

RESEARCH ARTICLE

Exploring the professionalization of respiratory therapy in Canada

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Introduction: A recurrent challenge facing respiratory therapists (RTs) is their legitimacy as professionals. RTs are often referred to as technologists, vocationalists, or technicians and must often justify their status as full professionals rather than “professional technicians”. There is currently little exploration of what it means to be a profession and the process of professionalization in respiratory therapy.

Approach: Drawing from sociological theory, the purpose of this paper is to discuss the professionalization of respiratory therapy in Canada using Andrew Abbott’s theory, the “system of professions”. We will use this theory as a lens to propose areas of consideration for professional development regarding two pervasive themes in the respiratory therapy community, RTs’ specialized body of knowledge and professional autonomy.

Findings: Abstract knowledge is believed to be essential in the evolution from occupation to profession and is valuable to a profession in three ways: it can influence the profession’s legitimacy, it can be used for conducting research, and it promotes higher education. RTs possess jurisdictional professional autonomy within Canada. The privilege of self-regulation allows RTs to act according to their knowledge and judgement without direct oversight from other professions.

Conclusion: Based on Abbott’s theoretical position, RTs can rightly justify their position as professionals. However, RTs need to acknowledge that professionalization is a dynamic and continuous process that requires creative changes to innovate within the profession and support future efforts to reinforce their position as professionals. Throughout this paper, we offer suggestions for how RTs can contribute to the ongoing professionalization of respiratory therapy.

Key Words: *professional practice; respiratory therapy; allied health personnel; social theory; societies; professionalization*

INTRODUCTION

In Canada, there are over 12,000 practicing respiratory therapists (RTs) who possess clinical expertise, knowledge, and skills in cardiorespiratory health care [1-3]. Despite the involvement of RTs across a broad range of health services, public knowledge of the respiratory therapy profession remains superficial. This is in part perpetuated by variability in the respiratory therapy workforce globally. For instance, outside of North America, only a few countries have the services of RTs incorporated into their health care systems. In countries without RTs, professionals such as physiotherapists, nurses, or physicians who chose to specialize in the respiratory field typically provide respiratory care. Respiratory therapy is in a state of transition worldwide [4, 5]. Only recently, amidst the global changes caused by the coronavirus (COVID-19) pandemic, have RTs been featured as key members of interprofessional teams and critical to the health care system [6-10].

A recurrent challenge facing RTs is the inconsistency regarding their legitimacy as professionals. They are often referred to as technologists, vocationalists, or technicians and must often justify their status as full professionals rather than “professional technicians” [11]. There is currently little exploration of what it means to be a profession and the process of professionalization in the context of respiratory therapy. A deeper and theory-driven inquiry regarding the process of RTs professionalization

journey may provide valuable insights into how it might evolve to meet its societal obligations and continue to develop as a profession.

The purpose of this paper is to discuss the professionalization pathway of respiratory therapy in the Canadian context. We use Andrew Abbott’s [12] “system of professions” theory to propose areas of consideration for the future professionalization of RTs regarding two pervasive themes in the respiratory therapy community, namely RTs’ specialized body of knowledge and professional autonomy.

The emergence of respiratory therapy in Canada

Respiratory therapy is a relatively young area of practice. Respiratory therapy became officially established in 1947 in the United States followed by Canada in 1964. Canadian respiratory therapy was born out of a need during the post-World War II era when the Canadian health care system was undergoing rapid technological, environmental, and societal changes. Spurred by the poliomyelitis (polio) epidemic of 1950-1954, new technology was appearing rapidly. These innovations included developing positive pressure mechanical ventilators as an alternative to negative pressure (“iron lung”) ventilators, new technology to alleviate patient’s hypoxemia, and new pharmacological agents in anesthetics, bronchodilator therapy, and broad-spectrum antibiotics [13]. The emergence of this new

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technology required physicians to seek assistants to help them manage and apply the new technology to patients, thereby creating the “oxygen orderly” occupation. These orderlies were individuals with various backgrounds (e.g., war veterans, engineers, surgeon’s assistants) who held various positions throughout the hospital (e.g., in the engineering departments) and possessed some mechanical knowledge of gas distribution systems [13]. The orderly’s educational emphasis in the respiratory field was on the technical knowledge needed to provide a safe oxygen delivery service rather than acquiring medical literacy skills related to cardiopulmonary diseases and their treatments. The tasks of orderlies included cleaning, managing, storing, and delivering high-pressure oxygen cylinders and related oxygen equipment to the patient’s bedside, ensuring oxygen humidity bottles were filled with water, and servicing anesthesia and mechanical ventilators [13]. As technology continued to expand, so too did the diversity of the tasks performed by the oxygen orderly. This expansion resulted in physicians (notably anesthesiologists and respirologists) relying increasingly on the oxygen orderlies [13].

