Advances in Health Sciences Education
https://doi.org/10.1007/s10459-023-10298-9

RESEARCH

Creating synergies among education/research, practice, and policy environments to build capacity for the scholar role in occupational therapy and physiotherapy in the Canadian context

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Received: 31 January 2023 / Accepted: 22 October 2023

Abstract

Scholarly practice (SP) is considered a key competency of occupational therapy and physiotherapy. To date, the three sectors—education/research, practice, and policy/regulation—that support SP have been working relatively independently. The goals of this project were to (a) understand how representatives of the three sectors conceptualize SP; (b) define each sector's individual and collective roles in supporting SP; (c) identify factors influencing the enactment of SP and the specific needs of how best to support SP; and (d) co-develop goals and strategies to support SP across all sectors. We used interpretive description methodology. Consistent with an integrated knowledge translation approach, partners representing the three sectors across Canada recruited individuals from each sector, developed the content and questions for three focus groups, and collected and analyzed the data. Inspired by the Consolidated Framework for Implementation Research, we developed the questions for the second focus group. We analyzed the data using an inductive thematic analysis method. Thirty-nine participants from the three sectors participated. Themes related to participants' conceptualization of SP included (a) ongoing process, (b) reflective process, (c) broad concept, and (d) collective effort. Themes describing factors influencing and supporting SP were (a) recognition, (b) appropriate conceptualization, (c) social network, (d) accessibility to resources, and (e) forces outside of practitioners' effort. Goals to support SP included (a) further recognizing SP, (b) sustaining SP competency, and (c) ensuring access to information. SP requires collaborative and integrated intersectoral support and further recognition of its importance through the collaboration of multiple stakeholders.

Keywords Intersectoral partnership · Co-construction · Scholarly practice · Competency · Occupational therapy · Physiotherapy

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Introduction

Scholarly practice (SP) is considered a key competency among healthcare practitioners in Canada (Verma et al., 2006). For rehabilitation professions such as occupational therapy (OT) and physiotherapy (PT), the emphasis on SP is not new; respective national professional associations have called for developing and enhancing this competency since the early 2000s by including SP in national professional competency profiles (Canadian Association of Occupational Therapists [CAOT, 2012]; National Physiotherapy Advisory Group [NPAG], 2017) and accreditation requirements (Douglas, 2019).

Broadly, the following scholarly activities have been associated with SP: (a) continuous learning aimed at improving one's clinical practice; (b) teaching students, other health professionals, and patients; (c) integrating the best available evidence into decision-making in practice; and (d) generating and disseminating knowledge applicable to practice (CAOT, 2012; Canadian Council of Registered Nurse Regulators [CCRNR], 2018; NPAG, 2017; Richardson et al., 2015). In parallel, a small but growing body of literature has shown the benefits of SP in relation to these scholarly activities. For example, a recent Cochrane review on continuous education reported that healthcare professionals who attended educational activities, including meetings, conferences, lectures, workshops, and seminars, were more likely to choose to comply with recommended practices and achieve superior patient outcomes than those who did not participate in such opportunities (Forsetlund et al., 2021). In addition, student teaching/supervision and mentorship activities have been shown to expose practitioners to new ideas and opportunities, and foster personal and professional growth (Garmel, 2004; Yoon et al., 2017) while mitigating burnout and increasing job satisfaction and staff retention (Martin et al., 2021). Further, integrating evidence into practice supports informed decision-making about appropriate, safe, and effective care (Hoffman et al., 2017; Law & MacDermid, 2014) and contributes to enhancing patient outcomes (Emparanza et al., 2015; Jernberg et al., 2011). Finally, a study on research involvement of professionals in the field of ageing and health found that those who engaged in knowledge translation activities (e.g., involvement in research projects) reported being better able to advocate for best practice and, thus, enhance the quality of care provided (Laustsen et al., 2021).

Canadian organizations of occupational therapy and physiotherapy education, practice, and regulation

There are several national organizations in Canada dedicated to promoting and regulating the practice of OT and PT. These organizations support SP by maintaining practice standards, accrediting education programs, organizing and delivering continuing education opportunities, and implementing regulatory frameworks for these health professions. Appendix A contains an overview of these organizations.

Challenges in achieving scholarly practice

The importance and purported benefits of SP notwithstanding, healthcare practitioners encounter challenges in their roles as scholarly practitioners, including holding ambivalent attitudes (Ologunde et al., 2014; Rochette et al., 2020; Solaja et al., 2018). For example, in a study of occupational therapists (OTs)' perspectives on their professional competencies, Rochette et al. (2020) found that 17% of OTs ($n = 303$) perceived their level of competence

in this role as borderline or inadequate. Similarly, in Solaja et al.'s (2018) investigation of medical residents' experiences pursuing research during training, medical residents reported being ambivalent about the scholarly practitioner role. Importantly, little attention has been paid to the assessment of the scholar role in health professions education and clinical practice (Bandiera et al., 2006). In a study aimed at mapping how professional competencies are presented within medical curricula across Canada, the scholar role was not as integrated into assessment methods as were other competencies (Binnendyk et al., 2021). Similarly, only a limited number of studies specifically evaluate the SP competency in the PT and OT contexts.

Supporting scholarly practice

Promoting and maintaining SP is considered an institutional responsibility, not the sole responsibility of the individual (Fillion et al., 2014; Girard et al., 2013). The three sectors of education/research, practice, and policy/regulation have made independent efforts to support SP (Robinson et al., 2020). The first, university education, where future practitioners learn the value of SP and its role in healthcare, plays a key role in developing and nurturing the foundational competencies of SP (Canadian Council of Physiotherapy University Programs, 2019; Mathieson, 2019; Thomas et al., 2017). In particular, several rehabilitation departments in Canadian universities offer a wide range of professional development opportunities that cater to the diverse and evolving needs and preference of OTs and physiotherapists (PTs), including online courses, workshops, seminars, and certificate programs. Research also plays a fundamental role in SP as it facilitates practitioners' use of the latest evidence and supports the generation of knowledge important and relevant for practice (Bowen & Graham., 2013; Gagliardi et al., 2015; Nass et al., 2009). On the practice side, it is imperative that practice settings create an environment conducive to SP by communicating a commitment to its values and providing the required resources for its operationalization (Dannapfel et al., 2013). Professional regulatory bodies have a role in SP because they provide oversight of practice and ensure that OTs and PTs maintain their professional competencies throughout their careers (CAOT, 2009; Donnelly et al., 2016). These organizations monitor continuing competence, which encourages practitioners to stay up-to-date and incorporate new evidence into practice (Donnelly et al., 2016). In Canada, the OT and PT regulatory bodies have specific requirements for practitioners, namely, the development of annual professional development learning goals and identification of activities that will help them achieve their goals (ACOTRO et al., 2021; NPAG, 2017). The policy sector values the role of evidence for effective health policy (World Health Organization, 2021); it has supported SP in part by offering opportunities for research funding and awards (Government of Canada, 2022) and by synthesizing evidence to support decision making and improve practices (Health Quality Ontario, 2015; l'Institut National d'Excellence en Santé et en Services Sociaux, 2021).

Although the three sectors support SP as part of their missions, whether and how they collaborate in this pursuit remains understudied and undertheorized. Silos existing between the three sectors may thwart practitioners' abilities to successfully enact the core principles of SP (Robinson et al., 2020). Silos may also perpetuate existing inefficiencies and discourage the synergies required to support SP. In the absence of clear indicators for how SP manifests in practice, efforts to support and advance this key aspect of practice will be tenuous at best.

The goal of this study was to bring together representatives of the three sectors of education/research, practice, and policy/regulation in one Canadian province (Québec) and across Canada to develop a partnership in sustaining SP in OT and PT practice. In Canada, health care is a provincial jurisdiction; although we aimed to include Canadian policy sectors, because of feasibility challenges, we included members of the policy sectors mainly in the Province of Québec. In this study, we aimed to (a) understand what SP means to members from each of the three sectors (education/research, practice, and policy/regulation); (b) define each sector's individual and collective roles in supporting SP; (c) identify perceived barriers, facilitators, and needs regarding SP; and (d) develop intersectoral goals and actionable strategies to support SP for OTs and PTs.

The research team contributing to this paper consists of academic researchers, including those whose primary affiliation is a university rehabilitation program, as well as partners who represent different organizations in the education/research, practice, and policy/regulation sectors. While it is possible for some individuals to be both researchers and representatives of the partners' organizations, their role within the project is to represent their respective organization/sectors.

Theoretical framework and approach

Integrated knowledge translation

The team drew on an integrated knowledge translation (iKT) approach to guide this research (Lapaige, 2010). We invited partners from each sector (e.g., universities, a research centre, regulatory bodies, health authorities) to participate in the research team from the start so that we could produce relevant and useful knowledge for the partners (Canadian Institutes of Health Research, 2012). Through ongoing interactions (Kothari & Wathen, 2013), we encouraged our partners to contribute to the research process; this included generating research questions, writing grant applications, identifying participants, analyzing, and reviewing data, writing manuscripts, and contributing to the diffusion of results.

