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Investing in Practice Infrastructure Influences Practice Progress

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ABSTRACT

Purpose: "The Influence of Practice Infrastructure on Practice Progress" was an evaluation review project designed to determine if investment in the infrastructure of an allied health profession would result in improved practice progress within that profession. Practice infrastructure included robust, profession-specific practice councils; local and regional practice leadership; and support for education infrastructure. **Method:** This review consisted of selecting three professions (psychology, therapeutic recreation, and respiratory therapy) that were at different stages in their practice evolution. Health care providers in these three professions participated in an online survey. Their practice progress was measured against 32 established professional practice benchmarks. Separate focus groups were then conducted in each profession for frontline staff, practice leaders, and operational leaders. **Results:** The results indicated that the professions with a greater degree of practice infrastructure development scored higher on the practice benchmarks. The project also indicated that a profession's practice priorities followed a hierarchy of needs that were related to the degree of practice infrastructure in that profession. **Conclusions:** It was concluded that all three practice infrastructure components are required for optimal practice performance and that the three components are interdependent. There is a need to invest in practice infrastructure, and this is particularly important in a program management model. The risks of not investing in this infrastructure include the loss of professional identity, weak profession advocacy, lack of a common voice, reduced shared decision making, and limited professional growth and development. Ultimately, enhancing practice infrastructure leads to improved practice standardization, clinical integration, and ongoing professional development, which in turn results in improved clinical competencies and outcomes. Future research could focus on the hierarchical placement and status of the regional practice leader positions. It would be interesting to follow one profession longitudinally as components of a professional practice infrastructure are added. The education infrastructure components could be interwoven into the practice goals for the practice leaders and the profession-specific practice councils.

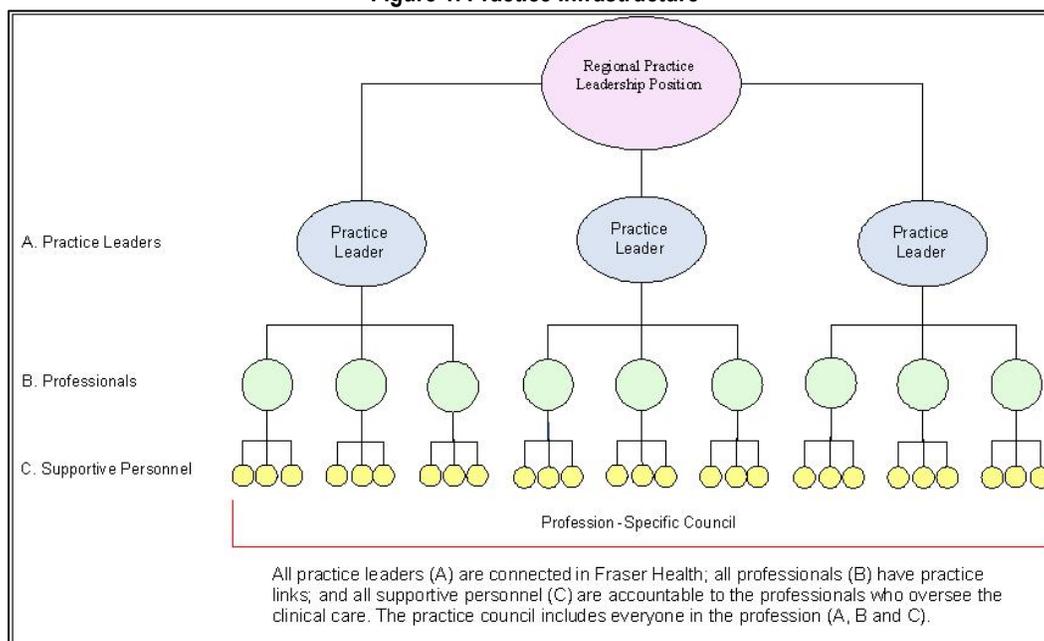
INTRODUCTION

Fraser Health is the largest health region in British Columbia (BC), Canada, serving one third of the province's population across a large geographic area that includes both urban and rural areas. Since 2007, Fraser Health has been using a broad, inclusive definition of allied health that includes both direct and indirect care providers who may or may not be regulated in the province.¹ In order to narrow this research project, three allied health professions (which are recognized in BC) were selected, including: psychology, therapeutic recreation, and respiratory therapy. Psychology is the profession that studies what people think, feel and

how they behave. Psychologists use this knowledge to help people understand, explain and change their behaviour.² Therapeutic recreation is the profession which recognizes leisure, recreation and play as integral components of quality of life. Service is provided to individuals who have physical, mental, social or emotional limitations which impact their ability to engage in meaningful leisure experiences.³ Respiratory therapy is the profession responsible for the cardio-respiratory care of patients requiring both acute and chronic intervention in their disease management.⁴