In June of 1961, the movement to officially define and formalize the inhalation technician (formally known as oxygen orderly) occupation began. The Canadian Anesthesia Society (CAS) and the Canadian Medical Association (CMA) created the pilot committee on inhalation therapy. The mandate of the CAS-CMA was to make recommendations on the minimum educational qualifications required to practice as a technician and to establish standards of care [14]. The CAS-CMA concluded that inhalation technicians require 1 year of technical and academic training within the hospital under direct medical supervision to remain an asset in Canadian hospitals [14, 15]. These physician groups drove the creation of respiratory therapy, contributed to the licensing exam, and supported the development of dedicated inhalation therapy schools across Canada. Simultaneously, the inhalation technicians established the Canadian Association of Inhalation Therapists (CAIT) in 1964 to act as a certification agent in response to medical employers’ demands for educational standardization. The CAIT also created a scientific journal dedicated to empirical research of inhalation technology of Canada: *The Canadian Inhalation Therapy Journal* [16] and officially changed the professional title from inhalation technician to respiratory therapist. The emphasis on “therapist” suggested that RTs were steadily becoming more clinically and patient-oriented rather than being merely technical support.

In Canada, the respiratory therapy curricula evolved to include physiology and pathology, a greater focus on clinical observation and diagnosis, and explicit content on understanding and selecting techniques to fulfill therapeutic objectives [13]. As a result, in 1967, hospital training programs began to integrate with educational institutions. The first Canadian community college-hospital-affiliated training program appeared in Edmonton, Alberta, at the Northern Alberta Institute of Technology. College-based programs at Fanshawe College in London, Ontario, and the Toronto Institute of Medical Technology, Toronto, Ontario, quickly followed [13]. There is no documented information regarding why these programs chose to merge with technical schools. It may have been due to RTs identifying with the school’s technological orientation or simply a matter of availability. The education level for Canadian RTs was deemed appropriate at the college-diploma level [14, 15]. Despite the numerous developments of the respiratory therapy profession over time, it is unclear at which point and how the *occupation* of an inhalation technician became the *profession* of respiratory therapy. Sociologist’s Andrew Abbott’s theory of the “system of professions” [12] may help clarify aspects of professionalization within the respiratory therapy profession.

Process of professionalization

Professionalization is the social process and evolutionary path by which an occupation evolves through an occupational hierarchy [17, 18]. This process is used to garner professional status, expertise, establish a market for specific services, and gain a heightened social positioning [18–23]. Professionalization is a broad and complex area of study often found in sociology (i.e., the study of social life) because work encompasses a large part of what it means to be a social being [24].

A review of the many theories of professionalization is beyond the scope of this article and has been published elsewhere (see Martimianakis et al. [25]). For the purposes of this discussion, we applied Abbott’s [12] theory of professionalization as it is the most recent comprehensive theory of professions. Before Abbott, theories of professionalization mostly focused on how professions were organized, how much power they held, and how they developed unidirectionally. On the other hand, Abbott argued that to understand the progress of a profession, we must consider its social and professional surroundings, and the process in which it interacts with those surrounding [26–28].

The system of professions

Andrew Abbott, in his “System of Professions”, postulated that professions do not develop in isolation from one another and that professionalization is not a unidirectional process but a dynamic process [12]. Specifically, professions constantly fluctuate because they develop and exist within a complex and expansive professional, social, and economic environment. Abbott revolutionized the study of professions by suggesting that they be studied within a broader ecological and evolving system to better understand their status. He suggested that the focus be on four interacting elements that may influence the development, maintenance, and fate of professions: work, jurisdiction, competition, and abstract knowledge [12]. We describe each one next.

Work

Professionals are tasked with addressing complex human problems that require specific domains of expertise. They must demonstrate their work expertise through a logical sequence of tasks and by engaging in activities that comprise the classification of a problem and by reasoning on and then acting on a given problem. This sequence represents the “how” a professional performs their work. It is the “how” professionals work and the cognitive structure (i.e., the sequence of logic and engagement) required to solve a problem that justifies their claims of jurisdiction.

Jurisdiction

Abbott defines jurisdiction as the vital link between a profession and the tasks that compose its work. Jurisdiction (or control over work) is where a profession solicits society’s recognition of its cognitive structure through exclusive rights (e.g., professional autonomy, public payments, rights of self-discipline) [12]. However, claiming jurisdiction is only possible in three areas: the workplace, public opinion, and the legal system (e.g., legislation). Together, these three jurisdictions create temporary stability in the profession because its members convey an image of a well-defined boundary surrounding the profession. However, these jurisdictions are never permanent and are constantly under competitive pressure in a system of professions such as when a task or clinical expertise is shared by two different professions, like complementary and alternative medicine, who may advocate for a jurisdiction to independently treat patients who are traditionally cared for by physicians [29].

