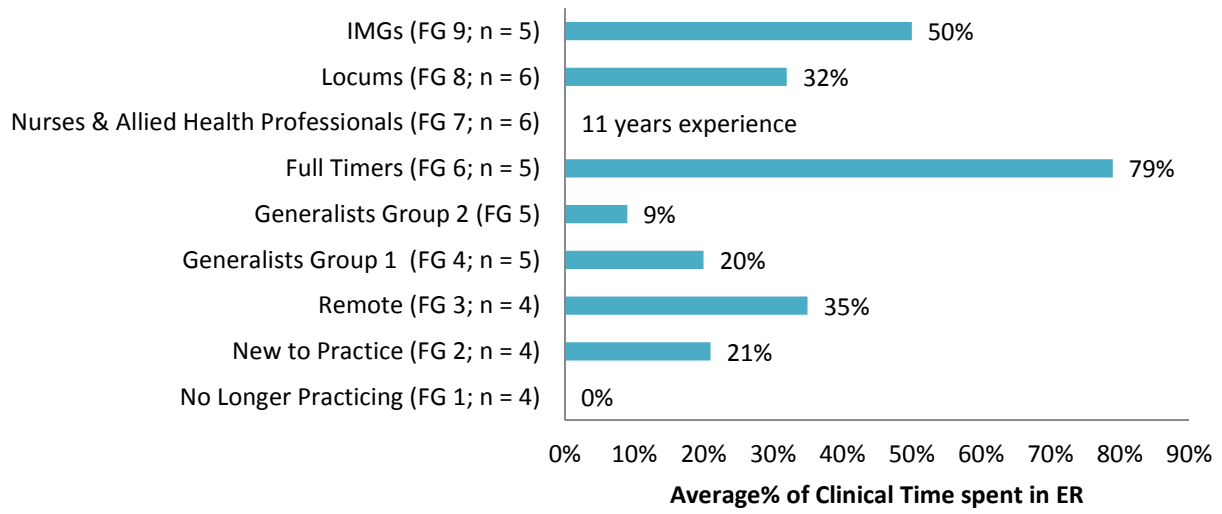


Figure 4: Average time spent in ER (%)