Fraser Health adopted a program management model in 2009. Previous investigation has revealed that two variables were correlated with how well a profession was performing from a practice perspective. These were (a) practice linkages and infrastructure and (b) practice education infrastructure. It was found that the highest performing professions on standard practice benchmarks had practitioners who were fully connected across the profession (i.e., clinical linkages) and a well-developed, regional practice infrastructure.¹ It was also noted that the presence of an education infrastructure was positively correlated with the practice progress of any given profession. The proposed practice infrastructure model includes practice leadership positions and a robust, profession-specific clinical practice council, as shown in Figure 1.¹

Figure 1. Practice Infrastructure



Practice Councils

Practice councils facilitate and support professionals in dialogue, reflection, evolution, and evaluation of their practice. They give professionals a voice and provide a mechanism to address practice challenges and advance evidence-based practice. The Fraser Health council network is based on the work of the Clinical Practice Model Resource Center.⁷ Fraser Health has a well-established council network that includes profession-specific councils, interprofessional program councils, and key partners and stakeholders.

In a program management model, it is more important than ever to ensure that profession-specific councils are strong. Fraser Health describes a profession-specific council as an inclusive and connected group of direct and/or indirect care providers who meet on a regular basis to focus on advancing practice, standardizing and integrating care, networking with colleagues to promote healthy working relationships, and improving outcomes for patients, residents, and clients. Literature has validated the need for an infrastructure that supports profession-specific linkages and collaboration.^{6, 8-10} "New mechanisms are needed to ensure that professional reference groups are established across programs and that senior clinical posts or professional advisory groups are established to provide leadership and ensure that professional development occurs in the context of organizational improvement."⁸ The creation of profession-specific forums provides an opportunity for each distinct profession to focus on unique aspects of scope of practice, regulatory requirements, and quality assurance requirements as a strategy to overcome the challenges of silos that tend to exist in health care organizations.⁶

Organizations that promote collaboration in professional practice benefit from maximized productivity and effective use of personnel, because professionals use their talents and skills in a cooperative and non-competitive way.¹² By setting annual objectives for their profession, members are empowered to set the direction and be actively involved in pertinent decision making.¹²

Practice Leadership

Current research and literature supports the need for well-established practice leadership within a given profession.^{6, 8-10, 12-14} Professional practice leaders (PPLs) are instrumental in achieving identified profession-specific practice goals, sharing information, addressing and resolving profession-specific issues, advocating and presenting a common voice for the profession, setting research direction for the group, and promoting continued professional growth and development.⁹ PPLs promote competent professional practice that can add value in terms of efficiency, better client care, increased knowledge about professional roles, job satisfaction, and better communication among professions.¹² Often viewed as advocates and mentors, PPLs are responsible for fostering professional development and monitoring evidence-based practice. In one Ontario public health department, having PPLs and a council network seems to have helped in breaking down some of the silos between professional groups and programs.¹² The network has been successful in dealing with cross-cutting practice issues such as core competencies, professional development, and corporate policies and guidelines.¹² Network stakeholders found that with PPLs in place, satisfaction with the resolution of practice issues was high.¹² The concept of having practice leadership supports the theory that individuals who have greater access to power structures have a greater ability to achieve organizational goals and empower those around them.¹³

Practice leader roles, such as those reviewed in Ontario, Canada, include but are not limited to these tasks:

- Determining profession-specific and inter-professional development needs;
- Providing opportunities for student placements;
- Offering mentorship opportunities;
- Acting as a resource to staff; and
- Assisting in problem solving regarding professional practice issues.¹³

In many situations, the PPL role has been introduced, as a result of the implementation of program management and the consequent elimination of profession-specific departments, to address concerns from professionals regarding lack of professional identity, development, and input into organizational decision making that could affect practice.¹³ In essence, this creates a professional voice for a given profession. A main concern for professionals within a program management model is the ability to maintain professional standards and professional development opportunities.¹³ A major issue for many professionals is the fear of loss of a professional identity in the reorganization along program lines; mechanisms are also needed that foster professional identification and promote professional development.⁸ There is also a concern that practice standards, structures, and processes are needed to ensure that practitioners are aware of the development of standards within their own profession. Quality reviews and discipline may be undermined if there is no profession-specific focus.