Competition

While jurisdiction is the core tenet of a profession, by no means is it permanent. Professions “live” in proximity to one another in an interdependent system, in that each profession competes with others for work (e.g., “fight for turf”) and the right to a jurisdiction. A shift in any profession will likely affect the entire system of professions [12]. One example of this shift appeared in the late 1980s when orthopedic surgeons decided to limit their practice to desirable aspects of their job rather than more routine ones (e.g., performing surgery instead of office counselling), paving the way for other providers (podiatrists) to claim this newly vacant jurisdiction [30, 31].

Competition for jurisdiction begins from external forces (i.e., opening or closing jurisdictions as a response to cultural and technological shifts) or internal forces (i.e., professionals reformulating their knowledge base, developing new knowledge, and (or) developing new skills to expand into other jurisdictions (e.g., nurse practitioners prescribing medication)) [32]. Achieving and maintaining professional jurisdiction requires that a profession controls the abstract knowledge needed to perform the tasks [12].

Abstract knowledge

Abstract knowledge is the key to establishing, expanding, and maintaining jurisdictional boundaries for any given profession. It consists of the formal and necessary information, principles, and concepts that are foundational for professionals to do their work [12, 33–37]. This knowledge is constantly evolving, transforming, and growing in ways that help to affirm its value. Certain members of the profession constantly scrutinize, discuss, document, and test this knowledge to ensure that health care professionals are equipped to fulfill society's ever-changing needs [38]. Abbott suggested that professionals who possess abstract knowledge provide the profession with a degree of power and prestige. Activities and services performed without this foundational abstract knowledge do not convey the same authoritative influence over individuals receiving the services [12]. Abstract knowledge is believed to be essential in the evolution from occupation to profession and is of value to a profession in three ways: (i) it can influence the profession's legitimacy, (ii) it is used to conduct research, and (iii) it promotes higher education, which we discuss next [12].

Abbott's system of profession underscores the notion that professionalization is complex and can be influenced by the economy, the organization, the local and national politics, culture, power differences, and society, often occurring in a non-linear fashion [12, 17, 39, 40]. We applied Abbott's theory as a lens to the respiratory therapy profession in Canada to understand its professionalization and make suggestions about future opportunities related to two major themes: RTs' specialized body of knowledge and professional autonomy.

Professionalization and abstract knowledge in respiratory therapy

Abstract knowledge (i.e., specialized body of knowledge) is the key to maintaining the power and prestige needed to secure and retain jurisdictions. Abbott argued that "any occupation can obtain licensure (e.g., beauticians) or develop an ethics code (e.g., real estate). But only a knowledge system governed by abstraction can redefine its problems and tasks" [12] (p. 9). It is essential to consider all aspects of abstract knowledge (i.e., developing a specialized body of knowledge) to determine its influence on professionalization and how to further develop abstract knowledge to reinforce and evolve the professionalization of respiratory therapy.

The original motivation for training RTs (oxygen orderlies at the time) was to fill vacant technical positions caused by the rapid evolution of technology in hospitals. Many orderlies did not have preparatory education or continuing education and they trained on the job, focusing on the technical aspects of oxygen equipment. The educational emphasis on the technical component of work highlights that their foundational knowledge did not include any degree of abstraction. Knowledge tied to the routine use of a piece of equipment did not suggest any abstract decision-making; as such, the oxygen orderly's work was akin to a craft [11, 12]. Oxygen orderlies were technicians (i.e., craftsmen) whose foundational knowledge and work were defined and confined to the machines and devices they serviced and maintained (i.e., mechanical ventilators). This link proved to be both a blessing and a curse in RTs' route towards professionalization as they used their understanding and use of mechanical ventilators as the springboards for creating their own abstract knowledge.

RTs were fortunate to have robust physician support in their formative years. Arguably, physicians' sponsorship was responsible for creating and elevating RTs' abstract knowledge base. A landmark article from the CMA proposed a training program for technicians, which included a blend of both technical and academic training—specifically including advanced training such as physiology and cardiovascular pathology but within the confines of the mechanical ventilator [14]. During the 1970s, RTs continued to create accredited educational programs, trained a substantial number of RTs, and successfully created hospital positions for individuals with respiratory therapy credentials. As RTs obtained regular positions in the hospital hierarchy, they looked for ways to distinctly evaluate and take care of hospital patients to safeguard their value as professionals and legitimize their role. At the time, other professions (e.g., physiotherapy) chose to cut ties with their routine use of machines (e.g., electrotherapy) and adopted a more patient-focused

approach [41, 42]. It seemed that RTs leveraged their mechanical roots to define their abstract knowledge and claim their expertise.