Consolidated framework for implementation research

We drew on the Consolidated Framework for Implementation Research (CFIR), a determinant framework widely used in knowledge translation (Kirk et al., 2015). This framework describes five factors that affect the successful implementation of research findings: intervention, outer setting, inner setting, the individuals involved, and the implementation process (Damschroder et al., 2009). We used the framework's main constructs to guide our prompts for the focus group questions.

Methods

Study design

We conducted a qualitative research study using interpretive description methodology (Thorne, 2016). Interpretive description is a noncategorical methodology used to generate knowledge applicable to clinical practice. We deemed it appropriate to use this

methodology because the objectives of this project were to inductively generate a common understanding of SP (phenomenon of interest) and to establish each sector's role in supporting SP in OT and PT. Interpretive description allowed us to generate knowledge about SP that could be applied in real-world practice by uncovering relationships and patterns within the SP phenomenon (Thorne, 2016).

We obtained ethical approval from all relevant research ethics boards (McGill University, the Université of Montréal, and three health authorities affiliated with the Centre for Interdisciplinary Research in Rehabilitation of Greater Montréal). All participants provided informed consent on research participation.

Participants

In accordance with the principles of iKT, which emphasize the importance of fostering collaboration between researchers and knowledge users throughout the research process (Kothari & Wathen, 2013), we actively engaged a member of each partner organization (as detailed in Table 1). Individuals fulfilling the roles in each sector outlined in Table 1 were considered eligible.

Data collection procedure

Overview of the procedures

Data were collected using a series of focus groups. Three members of the research team (SK, AR, AT) developed the initial set of focus group protocols and met with other team members to refine the questions (see Table 2 for main topics and examples of questions).

With respect to the conceptualization of SP, our intention was not to create a new definition but rather to understand how SP was understood from different stakeholder perspectives, in order to guide collaboration. The questions for the second focus group were inspired by the CFIR constructs mentioned above to enable an understanding of the various factors hindering or stimulating the support of SP (see Table 3).

We conducted three half-day focus groups via ZOOM in English and French at 2-month intervals over 5 months (from January to May 2022). Participants were placed in English- or French-speaking groups according to their preferences. Each focus group began with an overview of the goals and previous discussions, followed by small breakout and large group sessions. Each small group consisted of a moderator, a notetaker, and five to eight participants in total, representing each sector. After the small-group session with five to eight of participants, participants returned to the large group session with the entire participants to share and consolidate their conclusions. A detailed description of the focus group procedure is illustrated in Fig. 1. Bilingual moderators facilitated large-group sessions and provided immediate translations as needed. For all focus groups, including the small- and large-group sessions, we saved messages in the Chat with the participants' consent.

Data analysis

All focus groups, including small and large group sessions, were transcribed verbatim. A machine translation service (DeepL Translate, www.deepl.com/translator) was used to translate French transcripts into English, and French-speaking researchers confirmed the

Table 1 Partners and participants of the partnership development research project

Sectors	Partners	Eligible participant
Education/Research	- Two Universities and one Research centre	- Program directors, fieldwork coordinators, clinical professors, faculty members, and graduate student from occupational therapy and physiotherapy programs of two large universities - Academic researchers and a research coordinator from a rehabilitation research center
Practice	- Three Heath and Social Services Integrated Centres	- PTs, OTs, practice development advisors, managers and directors in occupational therapy and physiotherapy, and patients from three large integrated health establishments
Policy/Regulation	- Four Canadian Occupational Therapy Associations and Regulatory Organization and one Province Specific Occupational Therapy Regulatory Organization - Four Canadian Physiotherapy Associations and Regulatory Organization and one Province Specific Physiotherapy Regulatory Organization - One Institute of Health and Social Services - One Province Specific Ministry of Health	- Representatives who are interested and involved in supporting SP from the Canadian and Québec -specific occupational therapy and physiotherapy regulatory institutions and associations, the National Institute of Excellence in Health and Social Services (INESSS), the Québec Ministry of Health and Social Services, the Québec Ministry of Education

Table 2 Main topics and example questions from each focus group

Focus group	Topic	Example questions
1	Conceptualizations of SP and each sector's role in supporting SP for OTs and PTs	- Please define or describe what SP means to your organization or sector - How does your organization, sector, or subsector value SP?
2	Identification of the factors contributing to the enactment of SP and needs regarding the support of SP	- What are the perceived facilitators and barriers that support and inhibit SP or the ability of individual practitioners and organizations to become scholarly practitioners?
3	Development of common goals and possible strategies to support SP	- What are our common goals to successfully support SP based on the SMART (specific, measurable, achievable, realistic, time-bound) goal method? - How can each sector contribute to the achievement of the goals?

Table 3 Example of the application of the consolidated framework for implementation research (CFIR) constructs (Damschroder et al., 2009) to support content of the focus group guides

CFIR construct	Description	Example questions
Intervention Characteristics	The intervention construct explains the key characteristics that affect its successful implementation. In relation to our research study, the intervention is SP to be enacted in occupational therapy and physiotherapy	What about SP makes it easy or difficult to adopt in practice (e.g., cost, complexity, adaptability)?
Inner Setting	The inner setting outlines the internal dynamics of the political, cultural, and structural context in which the implementation process would occur	How does an organization's social factors (e.g., relationships and communication within teams, team culture) and environmental factors (e.g., time, infrastructure, obligations) affect your organization's ability to support or advance SP?
Outer Setting	The outer setting refers to the social, economic, and political contexts in which organizations exist	How do environmental factors outside of your organization affect your ability to support or advance SP (e.g., economic, political, and regulatory factors)?
Characteristics of Individuals	Characteristics of individuals refers to the construct of personal attributes that affect intervention implementation	Please describe the characteristics of scholarly practitioners or the scholarly moment for practitioners in practice
Process	The implementation process describes several interconnected processes that occur during implementation	What are your needs related to promoting SP?

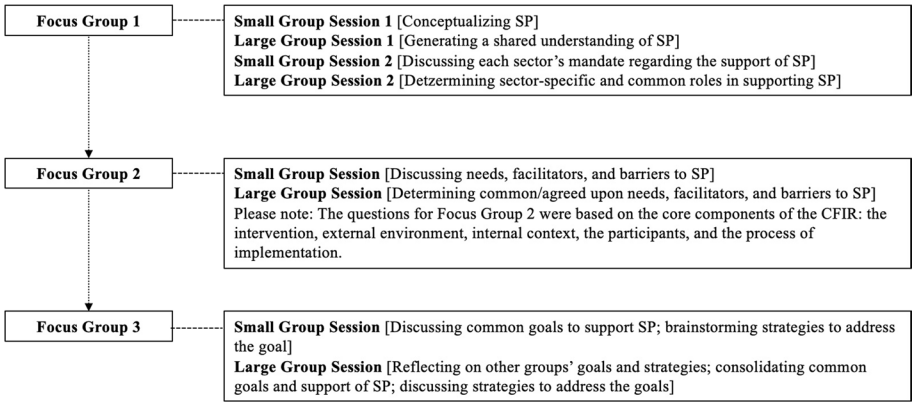

Fig. 1 Data collection procedure

accuracy of the translation. The quotes from the French-speaking participants are presented in English. SK initially coded the data after each focus group using an inductive thematic analysis approach by incorporating perspectives from all participants (Braun & Clarke, 2006). First, SK read the transcripts to become familiar with the data and undertook thematic and interpretive coding through ongoing comparisons of the existing and newly identified codes. This step permitted the identification of thematic patterns reflecting collective and common perspectives about the specific topics of each focus group. She subsequently reported the initial themes to the two primary researchers (AT and AR); a discussion was held about the links between the identified themes and the research objectives. We then refined and finalized these themes through iterative meetings with the whole team that was comprised of researchers and partners. We used NVivo for the qualitative data analysis process.

Trustworthiness and reflexivity

The team applied several strategies to ensure the methodological rigour of our findings (Connelly, 2016; Shenton, 2004). First, to enhance credibility, during the three focus groups, including small and large group sessions, facilitators sought to build rapport with participants at the opening of each focus group (Shenton, 2004) by introducing moderators and participants and creating a safe and supportive environment for sharing opinions. During focus group 2 and 3, we shared the outcomes of the previous focus group with the participants and sought their feedback. This approach was adopted to ensure a broad representation of participant perspectives and experiences (Shenton, 2004). We also presented direct quotes from participants. We then held two meetings with research team members and our partners to discuss the interpretations of the data (Shenton, 2004). Finally, while reading and analyzing the data, SK wrote reflective notes regarding the insights gained from the focus groups (Shenton, 2004).

Cognizant of the need to foster collaboration during the process of co-construction, we prioritized maintaining a collaborative approach throughout the study. We actively encouraged open discussions and provided a safe and inclusive space where participants felt comfortable expressing their diverse viewpoints and insights on SP. Furthermore, we considered the constraints of clinical environments, particularly during the pandemic, by scheduling focus groups

at convenient times for participants and limiting their duration to a maximum of 3 h. This deliberate approach created an environment that facilitated authentic exchanges, leading to enhanced data analysis, and bolstering the overall strength and reliability of our findings.