Education Infrastructure

Also important in a professional practice model is an education infrastructure that supports the ongoing development of students and staff. The presence of an education infrastructure often contributes to job satisfaction, competency, and healthy work environments. Promotion of staff competency has been identified as an essential element of a professional practice model; proactive initiatives are recommended for ensuring ongoing competency, keeping an eye on the horizon for impacts on practice, and going beyond just training.⁶ Employers need to make professional development a regular part of budget planning and provide time for staff to enhance their training to contribute to healthy workplaces for health care providers.⁵

METHODOLOGY

This evaluation review was designed using the principles of action research methodology and built upon previous research that included an extensive review of each of the 27 allied health professions. It also identified strengths and opportunities to support these professionals in their delivery of competent, safe, and integrated care, and to optimize their professional practice environment.¹ There were three key objectives:

1. Determine if investing in a regional practice infrastructure would influence the practice progress of a given profession.
2. Determine if the education infrastructure performance would improve secondarily to the practice infrastructure investment.
3. Validate previous research.

The three chosen professions of psychology, therapeutic recreation, and respiratory therapy were selected because they are at different stages in their practice evolution within Fraser Health. At the outset of this review, psychology did not have a regional profession-specific practice council nor did it have any local or regional practice leadership positions. Therapeutic recreation and respiratory therapy have had functional, regional, profession-specific practice councils since 2006, and they include all of the therapists and support personnel providing services in that profession. Therapeutic recreation has had limited local practice leadership and no regional practice positions. Respiratory therapy has had long-standing local practice leadership and implemented a regional practice leadership position in July 2010.

All health care providers in these three professions were eligible to participate in a 15 to 20 minute online survey and/or a 1 to 1.5 hour profession-specific focus group. The electronic survey was sent to the target professions' memberships; it contained 32 established professional practice benchmarks.¹ Previous research focused on establishing these key benchmarks essential to optimal clinical practice.¹ Each of the 32 benchmarks was assigned a maximum value of 2 points, and therefore each profession could achieve a maximum score of 64 points. Scoring of the benchmarks included online survey data as well as non-survey data (e.g., organizational charts and the clinical decision support tool database). Of the 32 questions, 4 applied specifically to practice leaders. Samples of the benchmarks and their corresponding scoring criteria are shown in Table 1.

Table 1: Examples of Professional Practice Benchmarks

Benchmark	Online Survey Question	Non-Survey Data
Education requirements; foundation for continuing education; professional development; equity of funding	Do you have access to educational opportunities/continuing education?	
Evidence of student programs; supervision of "qualified but not registered" staff	Are you able to participate in student programs/placements/supervision?	
Clinical linkages; lines of accountability; regional links to like professionals; no unlinked practitioners	Are you linked to others from your profession: (A) Formally, through a practice accountability framework? (B) Informally, via the practice council network?	Practice accountability organizational charts
Clinical leadership time/function/titles; amount/type/adequacy of time available to lead	[Practice Leaders Only] Do you have sufficient time to supervise, mentor, coach, and lead?	
Programs/supports in place for novice and new practitioners	Is there support for novice and new practitioners, such as a program for mentorship or integration into the workplace?	
Consistency of practice evident from site to site and across health care sectors; practice is evidence based	In your opinion, is practice consistent across sites and programs?	Number of clinical decision support tools (CDSTs) developed/in development
Involvement in program/service changes/additions and planning that affect patient care	Are you involved in evaluating the implications of program/service changes as they relate to patient care?	

The electronic survey tool consisted of closed-ended questions, which were either dichotomous (yes/no) or multiple choice. The survey also included an open-ended question that asked, "What are the top three priorities for advancing practice in your profession?" This question was themed separately for each profession.

For statistical purposes, if the source of points was a "practice leader only" survey question or was from non-survey data, the results were imputed to the entire survey group so that each participant was assigned a total score out of 64 points. Differences between the professional groups were compared using the *t*-test. To counteract the problem of multiple comparisons, the results

were considered to be significant if $p < .017$. This was calculated by dividing the p -value of .05 by the number of comparison groups (the Bonferroni correction).