RTs' mechanical roots proved invaluable when new technological innovations in medicine allowed them to extend their mechanical ventilator knowledge and skills into new categories of respiratory assistance [11, 13]. This assistance included the routine use of positive pressure ventilation and the routine application of positive end-expiratory pressure (PEEP) to treat respiratory failure and oxygenation [43]. These modalities became widespread in Canadian hospitals and required a precise calibration of the pressure level specific to each patient case and required safe and constant monitoring and regulation of the applied positive pressure. These techniques became a curative modality that required expert knowledge that was directly rooted in the daily use of mechanical ventilators [11, 13]. This modality revolutionized the care for patients and revolutionized RTs' tasks. Finally, the mechanical ventilator work of RTs evolved from a technical aspect to a therapeutic, patient-centred modality that succeeded in abstracting some of the RTs' knowledge. This abstract knowledge successfully positioned RTs to fill a vacancy in knowledge and allowed them to achieve a degree of jurisdiction and to move towards professionalization. However, possessing abstract knowledge alone isn't enough; one must apply the abstract knowledge in unique ways to further contribute to the professionalization of respiratory therapy.

Legitimacy

The foundation of abstract knowledge in respiratory therapy is the therapeutic application of mechanical ventilators and other technology-based respiratory care therapeutics. Notably, the constant evolution, refinement, increased sophistication, and expanded clinical application of mechanical ventilation has been a driving force in developing RTs' abstract body of knowledge, which legitimizes the work (and profession) of RTs [44]. Since the innovation of PEEP in the 1970s, RTs have successfully defended and innovated within the domain of their unique abstract knowledge relating to the application and management of mechanical ventilation [45]. RTs have successfully applied such abstract knowledge to other clinical practice areas, whose foundations are linked to mechanical requirements (e.g., anesthesia, sleep lab, home ventilation case management), and have consistently ensured that their approach to mechanical application is always patient-centred, holistic, and therapeutic [46].

Despite RTs' successful application of abstract knowledge to other clinical venues, further developments are necessary if the profession is to continue to innovate. To impact respiratory therapy practice and research, RTs and researchers will need to develop the ability to apply respiratory therapy knowledge from different disciplines (e.g., epidemiology, social science). This can be achieved through deeper considerations of a range of knowledge paradigms (e.g., post-positivism, constructivism), which legitimize sources of knowledge other than those obtained through, for example, quantitative methodologies (i.e., using qualitative and mixed-method methodologies). Doing so will require that they make explicit their views on what *can* be learned (ontology), whether that knowledge is considered to be *valid* or *legitimate* (epistemology), and *how* that knowledge is obtained (methodology) [47]. Currently, this breadth and depth of unique respiratory therapy knowledge is lacking.

Research

Abstract knowledge is also used to conduct research. The primary aim of research is to create new knowledge in a way that shapes and changes the current and future professional knowledge base (e.g., developing new ways that professionals may treat or diagnose the problems of professional work) [12]. Information about RTs whose primary mandate is to conduct research is scarce. Few RTs hold any research-related positions, and no data exist on if and how they receive financial support to conduct research [48, 49].

According to the results of a cross-sectional study by Martins and Kenaszchuk [50], RTs strongly believe that they should be the ones who formulate and test hypotheses on topics likely to advance respiratory therapy practice. Indeed, RTs are the end-users of the technological or

therapeutic modality and are thus well-suited to generate questions and add to RTs' knowledge base [50]. Some suggestions to support RTs' efforts to further professionalize include (i) professional organizations or governing bodies to advocate for academic or clinical positions for RTs that hold protected time for research and (ii) capacity-building activities for RTs interested in research using empirically supported frameworks (see Matus [51] for an overview). Respiratory care research led by RTs can play a significant role in contributing to abstract and evidence-informed knowledge in the profession, further legitimizing the work RTs do.

Instruction (higher education)

Abstract knowledge is particularly useful for developing and promoting higher education for RTs [12]. As mentioned in the historical overview, the original Canadian RTs' education level was deemed appropriate at the college-diploma level. Today, official professional statements have advocated for raising the entry-level diploma training to an undergraduate degree to meet the complex requirements of the health care environment and to remain competitive compared with other allied health professions [52–54]. Additionally, in Canada, there is no graduate education for RTs. Comparatively, in the United States, 13 programs offer graduate degrees in respiratory therapy; however, there are no available doctoral-level programs [55]. The argument for developing higher education needs to be supported by empirical evidence showing the benefits while also acknowledging societal, economic, and socio-political trends requiring higher levels of education in its RTs.