Results

Participants

In total, 39 participants from the three sectors participated in this research. While we encouraged all participants to attend at least two focus groups, some could not due to scheduling conflicts. As a result, we had 16 participants attended all three focus groups, 17 attended the two focus groups (either 1 and 2 or 2 and 3), and six participants attended one of the focus groups, either the first or second one. Detailed demographic information about the participants is presented in Table 4.

In the following sections, we present the results of each focus group and report on what participants discussed during the sequential process of the project.

Focus group 1: conceptualization of scholarly practice

Thirty-two participants from the three sectors attended the first focus group (see Table 4). We identified four key themes regarding SP: (a) an ongoing process, (b) a reflective process, (c) a broader concept than evidence-based practice (EBP), and (d) the result of collective effort.

Theme 1. Scholarly practice is an ongoing process to achieve high-quality healthcare services

The goal of SP was depicted in the first focus group as offering the best possible healthcare services by contributing to *excellence* in practice: "When [future practitioners] enter practice, we want to establish a culture of *excellence*: how to provide care, for example, that is always up to date and that aims for excellence" (Participant 1, professional regulatory organization, policy/regulation sector). By engaging in ongoing professional development activities, practitioners use tools to provide patients with better healthcare services:

> For me, scholarly practice is to go to the personal level to have professional development and to go and look for training . . . If I have more tools—tools that have been better demonstrated in my physio toolbox—I will be able to be more efficient with the patient to offer better care (Participant 2, PT, practice sector).

As such, SP is seen to involve a continuous journey of professional development directed at optimizing patient care.

Theme 2. Scholarly practice is a reflective process where practitioners identify knowledge gaps and different sources of evidence and apply them to their clinical context

The findings highlighted that practitioners encounter knowledge gaps while practising; they need to identify these gaps and find resources to address them: "[Scholarly practice

Table 4 Participant Characteristics

	Number of participants						
	Education/research		Practice		Policy/Regulation		Total
Overall	Faculty member	3	Occupational therapist	4	Occupational therapy associations and regulators	4	39
			Physiotherapist	4			
	Program director/clinical coordinator	3	Director/manager	4	Physiotherapy associations and regulators	6	
	Graduate student	3	Patient partner	3			
	Researcher	3			Institute of Health and Social Services	2	
	Total	12	Total	15	Total	12	
Focus group 1	Faculty member	2	Occupational therapist	2	Occupational therapy associations and regulators	4	32
			Physiotherapist	4			
	Program director/clinical coordinator	3	Director/manager	3	Physiotherapy associations and regulators	5	
	Graduate student	2	Patient partner	3			
	Researcher	3			Institute of Health and Social Services	1	
	Total	10	Total	12	Total	10	
Focus group 2	Faculty member	3	Occupational therapist	4	Occupational therapy associations and regulators	4	32
			Physiotherapist	4			
	Program director/clinical coordinator	2	Director/manager	3	Physiotherapy associations and regulators	6	
	Graduate student	2	Patient partner	1	Institute of Healthand Social Services	1	
	Researcher	2					
	Total	9	Total	12	Total	11	

Table 4 (continued)

	Number of participants							
	Education/research		Practice		Policy/Regulation		Total	
Focus group 3	Faculty member	1	Occupational therapist	4	Occupational therapy associations and regulators	1	24	
			Physiotherapist	2				
	Program director/ clinical coordinator	1	Director/manager	2	Physiotherapy associations and regulators	5		
	Graduate student	1	Patient partner	3	Institute of Health and Social Services	1		
	Researcher	3						
	Total	6	Total	11	Total	7		
Gender	Education/Research		Practice		Policy/Regulation		Total	
Overall	Woman	11	Woman	13	Woman	11	Woman	35
	Man	1	Man	2	Man	1	Man	4
Focus group 1	Woman	9	Woman	10	Woman	9	Woman	28
	Man	1	Man	2	Man	1	Man	4
Focus group 2	Woman	8	Woman	10	Woman	10	Woman	28
	Man	1	Man	2	Man	1	Man	4
Focus group 3	Woman	5	Woman	9	Woman	6	Woman	20
	Man	1	Man	2	Man	1	Man	4
Age [year, median (range)]	Education/Research (n = 12)	Practice(n = 15)	Policy/Regulation (n = 12)	Total (n = 39)				
Overall	44 (22–63)	49 (27–71)	48.5 (31–64)	46 (22–71)				
Focus group 1	44 (22–63))	51 (27–71)	46 (31–57)	46 (22–71)				
Focus group 2	44 (22–63)	48 (27–71)	51 (31–64)	46 (22–71)				
Focus group 3	44 (31–63)	47 (27–71)	48.5 (31–64)	46 (27–71)				

Table 4 (continued)

Work Experience [year, median (range))	Education/Research (n = 12)	Practice (n = 15)	Policy/ Regulation(n = 12)	Total (n = 39)
Overall	5 (0.8–41)	21 (1–35)	8 (2–34)	13 (0.8–41)
Focus group 1	5 (0.8–41)	23.5 (4–35)	8 (2–34)	11.5 (0.8–41)
Focus group 2	15 (0.8–41)	20 (1–35)	9 (2–34)	15 (0.8–41)
Focus group 3	2 (0.8–22)	17.5 (1–33)	7 (2–30)	8 (0.8–33)

requires practitioners] to identify those [areas of practice] that are deficient or lacking and then to identify the means to compensate for the deficient knowledge, know-how, or life skills" (Participant 3, clinical coordinator, education/research sector). Frequently, evidence was depicted as more than scientific research findings, and as including the experience of practitioners and patients. For example, one participant said, "It's mostly experiential knowledge; not all my knowledge comes from [scientific] evidence, so it's really my experience as a patient" (Participant 4, patient partner, practice sector). Participants highlighted that, as scholarly practitioners, OTs and PTs are expected to use various sources of information, including scientific research findings, clinical experience, and patient perspectives. It can be challenging to effectively integrate and apply these diverse resources as patients and their contexts are unique, evidence from scientific research does not always apply to some patients, and decision-making is highly context specific.

Theme 3. Scholarly practice is a broader concept than evidence-based practice

Although SP has the potential to encompass EBP, it was viewed as broader than EBP, as illustrated in this quote: "I would see [EBP] below scholarly practice in the sense that scholarly practice encompasses [EBP]... I don't think [EBP is] reductive [or reductionist]; on the contrary, I think [EBP is] not as broad as scholarly practice" (Participant 2, PT, practice sector). Furthermore, some participants indicated that the focus group expanded their conceptualizations of SP: "I am glad I attended this morning because [I found the concept of scholarly practice] is much more inclusive than EBP" (Participant 5, OT, practice sector]. While EBP is the core of SP, participants discussed SP as broader and more comprehensive than EBP.

Theme 4. Scholarly practice can only happen as a collective effort of various stakeholders

As representatives of the three sectors, participants broadly shared the view that they had a mandate and an obligation to support SP (Table 5).

Despite apparently distinctive mandates across sectors, participants agreed that there was overlap and that the three sectors could better work together to optimally support SP for OTs and PTs: "I think our obligations are to collaborate with other partners [and] to develop students' skills but also to collaborate for continuing education so that it [scholarly practice] is not disconnected from the practice and the training in occupational therapy" (Participant 6, professional regulatory organization, policy/regulation sector). In this way, to be achievable, SP was seen to require collective effort across sectors.

Shared understanding of scholarly practice

During the first focus group, participants engaged in discussions aimed at establishing a shared understanding of SP and their collective responsibilities in fostering this competency. By integrating the perspectives and insights gathered during the first focus group, the team collectively formulated an initial description of SP. Subsequently, in the second focus group, this description was presented to participants, who provided feedback, helping to further refine the description. This iterative process of collaboration and revision ultimately resulted in a revised depiction of SP.

Table 5 Examples of each sector's perceived mandate/obligation to support SP

Sector	Mandate/obligation	Illustrative quotes
Education/research	Addressing the value of SP and helping students acquire the skills to find, evaluate, and incorporate research evidence	We [faculty] are valuing the scholarly role in our educational programs... The role modelling [of scholarly practice] happens through faculty by incorporating [research] evidence, critiquing the evidence, engaging students in those activities, and evaluating them on, for example, their ability to critique the evidence through term papers or oral exams" (Participant 1, associate director, education/research sector)
Practice	Creating the necessary space and resources for practitioners to engage in SP	"[The role of the organization is to provide] protected time, infrastructure, [and] supports that can help the practitioner with being able to engage in a scholarly practice" (Participant 6, professional regulatory organization, policy/regulation sector) "It is the organization's role to negotiate small amounts of time off with practitioners" (Participant 7, director, practice sector)
Policy/regulation	Encouraging a continued commitment to educating for and assessing competency	"Our [professional regulatory organization] mandate is public protection, and part of public protection is assessing competence. So, assessing competence at [the] entry to practice, and assessing, may be not assessing but encouraging continuing competence throughout a career" (Participant 8, professional regulatory organization, policy/regulation sector)