In order to mitigate the limitations of a closed-ended question survey, focus groups were also conducted. For both therapeutic recreation and respiratory therapy, three separate focus groups were held for the frontline staff, practice leaders, and operational leaders, respectively. For psychology, a focus group was held for frontline staff and four 1:1 interviews were conducted for operational leaders. There were no practice leaders in psychology. Target numbers for each of the focus groups was 6 to 8 participants. Actual focus group size ranged from 3 to 7 participants. Focus group participants received the focus group questions and a number of relevant background documents, including a practice education infrastructure questionnaire, in advance. Focus group questions included the following:

- What are the risks of not having a practice leadership infrastructure?
- What are the advantages of having a regional practice leader?
- What is the value of having a profession-specific practice council?
- What are the advantages of having a regional education infrastructure for your profession?
- What are the risks of not having a regional education infrastructure?

Focus group participants were asked to complete the practice education infrastructure questionnaire and bring it to the meeting. If participants were not able to complete the questionnaire prior to the focus group, they were given time at the end of the focus group to do so. Each practice education infrastructure questionnaire was scored out of 10 and an average and standard deviation were calculated for each profession. The education infrastructure score was compared to the profession's original, baseline practice education infrastructure score to determine if there had been progress in this area.¹

Each focus group and 1:1 interview was facilitated by an unbiased staff member. Participant comments were audio recorded and transcribed to ensure anonymity. Transcripts were verified by the participants. Data were themed by participant group for each profession. The initial coding of data generated numerous category codes when the transcripts were reviewed. Subsequent focused coding was conducted to eliminate, combine, or subdivide coding categories. Repeating themes were identified within and across focus groups.

RESULTS

Survey Results

There were a total of 82 responses to the online survey: 15 from psychology (50% response rate), 30 from therapeutic recreation (17% response rate), and 37 from respiratory therapy (14% response rate). The results of practice benchmark scoring showed that psychology had the lowest score ($M = 23.4$, $SD \pm 8.3$), followed by therapeutic recreation ($M = 31.4$, $SD \pm 6.0$). Respiratory therapy had the highest overall score ($M = 40.7$, $SD \pm 6.8$). All of the individual practice benchmark scores within each profession were within 3 standard deviations, suggesting a normal distribution of data. Pairwise comparison between each of the professions demonstrated that all three pairings had a p -value of $< .017$, indicating a significant difference between each pair. The pairwise comparison scores are shown in Table 2.

Table 2: Pairwise Comparison and Statistical Significance

Pairs	p -value
Psychology–Therapeutic Recreation	$< .005$
Psychology–Respiratory Therapy	$< .001$
Therapeutic Recreation–Respiratory Therapy	$< .001$

An open-ended survey question asked, "What are the top three priorities for advancing practice in your profession?" Table 3 illustrates these priorities in order of importance to the respondents. Items of the same colour are recurrent priorities across two or three professions. There was a tie for third in psychology, so four items have been included.

Table 3: Profession-Specific Priorities

Priority	Psychology	Therapeutic Recreation	Respiratory Therapy
1	Improve advocacy/understanding & professional recognition across system	Develop practice leadership/ infrastructure including regional practice leadership	Focus on education development & continuing education
2	Focus on education development & continuing education	Focus on education development & continuing education	Participate in the development & implement regulation of the profession in BC
3	(a) Establish a profession-specific practice council	Improve standardization & consistency (e.g., client assessments, job description/roles)	Increase services & resources
	(b) Develop practice leadership/ infrastructure including regional practice leadership		

Psychology has a fundamental development step cited as its number one priority, centering on the issue of professional advocacy and needing others to understand the profession. That was not a high priority in the other two professions. Therapeutic recreation indicated that the development of its practice leadership and infrastructure should be the top priority. Respiratory therapy already has the practice leadership infrastructure, and its number one priority was a focus on education. Psychology and therapeutic recreation indicated education as their second priority. Respiratory therapy identified next steps in its evolution as priorities, including regulatory and resource needs. These were not cited by the other two professions.

Focus Group Results

Risks of Not Having a Practice Leadership Infrastructure

The data from the focus groups indicated that there are a number of potential risks associated with not having a practice leadership infrastructure. Lack of evidence-informed practice was the most commonly acknowledged risk and was identified by all professions and participant groups. Lack of standardization and consistency of care were other commonly identified risks, identified by all professions and participant groups with the exception of the operational leaders from therapeutic recreation.