Using Abbott's theory [12], we can begin to see how all levels of higher education function within the complex system of professions. In addition to educating the next generation of health care professionals, higher education contributes to developing abstract knowledge and to the development of a profession. The current curricula for respiratory therapy training are loaded with the foundational knowledge, skills, and attributes required by students to function as a professional in the current health care system. However, core curricula will need to be revised to include training in research methods, scientific writing, and the principles of science, which contributes to developing abstracting knowledge for respiratory therapy [56–59]. In the current North American educational system, the first step is an undergraduate degree in respiratory therapy (i.e., B.RT) [60]. Undergraduate degrees introduce students to a broader range of competencies directly related to the profession and its functioning within the system (e.g., public health, health policy, leadership, etc.) [61]. For example, while undergraduate medicine students learn about anatomy and diagnosis, they integrate principles deemed essential for Canadian physicians (e.g., health policy, research) outlined by the CanMEDS competency framework [62].

Undergraduate programs are designed to include space to integrate topics such as research that may contribute to the growth of a profession, including potentially exploring career directions, building transferable skills, learning how to publicly advocate for and defend the work of RTs, and create knowledge to impact patient care [63–65]. Graduate respiratory therapy degrees (e.g., MSc. RT) promote RTs to develop advanced practice and integrate introductory research skills in their practice, enabling graduates to enter the workforce with advanced competencies [66–68].

Developing advanced professional knowledge that optimizes and bridges the research–practice gap is the main purpose of professional doctorates (e.g., Doctor of Nursing Practice (DNP), Doctor of Occupational Therapy (OTD)) [38, 69, 70]. These programs build upon a foundation of knowledge gained during graduate studies and further focus on the development of scholarly practitioners and their ability to successfully apply and develop theory related to everyday problems of professional practice within the workplace [71]. Although professional doctorates have a strong focus on advanced practice, training in and contribution to research has the potential to increase the use of evidence in practice. Graduates of professional doctorates are in a unique position to apply and extend knowledge in areas such as quality improvement, interprofessional collaboration, patient outcomes, health policy legislation, and advocacy as leaders in evidence-informed respiratory therapy practice [72, 73]. However, as Abbott indicated, professional practice is

not the only source of knowledge [12]. All aspects of knowledge (e.g., practical knowledge, theoretical knowledge) should be developed concurrently to support the abstraction of knowledge. The Doctor of Philosophy degree (Ph.D.) can be used to help professionals contribute to their profession on a theoretical and conceptual level rather than on an immediately practical one. For example, Ph.D. graduates in respiratory therapy may focus on the profession on a philosophical level by considering “why” and “how” types of research questions and by challenging existing knowledge and professional assumptions. Each degree contributes distinct yet complementary knowledge to a profession; this knowledge serves as the foundation of abstract knowledge and, as such, supports the professionalization of the profession [12].

Professionalization, jurisdiction, and professional autonomy in respiratory therapy

Professional autonomy is defined as having control over one's profession, the professional's work, and jurisdiction of a field of expertise [74]. Although professional autonomy is foundational for professional power and professionalization within modern society, it is constantly evolving [12, 75, 76]. Professional autonomy is gained, negotiated, and potentially lost depending on the profession's relationship with society [22, 77]. According to Abbott, possessing a degree of professional autonomy means successfully achieving a jurisdiction [78, 79]. In the subsequent paragraphs, we use the terms jurisdiction and professional autonomy interchangeably to discuss the professional autonomy of RTs with regards to their professionalization.

The first step towards securing a jurisdiction involves finding a vacant area of work to control, which may happen for numerous reasons (e.g., social or technological evolution) [12]. RTs benefited from a new jurisdiction formed by technological advancements (i.e., positive pressure mechanical ventilators) during Canada's polio epidemic's management. Physicians successfully argued that a new profession was needed to manage this new technology; specifically, they recommended that new experienced technicians had to be trained to assist physicians “since, by and large, interns, nurses and other paramedical personnel are not trained to carry out these specialized duties” [14]. We will discuss RTs' jurisdictional claim in the three areas outlined by Abbott [12]: the workplace, the legal system, and public opinion.