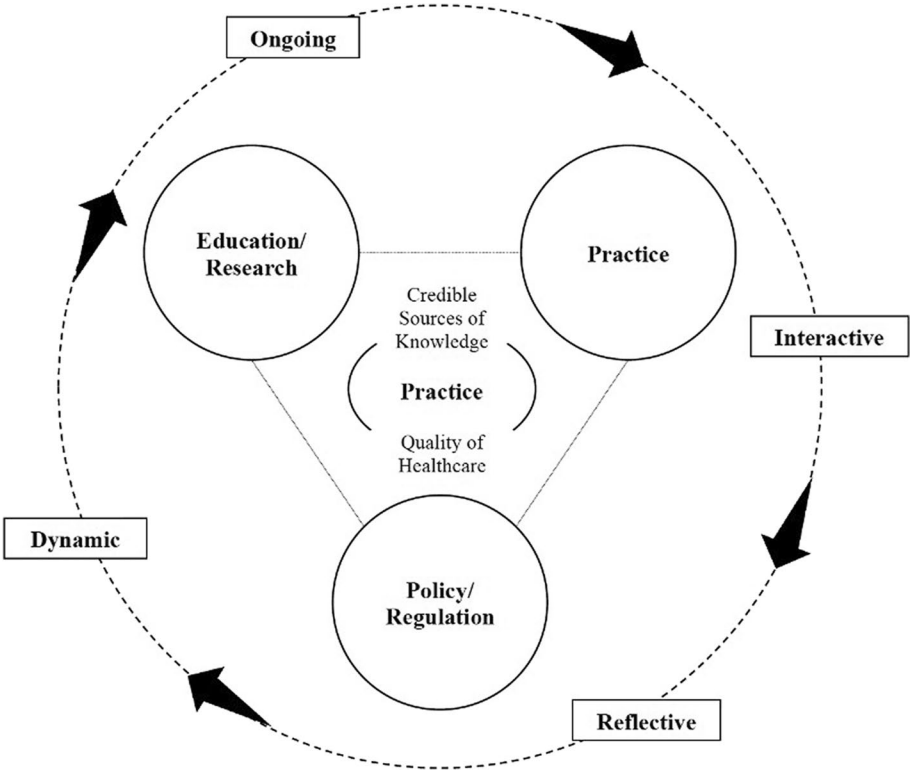

Fig. 2 Shared understanding of scholarly practice among the three sectors

Considering all the feedback and insights provided by participants, we now propose the following refined version of the SP description:

> Scholarly practice is **an ongoing, interactive, reflective, and dynamic** process in which practitioners are enabled to integrate **credible sources of knowledge into practice** to improve the **quality of healthcare services**. Scholarly practice occurs at the intersection of the values and missions of various stakeholders, including **universities and research centres, practice settings, and policy and regulatory organizations**. In optimal circumstances, these stakeholders work together to construct systems and processes that enable scholarly practice within healthcare organizations and empower individual practitioners to engage in scholarly practice.

This new description of SP represents participants' co-construction of what SP is, which involves enabling individuals to optimize their practice such that it is informed by evidence and scholarship; this description highlights the nature of SP, the outcomes of implementing SP for practitioners, and the collective efforts required to support SP (See Fig. 2).

Focus group 2: identification of factors influencing scholarly practice and needs for supporting scholarly practice

Thirty-two participants joined the second focus group (Table 4). We identified five key themes on how to support SP: (a) recognition; (b) appropriate conceptualization; (c) social network; (d) accessibility to resources; and (e) forces outside of practitioners' effort.

Theme 1. Scholarly practice is facilitated by the recognition of its importance

Participants suggested that practitioners might more readily engage in activities associated with SP if all stakeholders (e.g., organizations, professional associations, researchers, and practitioners) valued SP and recognized its importance, as illustrated by this statement: "This [recognition of scholarly practice] would be manifested by the presence of scholarly practitioners, people who have this [scholarly practitioner] role, times, places, means" (Participant 1, social services, policy/regulation sector). Another participant shared an example of what this recognition might look like: "Practitioners who supervised trainees [could be] invited free of charge to an annual professional development event" (Participant 2, PT, practice sector).

However, an identified barrier to SP was a lack of evidence that it impacts important outcomes (e.g., metrics). For example, one member of an academic program in charge of fieldwork placements asked, "But what evidence do we really have that it [SP] translates into a language that the Ministry of Health cares about?" (Participant 3, associate professor, education/research sector). The same participant suggested that the recognition of SP could potentially improve the retention of practitioners.

Theme 2. Appropriate conceptualization of scholarly practice is required to better support scholarly practice

The data revealed a tension between views of SP as traditional research-based activities and a more multidimensional scope. One participant explained, "Practitioners think it [SP] has to be a big research question, and a big research grant, and it has to be attached to an academic institution" (Participant 4, professional regulatory organization, policy/regulation sector). Some participants expanded the scope of SP to include daily activities (e.g., reading articles) that extend beyond research studies or receiving substantial research grants.

Furthermore, some participants valued the distinction between knowledge production and knowledge mobilization, holding that blurring of the boundaries between these two processes may lead to a perception that research is not relevant to practitioners and may dissuade them from engaging in tasks linked with SP:

> I think that the barriers may be a confusion [regarding] knowledge generation, that some people may make 'ah that's research, I'm not interested; it doesn't concern me', and knowledge mobilization. So, I think it's important to distinguish between these two elements [knowledge production and knowledge mobilization] to make sure that future practitioners are mainly users of knowledge and can have opportunities to produce it, but not to mix the two (Participant 5, professional regulatory organization, policy/regulation sector).

The view was held that it may be possible to facilitate and sustain SP if practitioners are aware that they may already be involved in diverse types of SP: "I think normalizing some of the things that you do or trying to show practitioners the amount of breadth that can be seen as SP [is important]" (Participant 6, graduate student, education/research sector). Thus, participants articulated a potentially broader conceptualization of SP.

Theme 3. Professional interactions facilitate scholarly practice

Participants spoke about the various professional interactions they believed influenced SP. For example, interacting with students and interns was discussed as a facilitator of SP with benefits to both practitioners and students: "It's not just me giving the trainee the ideas. It's a double benefit [for practitioners and trainees]" (Participant 7, PT, practice sector). It was noted that preceptorship could offer opportunities for practitioners to remain current and to familiarize themselves with the new knowledge that learners are exposed to at the universities:

> So the fact of receiving trainees, of course, it requires time, but at the same time, it facilitates, it allows us to keep ourselves up to date, to see how they [students] have learned this or that concept, [and to see] where we are at (Participant 2, PT, practice sector).

Some participants discussed that for SP to be enacted successfully, practitioners must network with other healthcare professionals: "It is not the OT and the PT alone in their department who can integrate all the new knowledge that comes along; that person needs help. We need to facilitate this [networking]" (Participant 8, professional regulatory organization, policy/regulation sector). Furthermore, the acknowledgment of the professionals' roles in clinical practice was noted to influence the enactment of SP: "What I have noticed in my practice [is that] the role of physiotherapy and occupational therapy professionals is very little known at present by other professionals... it's automatically more difficult to build [their] credibility [in practice]" (Participant 9, practice manager, practice sector).

Finally, it was expressed that clinical–research partnerships might facilitate SP: "Clinical–research partnership, where the research project is something that is applied to a clinical need, and the research project can be done with users [of] treatment, encourages SP" (Participant 10, OT, practice sector). However, a lack of bridges between research environments, teaching faculties, and clinical environments with a shared goal of improving practice was identified: "That's what's missing: bridges. Bridges between the producers of knowledge, whether it be research environments or [other] environments, like the [policy], teaching faculties, and clinical environments" (Participant 1, social services, policy/regulation sector). Active bridges were discussed as necessary to promote practice supported optimally by scholarship.

Theme 4. Accessibility to different types of resources affects practitioners' ability to enact scholarly practice

Access to various physical (on-site library and access to electronic databases), human (physical proximity to support personnel), and financial resources for research activities, the pursuit of further education, and professional development were discussed as influencing SP. Access to resources was a particular concern for those in remote and rural areas and for those who are self-employed or in private practice: "Isolated practitioners

may not have access to the same infrastructure, such as peer support, mentors, academic programs, libraries, and protected time, as practitioners at large institutions [do]" (Participant 12, professional regulatory organization, policy/regulation sector).

Theme 5. Scholarly practice is not enacted by the effort of the practitioner alone

Many factors outside of practitioners' control were identified as affecting SP: "A top-down approach is a huge barrier... We have to meet departmental accountability" (Participant 9, professional regulatory organization, policy/regulation sector). For example, participants conveyed that performance expectations from clinical organizations may prevent practitioners from prioritizing scholarly activities over other tasks: "The expectation in terms of performance is the institutional level [barrier]" (Participant 13, OT, practice sector). It was suggested that SP should be prioritized at the organizational level:

> So if it's one person, one practitioner alone, who has to defend that such and such [a] training [scholarly activity] is relevant because it will improve quality, accessibility, etc., [then] we won't succeed. So how do we make room for this at the organizational level? (Participant 14, practice director, practice sector).