V. Summary of Attractions to or Movement Away from Rural (EM) Practice

Reasons for Choosing Rural Practice (in General)	Reasons for Specifically Choosing to Practice Rural EM
<p>Background</p> <ul style="list-style-type: none"> Grew up in a rural community Parents were rural health care providers <p>Medical Training Experiences</p> <ul style="list-style-type: none"> Did a rural residency program / rural rotation during residency <p>Lifestyle</p> <ul style="list-style-type: none"> Enjoy outdoor activities are easily accessible in rural areas Rural communities are felt to be ideal for raising families Locums often 'form bonds' with rural communities <p>Draw of Clinical Aspects of Rural Medicine</p> <ul style="list-style-type: none"> Slower pace, lower volume of clinical work More opportunity to develop relationships with patients Able to make a bigger impact as a health care provider Recruitment incentives and remuneration are better <p>Professional Factors</p> <ul style="list-style-type: none"> Have professional ties to the community through colleagues Have professional ties to a nearby referral centre More collegiality among health care professionals in rural areas 	<p>Personality</p> <ul style="list-style-type: none"> Rational risk-takers Thrive on excitement, adventure <p>Lifestyle</p> <ul style="list-style-type: none"> Some older physicians were able to stay in EM practice longer due to changes in shift requirements (e.g. shorter shifts) <p>Draw of Clinical Aspects of Rural EM Medicine</p> <ul style="list-style-type: none"> Prefer the diversity of EM work compared to office work Enjoyed the procedural skills aspect of the work Enjoy the team-work involved in EM practice Rural EM practice has relatively low volume but still has a wide variety of cases and procedures The urgency of the work allows physicians to help a patient in the moment; instant gratification Able to provide hospital-based care and keep up a broad skill-set which would not be possible if only doing office-based practice <p>Professional Factors</p> <ul style="list-style-type: none"> Able to be a "difference maker" Camaraderie of the team
Reasons for Not Choosing Rural Practice (in General)	Reasons for Not Choosing Rural EM
<p>Medical Training Experiences</p> <ul style="list-style-type: none"> Negative experiences during training with preceptors or colleagues <p>Lifestyle</p> <ul style="list-style-type: none"> Some women feel their personal safety is at risk while doing single ER coverage in rural communities <p>Challenges of Clinical Aspects of Rural Medicine</p> <ul style="list-style-type: none"> Insufficient local back-up Insufficient access to specialist services Lack of access to diagnostic services (lab, x-ray, ultrasound) <p>Professional Factors</p> <ul style="list-style-type: none"> Overworked, stressed, burnt out Responsibilities outside of clinical work (e.g. Head of Department, Committees, arranging local CPD) are too much of a burden Certification requirements in different health regions can vary, which creates barriers to obtaining privileges in multiple communities 	<p>Medical Training Experiences</p> <ul style="list-style-type: none"> Lack of adequate training and exposure to rural EM practice <p>Lifestyle</p> <ul style="list-style-type: none"> Work is too time-consuming, takes away from family obligations Age of physicians impacts 'stamina' and ability to do late-night shifts EM work places extra demands on scheduling work/life balance <p>Challenges of Clinical Aspects of Rural EM Medicine</p> <ul style="list-style-type: none"> Changes in community demographics and access to family physicians means EMs are being flooded with non-urgent cases (e.g. mental health, colds and flus) and fewer "true emergencies"; fewer "interesting cases" Challenges of dealing with the emergency transport system <p>Professional Factors</p> <ul style="list-style-type: none"> Prefer the longitudinal care of office-based practice Lack of collegiality or conflict with colleagues

VI. Glossary of Acronyms

ACLS	Advanced Cardiovascular Life Support
ATLS	Advanced Trauma Life Support
AP	Alternative Payment Systems (e.g. salary, per diem)
BC	British Columbia
BCAS	British Columbia Ambulance Service
BCEHS	British Columbia Emergency Health Services
BCGPLP	British Columbia General Practitioner Locum Program
BCMA	British Columbia Medical Association, now the Doctors of BC
The CARE Course	The Comprehensive Approach to Rural Emergencies Course
CCFP-EM	Canadian College of Family Physicians - Emergency Medicine certificate
CME/CPD	Continuing Medical Education/Continuing Professional Development
CRM	Crew Resource Management
CT Scan	Computerised Tomography Scan
CTAS	Canadian Triage and Acuity Scale
DFP	Divisions of Family Practice
EM	Emergency Medicine
EMR	Electronic Medical Record
ER	Emergency Room
FFS	Fee-for-Service
FP	Family Physician
M&M Rounds	Morbidity and Mortality Rounds
GP	General Practitioner
GP-A	General Practitioner with special training in anaesthesiology
HART	High Acuity Response Team
IHA	Interior Health Authority
IMG	International Medical Graduate
LLTO	Life, Limb, or Threatened Organ
MRI	Magnetic Resonance Imaging
NRP	Neonatal Resuscitation Program
PALS	Paediatric Advanced Life Support
PTN	Patient Transport Network, formerly "BC Bedline"
REAP	Rural Education Action Plan
REEF	Rural Emergency Enhancement Fund
RCME	Reverted CME Funds
RCPD	UBC Rural Continuing Professional Development Program
RCCbc	Rural Coordination Centre of British Columbia
RGPLP	Rural General Practitioner Locum Program
RN	Registered Nurse
RSA	Rural Subsidiary Agreement
RT	Respiratory Therapist
SIM	Simulator / Simulation
STARS	Shock Trauma Air Rescue Society (of Alberta)
TA	Transport Advisor
UBC	University of British Columbia
UBC CPD	UBC Division of Continuing Professional Development