Workplace

Spurred by concrete needs, resources, and other workplace contextual circumstances, newly developing jurisdictions begin in the professional world (i.e., the workplace) [12]. During the 1950s, physicians had considerable interest in administering oxygen therapy to patients. However, because of the absence of medical gas pipeline systems, there was a need for the delivery of oxygen cylinders and related oxygen equipment to the patient's bedside [13, 45]. As the physician's demands for oxygen services grew, RTs' jurisdiction also grew. This jurisdictional growth was in large part caused by physicians' actions as the dominating health care professional. Rather than physicians performing the labor-intensive work themselves, they decided to delegate (but remain in control of) the routine application of oxygen work to a separate occupation. The original tasks of RTs (e.g., delivering oxygen tanks) were deemed too simple given the nature and level of physicians' expertise. The RTs' work was labour intensive, using technical skills to provide safe oxygen service; the need for any medical knowledge or expertise was minimal [13].

Delegating jurisdictional control of the routine application of oxygen work was advantageous for physicians as it enabled them to retain a major influence over RTs' growth and independence [12, 77]. This type of jurisdictional control is called subordination [11, 80]. The negative connotation of subordination notwithstanding, physicians' involvement in developing the RTs' workplace jurisdiction was key in the professionalization of respiratory therapy in Canada. Physicians held a vision for cardio-respiratory care that included a new type of personnel, resulting in the creation of trained employees to help them attain this goal [13–15]. Physicians' support helped create an initial foothold in the profession's jurisdiction and constituted the first step towards professionalization. Despite the support that RTs received from their local physicians,

they recognised that to evolve as a profession they need to develop their jurisdiction in other, larger areas such as the legal system and public opinion.

Legal

Without legal protection (i.e., statutory rights, administrative structure), a health care practitioner's right to claim a specific jurisdiction is more vulnerable to challenges from other professions. RTs successfully obtained a jurisdiction in the workplace when they began providing oxygen therapy and managing mechanical ventilators. Despite their success in the workplace, RTs' jurisdiction was at risk when their work became more routine, most notably in the delivery of aerosol medication [11]. Nurses lobbied to gain control of the routine delivery of aerosol medication to strengthen their own position as professionals. They contended to claim the work of determining doses, monitoring patients, and choosing the nebulizers used to deliver the drugs. These developments in the nursing profession resulted in a loss of workplace jurisdiction for RTs [11, 13]. Despite these setbacks, more physicians made requests for the work of RTs in areas such as post-operative and intensive care [11]. It was clear that because of the increased reliance on RTs' skills, RTs had to move beyond the local workplace jurisdiction and legally (and more permanently) secure their jurisdiction.

To claim a legal jurisdiction, a group of health care practitioners needs to organize itself into a single, identifiable association [12]. Two distinctions are made here; the first is "being organized" and the second is "possessing a membership to their association". When a profession is strongly organized, they become better at mobilizing and controlling its members in an effort to assure the public's concerns of trustworthy work, leading to more effective claims of jurisdictions. The second is "the association". Professional associations (formed at the local or national level) advocate for the interest of their members, support capacity building within the profession, and lobby policymakers. In contrast, the regulatory body protects the public's interest [81]. In respiratory therapy, Manitoba became the first province in 1981 to form a provincial organized regulatory body to advocate for obtaining legislative protection, the privilege of self-regulation, the control of work, and jurisdiction. Since then, eight more provincial regulatory bodies followed (Table 1) [82]. Legislation relates to a law or laws that describe the extent of legal authority delegated to the profession; it draws a boundary or border around the profession [83]. It essentially acknowledges the profession, the expertise, and the body of knowledge and gives it the privilege of self-regulation. Across the provinces and territories of Canada, the

respiratory therapy profession is legislated in eight out of 11 provinces (Table 1). The provincial regulatory bodies operate under a model of statutory self-regulation. Self-regulation refers to a professional organization's powers to set a framework of rules that holds its members accountable [84, 85]. Self-regulation is a social contract between the profession and society where legislation allows the profession to set, within broad limits, its own standards. In return, patients receive an augmented level of standardized care [84].

It is important to note that some professions might not yet have achieved legislation in their respective location of practice for reasons such as an insufficient number of members, adequate oversight from employers, and lack of perceived benefit for quality of patient care. Without one or more of these reasons, a profession will not earn the right to self-regulate [86].

As part of the delegated authority, self-regulated professions are (first and foremost) entrusted with ensuring the safety and interest of the public. It is not to support the profession or individual members. Regulatory bodies ensure patient safety by establishing entrance requirements, mandating continuing education and professional development programs, developing a code of ethics, and developing and updating practice standards. Regulatory bodies also implement procedures to address complaints and allegations of professional misconduct. These administrative standards and accountability instituted for the public's interest and safety support the profession's jurisdiction [83].