In psychology, the profession with no local or regional practice leadership, a number of risks were identified by all participant groups: isolation, a lack of understanding of the profession, and erosion of the profession. Isolation was a key issue. In the words of one psychologist, "It feels like we're swimming on our own." The risk of the profession eroding was also echoed by several of the participants. As one participant stated, "Without a structure in place, there's not a lot of support for building the profession, never mind sustaining it." Examples given included professional interviews with no one on the panel from that profession.

Many of the same risks, including isolation and erosion of the profession, were identified in therapeutic recreation, the profession which had local but not regional practice leadership. Once focus group participant stated that there is a risk of being "misunderstood by others, not fully appreciated for what we do, and feeling like we remain in a place where we have to advocate in a way we should have moved on from at this point." Therapeutic recreation participants also identified lack of communication and collaboration as risks of not having a regional practice leadership infrastructure.

In respiratory therapy, the profession which had both regional and local practice leadership, the risks identified included a lack of communication and collaboration, and the erosion of the profession. In addition to the risks identified in other professions, duplication of work and lack of accountability for practice were identified as risks. Without a practice leadership infrastructure, there would be no way, in the words of one participant, of "ensuring that respiratory therapists are practicing to a certain level and continue to advance in the field of respiratory therapy."

Other risks identified, but not in all three participant groups, included not seeing the big picture, lack of planning and representation, and lack of practice support.

Advantages of Having a Regional Practice Leader

Focus group participants identified a number of advantages of having a regional practice leader. There were some consistent responses across all the professions, although not necessarily across all participant groups. Identified advantages included networking and communication, and planning and representation. Coordinated leadership was identified as an advantage by the operational leaders of each profession, while strategic planning and "seeing the big picture" were identified by practice and/or

operational leaders across the three professions. Psychology and therapeutic recreation operational leaders and/or practice leaders cited practice advancement and research as advantages.

In psychology, all participant groups identified advocacy as an advantage. Advocacy was also identified as an advantage by therapeutic recreation practitioners. For one psychology focus group participant, having a regional practice leader would mean “having a voice for psychology. We don’t have a voice right now.”

Standardization was identified as an advantage by therapeutic recreation and respiratory therapy. One therapeutic recreation focus group participant noted that a regional practice leader would bring a “central body of knowledge . . . [and] standardized processes and practices across the region. . . . [This person] really connects all of the pieces.”

In respiratory therapy, a number of other advantages were identified, including professional practice development, efficiency, patient safety, and system level problem solving. One focus group participant stated, “[The regional practice leader] has this overarching view of the work that’s happening in respiratory and the region. It really helps to form those linkages. . . . It enhances the work . . . so no one is working in a silo.” Another participant added, “[The practice leader] has really focused our objectives, and we seem to be meeting a lot more of our objectives. . . . [We are] getting a lot more done than we used to.”

Other advantages identified by fewer than three participant groups included information sharing, sense of belonging/community, competencies, improving clinical care, evidence-informed practice, and understanding and appreciation of the profession.

Value of Profession-Specific Practice Councils

Several themes were identified by all three professions, most notably the values of networking and communication, and improved clinical care. Networking and communication were identified as values by all participant groups, with the exception of the operational leaders from therapeutic recreation. Improved clinical care was referred to as a value by all frontline and operational leader groups. Standardization, shared learning, and accountability were identified as benefits of practice councils by all leader focus groups, both operations and practice.

Profession-specific practice councils were seen to have value, even in psychology, which does not currently have a profession-specific practice council. In addition to the networking and improved clinical care, psychology participants focused on advocacy and growth and development of their profession as key benefits of having a council. One focus group participant stated, “I could write pages of things that I think we could do—just for our own practice. I think we could have a very substantial influence on [Fraser Health’s] clinical practice.” The operational leaders in psychology included other values such as education and shared learning, efficiency, shared accountability, and practice and research advancement.

Therapeutic recreation has a profession-specific practice council. All participant groups in therapeutic recreation identified improved clinical care as a benefit of the practice council. Frontline staff in this profession cited the additional values of frontline staff input, advocacy, and growth and development of the profession. As one focus group participant stated, the profession-specific council provides “opportunities for professionals to be together and support and share with one another, and it allows the therapist[s] to be involved in their practice at a different level.” Therapeutic recreation practice leaders identified the additional values of inclusion, being part of the bigger picture, education and shared learning, shared accountability, support and empowerment, and research advancement.

