

# Simulation Specialists: setting the stage for a new role for Respiratory Therapists in education?

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Simulation education utilizes simulated patients and environments to enhance learning, confidence, critical thinking, and communication skills, preparing learners for clinical practice [1, 2]. Immersive simulation requires learners to engage in scenarios as if they were occurring in the real world; thus, it is important that environments, procedures, and patient simulators are as realistic and comprehensive as possible [3].

Over the course of my time at a multidisciplinary postsecondary institution, I have recognized that simulation education roles in Canada are often occupied by nursing professionals. Despite this trend, it is my belief that the proficiencies that respiratory therapists possess translate well into simulation education, specifically into the role of “Simulation Specialist.” Simulation education provides a stage on which we can demonstrate our extensive scope of practice and promote respiratory therapy as a profession. A consistent respiratory therapy presence on the simulation team has the ability to increase team interprofessionalism, enhance team effectiveness, and support learner outcomes. I believe that respiratory therapists’ clinical knowledge, interprofessional skills, innovation, technological savviness, and responsiveness in dynamic situations are attributes that when combined create exceptional simulation specialists.

This commentary is drawn from my experiences. Recognizing that the simulation specialist role may differ greatly across postsecondary institutions and hospitals, it is important to define my current position. As a respiratory therapist, I have become accustomed to explaining my role to colleagues and friends and I now find myself explaining not one, but two career paths. I jokingly, but not inaccurately, describe the simulation specialist role as working in educational theatre. Part screenwriter, director, technical advisor, camera operator, casting director, special effects creator, and actor, a simulation specialist is involved in all steps of immersive simulation from scenario development to delivery.

Simulation environments and equipment vary among institutions but even those with the most ideal facilities and latest technology may not be optimizing the potential of these resources. Simulation specialists need to possess a specific body of knowledge pertaining to the functionality of simulators and audio-visual equipment, which helps to maximize resource performance and aids in the creation of realistic environments. Instructor readiness to facilitate simulation-based learning (e.g., their training and skill level) is well established in the literature as a prominent feature of achieving successful simulations [4]. Since simulation specialists work collaboratively with instructors to deliver simulation-based learning, it is important they possess this same readiness.

As part of their role, simulation specialists often incorporate the application of mock injuries (moulage), simulated bodily fluids, and even scents into scenarios in preparation for case delivery. During delivery, the operational components of the role include driving audio-visual

and simulator software, manipulating vital signs, providing verbal responses in accordance with learner intervention, and even acting as a confederate within the simulation environment. A simulation specialist’s skill set, coupled with clinical knowledge, allows for informative contribution to the construction and revision of scenarios, while optimizing the immersive learning environment. Singh et al. [5] demonstrated that immersive simulated learning environments increase clinical and technical skills as well as instill confidence in learners. Having an understanding of the simulation specialist role and its importance to the simulation education team, I will now explore the proficiencies respiratory therapists bring to it.

As respiratory therapists, we work in a variety of settings with diverse patient populations giving us an understanding of patient presentation and pathological evolution [6, 7]. Although specialized in the respiratory and cardiopulmonary systems, our in-depth curriculum and propensity for peer learning instill an enhanced knowledge base in all physiological systems. Furthermore, out of necessity for our various patient populations, we often maintain additional certifications such as Neonatal Resuscitation Program and Advanced Cardiac Life Support. As a simulation specialist, this clinical knowledge supports development, preparation, and delivery of scenarios—supporting efforts to maintain accuracy and realism during simulations. For example, from an acting perspective, knowing how a pediatric patient presents in respiratory distress helps guide our performance when voicing the patient. From a special effects vantage, understanding the physical ramifications of a motor vehicle accident supports the recreation of injuries using moulage. Moreover, during case delivery an understanding of clinical practice allows simulation specialists to identify areas of excellence and improvement in learner performance. These observations of learner performance supplement those recognized by faculty, helping add depth and focus to post-simulation debriefs.

Respiratory therapists work as part of a diverse, interprofessional team. We are expert providers of care in the areas of oxygenation, ventilation, and resuscitation and are often called upon to mentor multidisciplinary staff and students [6]. Similarly, simulation specialists work alongside a diverse team of simulation professionals, faculty, and learners. In my experience, simulation specialists as a consistent presence in simulation are looked upon to educate peers and learners in simulation education pedagogy as well as clinical practices. Opportunities to review skills with peers and learners prior to scenario delivery gives way to interprofessional teaching and learning. Simin et al. [8] demonstrated that interprofessional learning improves collaboration, teamwork, and competency in skills, creating clinically prepared learners. Respiratory therapists bring their interprofessional experiences to the role of simulation specialist as well as diversify the simulation team simply by being a part of it.