Regulations play an important role in facilitating—and sometimes limiting—the jurisdiction of a profession. Regulations place boundaries on work that professions can and cannot do, which is more commonly referred to as a scope of practice [87]. According to this, autonomy refers to the ability to act according to one's knowledge and judgement, providing care within the full scope of practice as defined by existing professional, regulatory, and organization rules [88]. Autonomy does not and cannot mean full independence [89]. Autonomy is enacted within the context and boundaries of an interdependent health care team. RTs work in a complex system, with physicians often exerting some degree of dominance in the decision-making in the workplace [87, 89–92]. Essentially, a status of self-regulation removes a profession's constant oversight and direction by a third party (e.g., physicians in the case of RTs) and confers the oversight to members of that profession a degree of autonomy to provide care in a manner that is consistent with the public's best interest.

Self-regulation is a privilege granted by the government based on the public's trust. Trust and jurisdiction are tenuous concepts often influenced by social environments. Some argue that self-regulation is a

TABLE 1
Respiratory therapy legislation

Province or Territory	Regulatory body	Governing legislation
Ontario	College of Respiratory Therapy of Ontario (CRTO)	<i>Regulated Health Professions Act; Respiratory Therapy Act, 1991</i> and regulations under the Act
Alberta	College and Association of Respiratory Therapists of Alberta (CARTA)	<i>Health Professions Act</i> , Revised Statutes of Alberta (R.S.A) 2000 serves as umbrella legislation for multiple health professions.
Manitoba	Manitoba Association of Registered Respiratory Therapists (MARRT)	<i>Registered Respiratory Therapists Act</i> C.C.S.M. c. R115
Québec	Ordre professionnel des Inhalothérapeutes du Québec (OPIQ)	Respiratory therapy is one of the professions regulated under the Professional Code, R.S.Q., chapter C-26.
Nova Scotia	Nova Scotia College of Respiratory Therapists (NSCRT)	<i>Respiratory Therapists Act</i> , S.N.S. 2007, c. 13
New Brunswick	New Brunswick Association of Respiratory Therapists (NBART)	<i>Respiratory Therapists' Regulations</i>
Saskatchewan	Saskatchewan College of Respiratory Therapists (SCRT)	<i>An Act Respecting Respiratory Therapists</i> 2009
Newfoundland and Labrador	The Newfoundland and Labrador College of Respiratory Therapists (NLCRT)	The Statutes of Saskatchewan, (2006)
Prince Edward Island	None	<i>The Respiratory Therapists Act</i>
British Columbia	None	<i>Health Professions Act</i>
Prince Edward Island	None	Respiratory Therapists Regulations
Yukon	None	Professional credential overseen by the Canadian Society of Respiratory Therapists (CSRT)
Nunavut	None	Professional credential overseen by CSRT
Northwest Territories	None	Professional credential overseen by CSRT

monopolistic endeavour by professions; they do not serve the public's best interest and that the focus should be on a new model of care (e.g., a model that includes lay people in leadership positions) [93, 94]. The removal or significant modification of a self-regulation model and subsequent regulation redesign may cause a significant paradigm shift across the health professions, potentially impacting the limits of jurisdiction and, therefore, the professionalization of those professions. However, it is unknown whether this paradigm shift would be a positive or negative change.

Public

The public's opinion about the profession is the third element in professionalization. Professionals aim to build their image in the public's eye by attracting the public's sympathy and support for the work that they do and their approach to problem solving [12]. The more public support a profession possesses, the stronger jurisdiction it will hold. No documented literature exists regarding the public's perception and knowledge of RT compared with, for example, the nursing literature, which contains numerous empirical reports of patient satisfaction, patient perception, and self-concept, which contribute to enhancing the public's opinion of the nursing profession and reinforcing their jurisdictional claims [95-97].

Due to the critical nature of the RTs' role, they are often at the forefront of public health emergencies, notably the severe acute respiratory syndrome (SARS) outbreak in 2003, the H1N1 influenza pandemic of 2009, and now the COVID-19 global pandemic in 2020. In all of these scenarios, RTs deliver acute and critical care services such as diagnostic testing, respiratory therapeutics, and emergency airway management and mechanical ventilatory support [98]. The recent COVID-19 pandemic has bolstered the respiratory therapy profession's public perception and placed a critical eye on the profession, the work they perform, and their contribution to worldwide health. Media reports and marketing campaigns are emphasizing the importance of RTs' work, methods of problem-solving, and jurisdiction [6-10]. Although currently uncertain, the enhanced focus on RTs might potentially translate into new areas of jurisdiction. As the respiratory therapy profession emerges from the COVID-19 pandemic with a heightened level of recognition and a clear demonstration that its work has greatly benefitted the public's interest, RTs may be well-positioned to advocate for a greater jurisdiction. Already, conversations are beginning regarding how RTs may contribute more efficient care with additional expertise in future jurisdictions. Some examples might include advanced practice roles (e.g., cardiovascular specialists, case management), primary care, health systems leadership, and practice in new settings (e.g., public health) [99-101]. These new jurisdictional areas of practice might represent the continuation of professionalization of respiratory therapy.