Finally, the operation of the Ministry of Health was identified as a major barrier in that it requires organizations to report statistics of outcomes, which are used to measure performance, even though there are no indicators related to SP-associated activities: "There are no management indicators related to research activities; there is nothing that goes up to the Ministry [of Health] when we are in a clinical program" (Participant 9, professional regulatory organization, policy/regulation sector). This participant also questioned whether a lack of indicators related to SP could suggest that such higher authorities do not value SP. Specifically, participants discussed the importance of generating ministerial indicators of SP activities. It was suggested that the Ministry hold organizations accountable for demonstrating that they are enacting and supporting SP:

> As long as the Ministries do not make organizations accountable for these [scholarly] activities and demonstrate that they [practitioners] are doing them [scholarly activities], . . . the more it looks like that [is a barrier], that's it. It [encouraging SP] has to come from the top [the Ministries] (Participant 9, professional regulatory organization, policy/regulation sector).

This emphasizes the significance of practitioners' dedication and efforts of, as well as the essential role played by broader systems'-level supports in fostering and sustaining a thriving SP.

Focus group 3: development of goals and strategies

Twenty-four participants from the three sectors participated in the third focus group (Table 4), where they discussed goals and strategies for advancing SP across sectors. Three main goals and strategies were identified: (a) recognizing SP, (b) sustaining competency in SP, and (c) ensuring access to information. The goals and their strategies for supporting SP are described in Table 6.

Table 6 Three Main goals and strategies and supporting quotes

Goals	Strategies	Quotes
Goal 1. recognize, position, and integrate scholarly practice as an answer to healthcare issues	(a) To convince decision makers, such as employers or those retaining occupational therapy and physiotherapy services, to support SP	"What we want is to make [SP] more alive [and] more systematic [so] that [SP] becomes a culture. For that, the decision makers have to be in the loop" (Participant 1, practice director, practice sector)
	(b) To generate evidence that SP can solve a significant problem	"I thought that even if we know and all agree that there are benefits to SP, having evidence could be a strategy for this change in culture" (Participant 2, professional regulatory organization, policy/regulation sector)
	(c) To promote the role of knowledge brokers in practice	"I think [having a knowledge broker] would be a way to put [recognizing SP] forward and to have someone who will facilitate the transfer of knowledge, who will perhaps also make it more accessible for professionals, and who will always be there to remind them to put SP forward" (Participant 2 professional regulatory organization, policy/regulation sector)
Goal 2. sustain scholarly practice competency across the professional life span for practitioners	(a) To enhance collaboration among the three different sectors to work toward a common understanding of and commitment to SP	"I am thinking there needs to be an agreement on process [for SP] and [on] what needs to be put in place across sectors" (Participant 3, associate professor, education/research sector)
	(b) To develop a time-sensitive competency framework with career stage-specific expectations for scholarly practice, which can facilitate continual adaptation and development throughout a practitioner's career	"I think having a framework around CPD [continuing professional development] that includes the expectations [for practitioners] throughout their career and how you measure [those expectations] would be a really positive step forward" (Participant 4, professional regulatory organization, policy/regulation sector)
	(c) To enhance mentorship as a key to sustaining SP and suggest mandating a certain number of hours of mentorship (e.g., participation in 8 h of mentorship per month)	"I really think that the mentoring piece is key... I'm not sure how much this [mentorship] has to be a requirement in terms of hours, but I think that it [mandating mentorship hours] for sure could help" (Participant 5, research institute, education/research sector)

Table 6 (continued)

Goals	Strategies	Quotes
Goal 3. ensure everybody has access to all types of information regardless of the practice contexts	(a) To acknowledge that various forms of knowledge (scientific evidence and experiential knowledge from practitioners and patient input) are valid and valuable	"[My institution] issue[d] recommendations to the government based on evidence but also on context and on people's experience. Most of our projects now include patients' partners or family caregivers, so when we issue recommendations to the Ministry [of Health], all this knowledge has been considered and shared... I think it will also improve our understanding of what can be done or what must be done to improve interventions" (Participant 6, social services, policy/regulation sector) "Patient partners bring a point of view that the professionals can't necessarily have; [practitioners] can't know what it's like to live with this [health condition]" (Participant 7, patient partner practice sector)
	(b) To offer equitable access to information regardless of the environment in which practitioners' work	"A foundational thing would be just access: do you have basic Internet in your community?" (Participant 8, professional regulatory organization, policy/regulation sector)
	(c) To deliver information in an accessible and user-friendly manner that promotes interaction between information recipients and providers, as well as with the content	"[Having an] informational page with some diagrams and a summary and the key messages, for me, [would be] really helpful" (Participant 8, professional regulatory organization policy/regulation sector)

Discussion

In this paper, we described the results of three interactive focus groups using interpretive description methodology and focus group methods with individuals from three sectors—education/research, practice, and policy/regulation—to conceptualize SP, identify the factors that can facilitate or inhibit SP, identify the needs for the support of SP in OT and PT, and co-construct objectives and strategies aimed at best supporting SP for these professions. Our study is novel as we have successfully for the first time, brought together representatives from the three main sectors with the most at stake regarding SP. This collaborative effort allowed us to understand and identify what is involved in SP so as to make it work from different stakeholder positions. The team put forth a new description of SP that reflects the priorities of the three sectors. This study is the first step towards fostering the kinds of synergies that may advance SP, in a society where these sectors tend to operate in silos.

Shared understanding of scholarly practice

With our participants, we chose to build on existing definitions of SP (Association of Canadian Occupational Therapy Regulatory Organizations [ACOTRO] et al., 2021; CAOT, 2012; NPAG 2017) to explore diverse perspectives of this professional competency. Given the recognition that the same term is often used to refer to different concepts or different terms for the same concept (De Vreede et al., 2009), generating a shared meaning and understanding was necessary to build a strong foundation of collaboration (Bittner & Leimeister, 2013; Boaz et al., 2018; Jaatinen & Lavikka, 2008) for moving forward in this research.

Based on this exercise, we agreed to consider SP to be *an ongoing, reflective, interactive, and dynamic process* of ensuring excellence in practice, which is in accordance with the competency requirements of various healthcare professions, including medicine, nursing, OT, and PT (ACOTRO et al., 2021; CAOT, 2012; CCRNR, 2018; NPAG, 2017; Richardson et al., 2015). For example, as stated by the 'excellence in practice' domain in the new competency for OTs (ACOTRO et al., 2021), OTs should engage in ongoing learning, professional development, and self-reflection to improve practice by continuously evaluating their performance and quality of care they provide. Further, both the PT and OT professions emphasize the importance of interacting with others as scholarly practitioners. For example, the competency profile of Canadian PTs (NPAG, 2017) states that, as scholars, PTs should interact with one another, including peers, other health care providers, and students, by teaching and mentoring them. Thus, our participants from the three sectors conceptualized SP in accordance with the current competency documents for OTs and PTs in Canada. In the process of generating a shared understanding of SP, the participants insisted we focus on SP instead of focusing on the individual scholarly practitioners, which avoids placing the onus solely on individuals because the process of enacting SP is highly dependent on practice-and systems-level factors. This claim was consistent with the transdisciplinary model of EBP, which emphasizes the importance of contextual factors in evidence-based decision making (Satterfield et al., 2009). As such, there was a shared view that a single practitioner cannot achieve SP nor is it their sole responsibility. Rather, SP can unfold and manifest optimally through the collective efforts of each sector's mandates and responsibilities.

Collaboration across the three sectors

Our study suggests that the optimal enactment of SP requires significant contributions from each sector within a collaborative model. This finding mirrors the literature addressing the importance of research partnerships in healthcare fields (Beal et al., 2011; Dobbins & Traynor, 2015; Sibbald et al., 2014). In our research, the collaboration involving partners from each sector with vested interest in SP appears to have facilitated the disentanglement of a complex phenomenon, reflected by the necessity of supporting SP at the individual, organizational, and system levels. This has highlighted how each sector needs to understand, value, and integrate the other sectors' perspectives into a new, enriched vision to facilitate authentic collaboration.

We collaborated with different knowledge users in this study, including policymakers, health care professionals, educators, students, and patients. There is extensive literature documenting the benefits of this broad engagement. Indeed, engagement of policymakers, health care professionals and organizations, and patients in research has been associated with a better understanding of contextual considerations for knowledge translation, defining the scope of research, and ensuring the research focus was relevant to real-world practice and policy issues (Atkins et al., 2005; Brett et al., 2014; Buchan et al., 2011; Crawford et al., 2015; McCarron et al., 2021; Mockford et al., 2012; Orem et al., 2012; Skovlund et al., 2020; Wiysonge et al., 2012). Although the benefits were not explicitly mentioned, in a study of developing entry-to-practice competencies in public health nursing, educators and practitioners were involved in this development process so that they could develop the competencies to shape the undergraduate nursing curricula (Schofield et al., 2018). In addition, a master's of science in physiotherapy at a Canadian university has supported projects identified by clinicians and completed in collaboration with researchers and students in the second year of the program (Lacey et al., 2018; McEachern et al., 2020; Salbach et al., 2013). These types of projects might start to form bridges between knowledge users and knowledge producers. As such, the involvement of multisectoral partners in our project allowed for critical insights into why SP is important for OT and PT practice and how SP can be supported to enhance these practices in a synergistic manner across the sectors.