Respiratory therapy practice and operational leaders had a lengthy list of values that included all of those cited by other participant groups. Respiratory therapy staff limited their values to the two overall values of networking and improved clinical care. Frontline input was cited as a value by both operational leaders and practice leaders as being an important value. One practice leader stated, “It’s great having the chance for frontline staff to bring forward their issues and the things they want to see . . . and see it actually happen.”

Advantages identified by fewer than three participant groups included advancing practice, efficiency, new opportunities, support, motivation and engagement, a voice for practice, and a sense of belonging.

Advantages of Regional Education Infrastructure

Focus group participants identified a number of advantages of having a regional education infrastructure. The most often identified advantage was continuing education, which was identified by all professions and all participant groups with the exception of the respiratory therapy practice leaders. Supporting student practice and the integration of new staff into the workplace were identified as advantages by all professions, though not by all levels of participants. Supporting students and new graduates was seen to encourage a culture of learning; as one focus group participant stated, “Students bring a lot of great new

ideas, a new way of looking at things, the most updated education . . . information on assessment tools, [and] different techniques.” In addition to continuing education, psychology participants cited the value of shared learning, which was identified as an advantage by staff focus groups in all professions, as well as access to resources.

Therapeutic recreation staff and practice leaders mentioned standardization as a value of regional education infrastructure, as it would ensure that practice guidelines are “being written and rolled out appropriately with the necessary support to do so.” The provision of the necessary support for implementation was also a focus: “We just don’t have the physical capacity and time to do it. As things become more stressed—there is no time allotted to do that for our profession.” The therapeutic recreation practice leaders also added the values of research, and recruitment and retention. The opportunity for career laddering was mentioned as an advantage by therapeutic recreation staff.

Respiratory therapy staff also discussed the opportunity of career laddering and the opportunity for research as advantages. Additionally, respiratory therapy staff added the value of education equity, that education would be accessible and available to all staff in the health authority. Respiratory therapy practice leaders and operational leaders also mentioned the advantages of standardization and efficiency.

Advantages identified by fewer than three participant groups included research, efficiency, staff engagement, addressing diverse education needs, and creating a culture of learning.

Risks of Not Having a Regional Education Infrastructure

The focus groups also addressed the risks of not having a regional education infrastructure. All professions and participant groups, with the exception of the therapeutic recreation operational leaders, recognized decreased advancement or stagnancy of the profession as a risk of not having a regional education infrastructure. One focus group member stated, “If you are not given opportunities to educate and really know what could be or what is happening, you stagnate, and unfortunately, . . . that’s not when best care happens.”

Another significant and related risk identified by most of the focus groups, with the exception of the therapeutic recreation operational leaders and the psychology staff, was decreased competency and the associated threat to patient safety. Several participants mentioned that not having a regional education infrastructure results in not staying up to date with best practices and, as one participant succinctly stated, “Ultimately that’s a risk to patients, because their care is compromised.”

When discussing regional education infrastructure, there were some differences noted between professions. For example, there was limited input from therapeutic recreation operational leaders in general. This might be due to a lack of understanding about what was meant by “regional education infrastructure.” Also noteworthy was that none of the respiratory therapists identified a lack of student support as a risk of not having a regional education infrastructure. The respiratory therapy profession currently has educational support for all its students through a clinical site coordinator, and for this reason, it may have been overlooked. Participants from psychology and therapeutic recreation identified a lack of resources as a risk of not having a regional education infrastructure.

The operational leader focus groups took more of a human resources focus on the issue and stressed the recruitment and retention risks of not supporting staff via a regional education infrastructure. One of the operational leaders for psychology stated, “I think not having that could result in staff burnout and frustration, whereby we may be losing some really talented people from the health authority.” The operational leader focus groups also emphasized the risk that education efforts would not be equitably distributed in the region, resulting in a lack of educational supports to the smaller sites, a loss of consistency, and a loss of advancement opportunities.

Advantages identified by fewer than three participant groups included inefficiencies, staff devaluation, lack of advocacy, decreased motivation/engagement, increased isolation, increased moral distress, decreased student support, and decreased education opportunities.