Moving forward

Based on Abbott's theoretical perspective [12], RTs can rightly justify their position as members of a profession. However, as we explored in this paper, professionalization is an ongoing negotiative process and is worthy of ongoing attention and nurturing. Many key events in the professionalization of RTs in Canada, including the advent of new technology, consistent medical support, and the organization of the profession, highlight how oxygen orderlies became the profession of respiratory therapy. Notwithstanding the foundational events, RTs need to acknowledge that professionalization is a dynamic and continuous process that requires creative changes to innovate within the profession and to support future efforts to reinforce their position as members of a profession. Throughout this paper, we offer suggestions for how RTs can contribute to respiratory therapy professionalization.

There is a need to increase and strengthen the abstract knowledge of the respiratory therapy profession. Abstract knowledge is of value to a profession and can be strengthened in three ways: promoting higher education, conducting research, and increasing the professions' legitimacy. We contend that the respiratory therapy profession would

benefit from raising the current entry-level diploma degree to an undergraduate degree. Existing respiratory therapy educational curricula generally focus on the minimum competencies required to function as professionals. The aim of an undergraduate degree is to introduce learners to a broader range of competencies directly related to the profession and its functioning within the health care system (e.g., public health, health policy, leadership, research skills, etc.) to expand the clinical reasoning and broaden the impact and influence of RTs. By virtue of the competencies and corresponding content included in many existing RT educational programs, RTs may be far from maximizing their possible contributions to advancing respiratory therapy knowledge, and as such, may be limited in their potential to optimize patient care and meet the needs of a highly complex health care environment [56]. Enhancing the entry-level educational standards of respiratory therapy training may enable certain RTs to dedicate their careers to building abstract knowledge in the profession through conducting research for example.

There is a related need to create research-related positions (whether in clinical practice settings or in educational institutions) specific for RTs whose primary mandate is respiratory care research. Respiratory care research led by RTs can play a significant role in contributing to abstract knowledge in the profession. Finally, RTs who do (or will eventually) conduct respiratory care research need to widely explore respiratory therapy knowledge in many distinct ways to enhance the legitimacy of the knowledge. Examples of this distinction include applying and exploring respiratory therapy knowledge through the lens of a range of knowledge paradigms (e.g., post-positivism, constructivism), using different methodologies (qualitative, quantitative, and mixed method) and drawing from different academic disciplines (e.g., epidemiology and social sciences).

In Canada, for the most part, RTs possess jurisdictional professional autonomy evidenced by strong provincial administrative structures and the statutory right to self-regulate; however, the permanence of a strong administrative structure and self-regulation cannot be [93]. The calls for an overhaul of the professional self-regulation system are in response to perceptions that regulatory bodies may not be optimally protecting the public [93, 94]. The ongoing need for abstract knowledge will be required to safeguard and advance the legal aspect of jurisdiction by linking evidence and concepts about care and expectations with frontline practice. The role of regulatory bodies could be expanded to support research, activities, innovations, and quality improvement initiatives that build an understanding of the safe and competent care RTs are equipped to provide.

Finally, we contend that the weakest aspect of jurisdiction in the respiratory therapy profession derives from the public's opinion. Before the COVID-19 pandemic, personal exchanges with laypeople often began with, "A respiratory therapist? I've never heard of that; so, you're like a nurse?" A major unintended consequence of the pandemic was the immediate propulsion of the respiratory therapy profession into the limelight. Media reports, medical reports, and marketing campaigns began emphasizing the importance of RTs' work, their method of problem-solving, and jurisdiction. This renewed emphasis on the respiratory therapy profession and the focus on the work they do and how that may contribute to more efficient care might translate into further professionalization opportunities. RTs need to begin producing evidence that demonstrates improved health outcomes when RTs are involved, further informing and convincing the public and policymakers of the importance of this profession [102-104].

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Contributors

MZ conceptualized the idea, drafted the manuscript, provided feedback on manuscript drafts, and read and approved the final manuscript. AB, PN, AW, and AT provided content expertise, provided feedback on manuscript drafts, and read and approved the final manuscript.

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Ethical approval

Ethical approval was deemed not to be necessary as the data is publicly available literature.

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