Challenges in partnerships among sectors

Although we emphasize the importance of partnering with different sectors to support optimal SP in OT and PT practice in this study, we see two major challenges with this approach. First, multisectoral research partnerships can be complex. Each sector may have its own priorities, culture, organizational structure, and time frame, which are not necessarily compatible (Aniekwe et al., 2012; Cargo & Mercer, 2008; Georgalakis et al., 2017; Martel et al., 2021). Furthermore, complexity may exist even within each sector because participants can have different roles within one sector. For example, in our study, the education/research sector included educators, program coordinators, students, and researchers. These participants with different roles might have varying understandings and needs in relation to SP. Thus, research partnerships with multiple sectors can be challenging because partnerships are formed at multiple levels.

Second, participants may have competing issues and concerns, which make the pursuit of SP appear unaffordable and luxurious. At a macro level, our society faces urgent and complex societal problems such as racism, inequality, poverty, infectious disease, and war,

which demand immediate attention. Although supporting these issues and supporting SP are not mutually exclusive, each sector must prioritize its urgent focus, considering the lasting impact on learners and future healthcare professionals (Armitage & Williamson, 2022; Majsak et al., 2022). At a micro level, practitioners face the expectation of meeting productivity requirements (Bennett et al., 2019; Cote et al., 2022), leading to a multitude of competing tasks and urgent issues in their daily practice. Thus, direct patient care and other urgent matters may take precedence over SP if practitioners are not supported in addressing SP immediately in day-to-day practice. Furthermore, the ever-changing workplace environment poses challenges in sustaining partnerships (Bowen et al., 2019; Côté et al., 2022). Rapid turnover rates in healthcare (Falatah, 2021) can result in position changes or participants leaving institutions, risking sustainability of partnerships if prompt replacements are not secured.

Strengths and limitations

We conducted this study as a forerunner to the next phase of a larger study aimed at developing specific SP indicators for OT and PT practices. While our research findings may not be generalizable to other health professions, this study makes it possible to understand how SP has been conceptualized and supported in these two professions across three key sectors, guiding us in our efforts to develop profession-specific indicators. Furthermore, it is important to note that this study was conducted specifically in Canada. For feasibility reasons, we focused on three major health care institutions in a large urban area in the Province of Québec, which may have reduced the potential for generalization of the findings to other contexts and/or provinces. Caution should be exercised when applying the findings to other countries, practice areas or professions as they may have different educational, regulatory, and healthcare systems that differentially influence the support for SP in these two professional groups. A future qualitative study on understanding the experiences of practitioners in remote areas or private sectors in enacting SP would be helpful in expanding the understanding of how to support SP regardless of the practice settings or regions.

This study highlights the significance of a partnership approach on a topic that extends beyond the boundaries of the healthcare sector. Through the application of an iKT approach and a robust theoretical framework, the study effectively engaged and provided a space for the voices of all partners involved, including those typically underrepresented (e.g., clinicians and patients). Our commitment to inclusivity ensured that we incorporated diverse perspectives, which enriched the research process and the outcomes. Moreover, this inclusive approach fostered a sense of ownership and shared responsibility among the partners, empowering them to advance SP. We hope that this work can serve as a valuable model for others interested in addressing and promoting intersectoral collaboration.

This study also showcased the challenges and successes encountered throughout the research process; it highlighted that collaborative initiatives in advancing SP are not without difficulties but are certainly attainable. Of note, there was no representation from the Québec (provincial) Ministry of Health and Social Services despite our efforts to establish a connection. Although our initial conversations with ministry representatives revealed their recognition of the importance of SP in the healthcare system, their absence from the subsequent phases of this work may be due to a change in priorities (i.e., SP may not directly align with their current priorities). This challenge notwithstanding, it is imperative to continue our efforts to collaborate with the Ministry by building relationships, demonstrating the relevance of SP in addressing their mission and concerns, and demonstrating

how SP can directly contribute to solving many existing and pressing issues, such as improving patient experience and health outcomes, improving front-line provider experience and dealing with workforce shortages.

In conclusion, although it is apparent that SP is valued as one of the key competencies of OTs and PTs, multiple stakeholders, including ministries, practice organizations, employers, managers, colleagues, supervisors, patients and their families, educators, and students, must further recognize, prioritize, and protect this competency. It is imperative that SP, viewed as a luxury in the face of increasingly competing demands and tasks, becomes an integral part of everyday practice. Further, SP is not enacted by the effort of practitioners alone. It can only be optimally integrated into clinical practice by the collaborative effort of education/research, practice, and policy/regulation sectors.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s10459-023-10298-9.

Acknowledgements This research was supported by a Social Sciences and Humanities Research Council Partnership Development Grant. We wish to thank our partner organizations (please refer to the list below), representative partners from these organizations, and co-investigators who provided insights and expertise that greatly assisted with this partnership development research and all of our participants for sharing their invaluable perspectives on the topic during the course of this research. A special thank you to Rima Wardini, Marie-France Jobin, Louis Rocheleau, Josée Séguin, Cindy Starnino, Margo Paterson, and Annie-Kim Gilbert for their thoughtful advice and contributions during the earlier stage of this work. Thank you to Deborah Docherty whose wisdom and generosity have humbled us as researchers. *List of Partner Organizations*: Centre intégré de santé et de services sociaux de Laval (CISSS Laval), Centre intégré universitaire de santé et de services sociaux du Centre-Sud-de-l'Île-de-Montréal (CCSMTL), Centre intégré universitaire de santé et de services sociaux du Centre-Ouest-de-l'Île-de-Montréal (CCOMTL), Centre de Recherche Interdisciplinaire en Réadaptation du Montréal Métropolitain (CRIR), Canadian Physiotherapy Association (CPA), Canadian Council of Physiotherapy University Programs (CCPUP), Physiotherapy Education Accreditation Canada (PEAC), Canadian Alliance of Physiotherapy Regulators (CAPR), Ordre Professionnel de la Physiothérapie au Québec (OPPQ), Canadian Association of Occupational Therapists (CAOT), Association of Canadian Occupational Therapy University Programs (ACOTUP), Canadian Occupational Therapy Foundation (COTF), Association of Canadian Occupational Therapy Regulatory Organizations (ACOTRO), Ordre des Ergothérapeutes du Québec (OEQ), McGill University, School of Physical and Occupational Therapy, Universté de Montréal (UdM), School of Rehabilitation, Institut National d'Excellence en Santé et en Services Sociaux (INESSS), Québec Ministère de la Santé et des Services sociaux

Author contributions Kim initially wrote the main manuscript text and prepared figures and tables with the significant support of Thomas and Rochette. Thomas and Rochette reviewed the manuscript text, figures, and tables and made changes to improve them. All authors reviewed the manuscript and provided insightful suggestions and comments.

Declarations

Competing interests The authors declare no competing interests.

References

Aniekwe C.C., Hayman, R., Mdee, A., Akuni, J., Lall, P. and Stevens, D. (2012). Academic– NGO collaboration in international development research: A reflection on the issues. International NGO Training and Research Centre. https://www.intrac.org/resources/academic-ngo-collaboration-international-development-research-reflection-issues/

Armitage, R. C., & Williamson, E. (2022). Physical therapist education and war in Ukraine. *Journal of Physical Therapy Education, 36*(4), 275–276. https://doi.org/10.1097/JTE.0000000000000262

Association of Canadian Occupational Therapy Regulatory Organizations, Association of Canadian Occupational Therapy University Programs, & Canadian Association of Occupational Therapists.

(2021). *Competencies for occupational therapists in Canada*. https://acotro-acore.org/wp-content/uploads/2021/11/OT-Competency-Document-EN-HiRes.pdf

Atkins, D., Fink, K., Slutsky, J., Agency for Healthcare Research and Quality, North American Evidence-Based Practice Centers. (2005). Better information for better health care: The Evidence-based Practice Center program and the Agency for Healthcare Research and Quality. *Annals of Internal Medicine, 142*(12 Pt 2), 1035–1041. https://doi.org/10.7326/0003-4819-142-12_part_2-200506211-00002

Bandiera, G., Sherbino, J., & Frank, J. R. (Eds.). (2006). *The CanMEDS assessment tools handbook: An introductory guide to assessment methods for the CanMEDS competencies*. Royal College of Physicians and Surgeons of Canada.

Beal, J. A., Breslin, E., Austin, T., Brower, L., Bullard, K., Light, K., Millican, S., Pelayo, L. W., & Ray, N. (2011). Hallmarks of best practice in academic–service partnerships in nursing: Lessons learned from San Antonio. *Journal of Professional Nursing, 27*(6), e90–e95.

Bennett, L. E., Jewell, V. D., Scheirton, L., McCarthy, M., & Muir, B. C. (2019). Productivity standards and the impact on quality of care: A national survey of inpatient rehabilitation professionals. *The Open Journal of Occupational Therapy, 7*(4), 1–11.