Education Infrastructure Questionnaire Results: Practice Education Infrastructure

In previous Fraser Health research from 2007, an education infrastructure questionnaire was completed and the average scores were recorded. Data regarding the number of questionnaires returned, standard deviations, etc., were no longer available, and thus tests for significance were unable to be performed. Nevertheless, comparing the data year-over-year it was possible to note some broad trends. First, the scores for psychology remain relatively unchanged over the last four years; indeed the average score has even declined from 1.5 to 1.2 ($SD \pm 1.2$). Psychology continues to have little education infrastructure across the

region. The scores for both therapeutic recreation and respiratory therapy appear to have increased over the same four years. Therapeutic recreation increased from 0.5 to 2.6 ($SD \pm 2.0$) and respiratory therapy from 4.5 to 5.4 ($SD \pm 2.0$). Therapeutic recreation and respiratory therapy fall in the partial education infrastructure range.

CONCLUSIONS

The first objective of this evaluation review was to determine if investing in a regional practice infrastructure would influence the practice progress of a given profession. The evaluation results affirmed that investment practice infrastructure (i.e., practice leadership, practice councils, and education infrastructure) has positively influenced practice progress. Professions with a greater degree of practice infrastructure development scored higher on the practice benchmarks. Psychology, a profession with no practice infrastructure, scored significantly lower on the practice benchmarks than both therapeutic recreation and respiratory therapy. Therapeutic recreation, a profession with a partial practice infrastructure, scored significantly lower on the practice benchmarks than respiratory therapy, which has a fully developed practice infrastructure.

A profession's stated priorities varied depending on where it was at in its practice infrastructure development. The priorities followed a hierarchy of needs. As professions develop, their needs shift from more basic needs, such as the need for professional recognition and understanding, to higher needs, such as the need for practice leadership or the need for consistency and standardization. Although all needs are ever present in all professions, the current priorities can be seen as a snapshot of where the profession is at in its development.

All three practice infrastructure components—local and regional practice leadership, profession-specific practice councils, and regional education infrastructure—are required for optimal practice performance. Not only are the components required, but they are interdependent. For example, professions that have regional practice leadership were able to standardize decision support tools (e.g., clinical guidelines and protocols), but without the education component they were not able to implement them effectively. The improved education infrastructure scores for respiratory therapy may be attributable to overall infrastructure improvements.

There is an ongoing need to invest in practice infrastructure, and this is particularly important in a program management model. The risks of not investing include the loss of professional identity, professional advocacy, a common voice, shared decision making, and continued professional growth and development. The findings are consistent with the literature findings regarding the importance of profession autonomy and identity in a program management structure.⁹

Ultimately, enhancing the practice infrastructure of a given profession has a number of advantages, such as practice standardization, clinical integration, and ongoing professional development, which lead to improved clinical competencies and outcomes.

FUTURE RESEARCH AND DEVELOPMENT

Future research could take a number of directions. First, if the overall concept of regional practice leadership is agreed upon, then the next step would be to look at the highest regional practice leader position. It would be interesting to know if it makes a significant difference whether the position is union or non-union. It may be that an excluded (non-union) position would have greater influence in the operational hierarchy and have a greater likelihood of inclusion in future program and service planning. A non-union position may also be able to intervene directly in clinical performance issues related to clinical staff in that profession, whereas a union position may not be able to do this.

Placement of the regional practice leadership position in a program management hierarchical structure would also be worthy of investigation. Appropriate placement may influence the effectiveness of the regional practice leader position and the needed autonomy to make regional changes and improvements affecting the profession.

It would also be interesting to track one profession over time as components of a professional practice framework are added. For example, now that there is baseline for psychology, as components of the framework are added (i.e., practice council, practice leadership, education infrastructure), the practice benchmarks and focus group questions could be repeated at each stage to see if there is improvement over time. Once a psychology practice council has been established, it would be advantageous to know if there is a positive influence on the profession-specific priorities and practice benchmarks.

The results suggest that there is a need for continued investment and forward movement in all professions. A priority scale for implementation would be useful to ensure equity across professions. For any given profession, if there were targeted objectives based on the weaknesses found in the scores on clinical benchmarks, would the scores on that particular item improve?

It appears that education infrastructure is closely tied to the implementation of the other components of a practice infrastructure; namely, a practice council and overall practice leadership. Future research could focus on the development of the education components, possibly as objectives for the council and the practice leaders.

This comparative research could easily be replicated using any professions which are at different stages of practice evolution and development. In addition, the measures of practice progress can be repeated as changes in the profession's infrastructure occur.

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