Binnendyk, J., Pack, R., Field, E., & Watling, C. (2021). Not wanted on the voyage: Highlighting intrinsic CanMEDS gaps in competence by design curricula. *Canadian Medical Education Journal/revue Canadienne De L'éducation Médicale, 12*(4), 39–47. https://doi.org/10.36834/cmej.70950

Bittner, E. A. C., & Leimeister, J. M. (2013). Why shared understanding matters—Engineering a collaboration process for shared understanding to improve collaboration effectiveness in heterogeneous teams. In *2013 46th Hawaii International Conference on System Sciences* (pp. 106–114). IEEE. https://doi.org/10.1109/HICSS.2013.608

Boaz, A., Hanney, S., Borst, R., O'Shea, A., & Kok, M. (2018). How to engage stakeholders in research: Design principles to support improvement. *Health Research Policy and Systems, 16*(1), 1–9. https://doi.org/10.1186/s12961-018-0337-6

Bowen, S., Botting, I., Graham, I. D., MacLeod, M., De Moissac, D., Harlos, K., Leduc, B., Ulrich, C., & Knox, J. (2019). Experience of health leadership in partnering with university-based researchers in Canada–a call to "re-imagine" research. *International Journal of Health Policy and Management, 8*(12), 684. https://doi.org/10.15171/ijhpm.2019.66

Bowen, S., & Graham, I. D. (2013). Integrated knowledge translation. In S. E. T. Straus, J. Tetroe, & I. D. Graham (Eds.), *Knowledge translation in health care: Moving from evidence to practice* (pp. 14–23). Wiley Blackwell.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brett, J. O., Staniszewska, S., Mockford, C., Herron-Marx, S., Hughes, J., Tysall, C., & Suleman, R. (2014). Mapping the impact of patient and public involvement on health and social care research: A systematic review. *Health Expectations, 17*(5), 637–650. https://doi.org/10.1111/j.1369-7625.2012.00795.x

Buchan, J., Fronteira, I., & Dussault, G. (2011). Continuity and change in human resources policies for health: Lessons from Brazil. *Human Resources for Health, 9*(1), 1–13. https://doi.org/10.1186/1478-4491-9-17

Canadian Association of Occupational Therapists. (2009). *Joint position statement on evidence-based occupational therapy*. https://caot.ca/document/3697/J%20-%20Joint%20Position%20Statement%20on%20Evidence%20based%20OT.pdf

Canadian Association of Occupational Therapists. (2012). *Profile of practice of occupational therapists in Canada 2012*. https://www.caot.ca/document/3653/2012otprofile.pdf

Canadian Council of Physiotherapy University Programs. (2019). *National physiotherapy entry-to-practice curriculum guidelines*. https://www.physiotherapyeducation.ca/jobs_docs/1620912656CCPUP_guidelines2019_final_0623DIGITAL%20(1).pdf

Canadian Council of Registered Nurse Regulators. (2018). *Entry-level competencies (ELCs) for the practice of registered nurses*. https://www.crnm.mb.ca/uploads/document/document_file_92.pdf

Canadian Institutes of Health Research. (2012). *Guide to knowledge translation planning at CIHR: Integrated and end-of-grant approaches*. https://cihr-irsc.gc.ca/e/documents/kt_lm_ktplan-en.pdf

Cargo, M., & Mercer, S. L. (2008). The value and challenges of participatory research: Strengthening its practice. *Annual Reviews of Public Health, 29*, 325–350. https://doi.org/10.1146/annurev.publhealth.29.091307.083824

Connelly, L. M. (2016). Trustworthiness in qualitative research. *Medsurg Nursing, 25*(6), 435.

Cote, A., Duffy, J., Watson, J. L., & Smith, R. A. (2022). The relationship between OT practitioner productivity requirements and quality care measures in nursing homes. *The American Journal of Occupational Therapy, 76*(Supplement 1), 7610510160p1.

Côté, N., Freeman, A. R., Jauvin, N., & Binette, S. (2022). Des considérations théoriques sur le processus d'engagement en contexte de projet dans les organisations de santé: Comment favoriser une réelle co-construction par une mobilisation active et soutenue des parties prenantes. In S. Boivin, C. Leyrie, & P. Boigey (Eds.), *Pour des parties prenantes engagées dans les projets: Réflexions théoriques et pratiques* (pp. 133–149). Presses de l'Université du Québec.

Crawford, C., Boyd, C., Jain, S., Khorsan, R., & Jonas, W. (2015). Rapid Evidence Assessment of the Literature (REAL©): Streamlining the systematic review process and creating utility for evidence-based health care. *BMC Research Notes, 8*(1), 1–9. https://doi.org/10.1186/s13104-015-1604-z

Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science, 4*(1), 1–15. https://doi.org/10.1186/1748-5908-4-50

Dannapfel, P., Peolsson, A., & Nilsen, P. (2013). What supports physiotherapists' use of research in clinical practice? A qualitative study in Sweden. *Implementation Science, 8*(1), 1–13. https://doi.org/10.1186/1748-5908-8-31

De Vreede, G. J., Briggs, R. O., & Massey, A. P. (2009). Collaboration engineering: Foundations and opportunities: Editorial to the special issue on the *Journal of the Association of Information Systems*. *Journal of the Association for Information Systems, 10*(3), 7. https://doi.org/10.17705/1jais.00191

Dobbins, M., & Traynor, R. (2015). Engaging public health decision makers in partnership research. *Implementation Science, 10*(1), 1. https://doi.org/10.1186/1748-5908-10-S1-A80

Donnelly, C. A., Cramm, H., Mofina, A., Lamontagne, M. E., Lal, S., & Colquhoun, H. (2016). Knowledge translation activities in occupational therapy organizations: The Canadian landscape. *The Open Journal of Occupational Therapy, 4*(2), 10. https://doi.org/10.15453/2168-6408.1189

Douglas, A. (2019). Five ways that accreditation helps you. *Occupational Therapy Now, 21*(2), 6.

Emparanza, J. I., Cabello, J. B., & Burls, A. J. (2015). Does evidence-based practice improve patient outcomes? An analysis of a natural experiment in a Spanish hospital. *Journal of Evaluation in Clinical Practice, 21*(6), 1059–1065. https://doi.org/10.1111/jep.12460

Falatah, R. (2021). The impact of the coronavirus disease (COVID-19) pandemic on nurses' turnover intention: An integrative review. *Nursing Reports, 11*(4), 787–810. https://doi.org/10.3390/nursrep11040075

Fillion, B., Rochette, A., & Girard, A. (2014). Challenges of being a scholarly clinician as perceived by stroke rehabilitation professionals. *Disability and Rehabilitation, 36*(6), 521–528. https://doi.org/10.3109/09638288.2013.797516

Forsetlund, L., O'Brien, M. A., Forsén, L., Mwai, L., Reinar, L. M., Okwen, M. P., Horsley, T., & Rose, C. J. (2021). Continuing education meetings and workshops: Effects on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews*. https://doi.org/10.1002/14651858.CD003030.pub3

Gagliardi, A. R., Berta, W., Kothari, A., Boyko, J., & Urquhart, R. (2015). Integrated knowledge translation (IKT) in health care: A scoping review. *Implementation Science, 11*(1), 1–12. https://doi.org/10.1186/s13012-016-0399-1

Garmel, G. M. (2004). Mentoring medical students in academic emergency medicine. *Academic Emergency Medicine, 11*(12), 1351–1357. https://doi.org/10.1197/j.aem.2004.06.013

Georgalakis, J., Jessani, N., Oronje, R., & Ramalingam, B. (2017). *The social realities of knowledge for development: Sharing lessons of improving development processes with evidence*. Institute of Development Studies and the Impact Initiative.

Girard, A., Rochette, A., & Fillion, B. (2013). Knowledge translation and improving practices in neurological rehabilitation: Managers' viewpoint. *Journal of Evaluation in Clinical Practice, 19*(1), 60–67. https://doi.org/10.1111/j.1365-2753.2011.01769.x

Government of Canada. (2022). *Government of Canada invests in the next generation of scientists and researchers*. Canada.ca. https://www.canada.ca/en/innovation-science-economic-development/news/2022/11/government-of-canada-invests-in-the-next-generation-of-scientists-and-researchers.html

Health Quality Ontario (2015). *Excellence Through Evidence: Roadmap for Evidence-Based Recommendations and Quality Standards.* https://www.hqontario.ca/Portals/0/Documents/evidence/reports/excellence-through-evidence-1511-en.pdf

Hoffmann, T., Bennett, S., & Del Mar, C. (2017). *Evidence-based practice across the health professions* (3rd ed.). Elsevier.

l'Institut National d'Excellence en Santé et en Services Sociaux (2021). *Énoncé de principes et fondements éthiques.* https://www.inesss.qc.ca/fileadmin/doc/INESSS/DocuAdmin/INESSS-Enonce-de-principes-2021_VF.pdf

Jaatinen, M., & Lavikka, R. (2008). Common understanding as a basis for coordination. *Corporate Communications: An International Journal, 13*(2), 147–167. https://doi.org/10.1108/13563280810869587

Jernberg, T., Johanson, P., Held, C., Svennblad, B., Lindbäck, J., & Wallentin, L. (2011). Association between adoption of evidence-based treatment and survival for patients with ST-elevation myocardial infarction. *JAMA: the Journal of the American Medical Association, 305*(16), 1677–1684. https://doi.org/10.1001/jama.2011.522

Kirk, M. A., Kelley, C., Yankey, N., Birken, S. A., Abadie, B., & Damschroder, L. (2015). A systematic review of the use of the consolidated framework for implementation research. *Implementation Science, 11*(1), 1–13. https://doi.org/10.1186/s13012-016-0437-z

Kothari, A., & Wathen, C. N. (2013). A critical second look at integrated knowledge translation. *Health Policy, 109*(2), 187–191. https://doi.org/10.1016/j.healthpol.2012.11.004

Lacey, C., Scodras, S., Ardron, J., Sellan, R., Garbaczewska, M., O'Brien, K. K., & Salbach, N. M. (2018). Retrospective review of student research projects in a Canadian master of science in physical therapy programme and the perceived impact on advisors' research capacity, education, clinical practice, knowledge translation, and health policy. *Physiotherapy Canada, 70*(2), 160–168. https://doi.org/10.3138/ptc.2016-83

Lapaige, V. (2010). "Integrated knowledge translation" for globally oriented public health practitioners and scientists: Framing together a sustainable transfrontier knowledge translation vision. *Journal of Multidisciplinary Healthcare, 3*, 33–47. https://doi.org/10.2147/jmdh.s5338

Laustsen, C. E., Petersson, P., Westergren, A., & Haak, M. (2021). Involvement of professionals in research: Knowledge integration, development of practice, and challenges: A group concept mapping study. *Health Research Policy and Systems, 19*(1), 1–17. https://doi.org/10.1186/s12961-021-00763-5

Law, M. C., & MacDermid, J. (2014). *Evidence-based rehabilitation: A guide to practice*. Slack Incorporated.

Majsak, M. J., Hall, C. A., Kirsch, N. R., Krencicki, D. B., Locke, E., & Hyland, N. (2022). Physical therapy education program faculty challenges, concerns, and priorities during the COVID-19 pandemic: Looking back and moving forward. *Journal of Physical Therapy Education, 36*(2), 97–106. https://doi.org/10.1097/JTE.0000000000000228

Martel, A., Reilly-King, F., & Baruah, B. (2021). Next generation of knowledge partnerships for global development. Introduction/prochaine génération de partenariat de savoir pour le développement global. Introduction. *Canadian Journal of Development Studies / Revue Canadienne D'études Du Développement, 42*(3), 253–273. https://doi.org/10.1080/02255189.2021.1919065

Martin, P., Lizarondo, L., Kumar, S., & Snowdon, D. (2021). Impact of clinical supervision on healthcare organisational outcomes: A mixed methods systematic review. *PLoS ONE, 16*(11), e0260156. https://doi.org/10.1371/journal.pone.0260156

Mathieson, S. (2019). Integrating research, teaching and practice in the context of new institutional policies: A social practice approach. *Higher Education, 78*(5), 799–815. https://doi.org/10.1007/s10734-019-00371-x

McCarron, T. L., Clement, F., Rasiah, J., Moran, C., Moffat, K., Gonzalez, A., Wasylak, T., & MPharm, M. S. (2021). Patients as partners in health research: A scoping review. *Health Expectations, 24*(4), 1378–1390. https://doi.org/10.1111/hex.13272

McEachern, B. M., Winningham, I., Wood, K., Tang, J., VanDerWeide, T., O'Brien, K. K., & Salbach, N. M. (2020). Factors associated with publication of research projects from a Canadian master of science degree programme in physical therapy. *Physiotherapy Canada, 72*(1), 71–80. https://doi.org/10.3138/ptc-2018-0089

Mockford, C., Staniszewska, S., Griffiths, F., & Herron-Marx, S. (2012). The impact of patient and public involvement on UK NHS health care: A systematic review. *International Journal for Quality in Health Care, 24*(1), 28–38. https://doi.org/10.1093/intqhc/mzr066

Nass, S. J., Levit, L. A., & Gostin, L. O. (2009). The value, importance, and oversight of health research. In *Beyond the HIPAA privacy rule: Enhancing privacy, improving health through research*. National Academies Press (US).

National Physiotherapy Advisory Group. (2017). *Competency profile for physiotherapists in Canada*. https://www.peac-aepc.ca/pdfs/Resources/Competency%20Profiles/Competency%20Profile%20for%20PTs%202017%20EN.pdf

Ologunde, R., Di Salvo, I., & Khajuria, A. (2014). The CanMEDS scholar: The neglected competency in tomorrow's doctors. *Advances in Medical Education and Practice, 5*, 383. https://doi.org/10.2147/AMEP.S71763

Orem, J. N., Mafigiri, D. K., Marchal, B., Ssengooba, F., Macq, J., & Criel, B. (2012). Research, evidence and policymaking: The perspectives of policy actors on improving uptake of evidence in

health policy development and implementation in Uganda. *BMC Public Health, 12*(1), 1–16. https://doi.org/10.1186/1471-2458-12-109

Richardson, D., Oswald, A., Chan, M. K., Lang, E. S., & Harvey, B. J. (2015). Scholar. In J. R. Frank, L. S. Snell, & J. Sherbino (Eds.), *CanMEDS 2015 physician competency framework*. pRoyal College of Physicians and Surgeons of Canada.

Robinson, T., Bailey, C., Morris, H., Burns, P., Melder, A., Croft, C., Spyridonidis, D., Bismantara, H., Skouteris, H., & Teede, H. (2020). Bridging the research–practice gap in healthcare: A rapid review of research translation centres in England and Australia. *Health Research Policy and Systems, 18*(1), 1–17. https://doi.org/10.1186/s12961-020-00621-w

Rochette, A., Brousseau, M., Vachon, B., Engels, C., Amari, F., & Thomas, A. (2020). What occupational therapists' say about their competencies' enactment, maintenance and development in practice? A two-phase mixed methods study. *BMC Medical Education, 20*(1), 1–14. https://doi.org/10.1186/s12909-020-02087-4

Salbach, N. M., O'Brien, K., Evans, C., & Yoshida, K. (2013). Dissemination of student research in a Canadian master of science in physical therapy programme. *Physiotherapy Canada, 65*(2), 154–157. https://doi.org/10.3138/ptc.2012-18

Satterfield, J. M., Spring, B., Brownson, R. C., Mullen, E. J., Newhouse, R. P., Walker, B. B., & Whitlock, E. P. (2009). Toward a transdisciplinary model of evidence-based practice. *The Milbank Quarterly, 87*(2), 368–390. https://doi.org/10.1111/j.1468-0009.2009.00561.x

Schofield, R., Chircop, A., Baker, C., Leurer, M. D., Duncan, S., & Wotton, D. (2018). Entry-to-practice public health nursing competencies: A Delphi method and knowledge translation strategy. *Nurse Education Today, 65*, 102–107. https://doi.org/10.1016/j.nedt.2018.03.001

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63–75. https://doi.org/10.3233/EFI-2004-22201

Sibbald, S. L., Tetroe, J., & Graham, I. D. (2014). Research funder required research partnerships: A qualitative inquiry. *Implementation Science, 9*(1), 1–12. https://doi.org/10.1186/s13012-014-0176-y

Skovlund, P. C., Nielsen, B. K., Thaysen, H. V., Schmidt, H., Finset, A., Hansen, K. A., & Lomborg, K. (2020). The impact of patient involvement in research: A case study of the planning, conduct and dissemination of a clinical, controlled trial. *Research Involvement and Engagement, 6*(1), 1–16. https://doi.org/10.1186/s40900-020-00214-5

Solaja, O., Skinner, T. A., McGregor, T. B., & Siemens, D. R. (2018). CanMEDS scholars: A national survey on urology residents' attitudes towards research during training. *Canadian Urological Association Journal, 12*(4), E191. https://doi.org/10.5489/cuaj.4927

Thomas, A., Han, L., Osler, B. P., Turnbull, E. A., & Douglas, E. (2017). Students' attitudes and perceptions of teaching and assessment of evidence-based practice in an occupational therapy professional master's curriculum: A mixed methods study. *BMC Medical Education, 17*(1), 1–11. https://doi.org/10.1186/s12909-017-0895-2

Thorne, S. (2016). *Interpretive description: Qualitative research for applied practice* (2nd ed.). Routledge.

Verma, S., Paterson, M., & Medves, J. M. (2006). Core competencies for health care professionals: What we share in medicine, nursing and rehabilitation therapy. *Journal of Allied Health, 35*(2), 109–115.

Wiysonge, C. S., Ngcobo, N. J., Jeena, P. M., Madhi, S. A., Schoub, B. D., Hawkridge, A., Shey, M. S., & Hussey, G. D. (2012). Advances in childhood immunisation in South Africa: Where to now? Programme managers' views and evidence from systematic reviews. *BMC Public Health, 12*(1), 1–9. https://doi.org/10.1186/1471-2458-12-578

World Health Organization. (2021). *Evidence, policy, impact. WHO guide for evidence-informed decision-making*. World Health Organization. https://apps.who.int/iris/handle/10665/350994

Yoon, L., Campbell, T., Bellemore, W., Ghawi, N., Lai, P., Desveaux, L., Quesnel, M., & Brooks, D. (2017). Exploring mentorship from the perspective of physiotherapy mentors in Canada. *Physiotherapy Canada, 69*(1), 38–46. https://doi.org/10.3138/ptc.2015-52

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