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Equipped with the ability to improvise with supplies at hand, respiratory therapists are often viewed as the “MacGyvers” of the medical world. From repairing torn pilot lines to discovering yet another use for pink (waterproof) tape, we are resourceful and innovative with the materials available to us. Although simulation technology has come a long way, technological barriers remain and difficulty replicating certain aspects of healthcare persist. For instance, without circulating blood volume, how can we communicate a dynamic oxygen saturation for a simulated patient in a prehospital environment? Or, how can we simulate partial closure of a tracheostomy stoma during a tracheostomy change on a simulator with a static stoma size? When faced with these situations simulation specialists, like respiratory therapists, are forced to be innovative and creative, utilizing equipment already on hand in unique ways or trialing new solutions. As more academic programs adopt simulation education as a learning tool, more questions regarding simulation delivery will arise. Respiratory therapists have the opportunity to be pioneers in simulation, using innovation and resourcefulness to drive simulation education in new and exciting directions.

The propulsion of simulation education is dependent on the relationship between innovation and technology. Respiratory therapists have a long history of inventively implementing technology into our practices [9]. Generally, we are routinely operating and troubleshooting technological devices, as well as integrating them into our patient care. Our technological savviness allows us to switch between interfaces with relative ease and operate several pieces of technology simultaneously. Familiarity and comfortability with technology is advantageous in the simulation specialist role. Equipped with knowledge surrounding the capabilities and limitations of technological resources, simulation specialists are liberated in the exploration of what the future of simulation offers. Recently, by maximizing our technological solutions, my simulation team has trialed mobile simulations that occur outside the simulation laboratory. Within the confines of our institution, we have created a travelling educational theatre group, allowing us to deliver scenarios in homecare settings, outdoors, and even in the back of an ambulance. As a result, situations such as patient transports that were previously difficult to emulate are not only possible, but more immersive than ever. The technical savviness displayed by simulation specialists ensures that scenarios occur with minimal interruption and that simulation education evolves alongside technology.

As respiratory therapists, we work in fast-paced, dynamic environments. One scenario you may relate to is when a trauma patient arrives, one of the three pagers on your hip goes off, and there is a code blue called overhead. At times like this, it is imperative that respiratory therapists use critical thinking and situational awareness to evaluate, prioritize, and react appropriately [6]. In simulation, the decisions we make do not affect patient outcomes, but learner outcomes instead. During case delivery, simulation specialists must simultaneously operate camera angles and system software while collaborating with faculty to manipulate the simulator’s physiological and verbal response in accordance with learner intervention. If you have worked in simulation, you know that things rarely go as planned. From learners asking unanticipated questions to simulators losing power during a scenario, simulation specialists are forced to react, troubleshoot, and improvise quickly to ensure learning outcomes are met. During a simulation my team was forced to hit the ground running with this concept, quite literally. In an attempt to maintain the radio frequency connection between a simulator and

its controlling tablet, we were forced to chase an ambulance through a parking lot. Pursuing emergency vehicles is not necessarily part of the job description, but as they say, the show must go on.

It has been my experience that simulation specialists add value to the simulation education team. Armed with a unique skill set, respiratory therapists make exceptional simulation specialists in postsecondary institutions that provide simulation for a variety of programs. Respiratory therapists bring strength and diversity to the simulation team with their clinical knowledge, interprofessionalism, innovation, technological savviness, and responsiveness in dynamic situations. By pushing the boundaries of simulation, respiratory therapists play an imperative role in creating immersive learning environments. These environments allow learners to focus on the educational objectives set out for them and gain competence and confidence before entering clinical practice. In the future, it would be valuable to evaluate the characteristics desired for simulation specialist positions across institutions. This would provide additional perspective on the desirability of respiratory therapists in this role.

The diversification of the simulation team to include simulation specialists provides an opportunity to expand respiratory therapists’ presence in interprofessional education. In doing so, respiratory therapists have the ability to help forge the future of simulation as well as the simulation specialist role itself. As Shakespeare once wrote “all the world’s a stage,” and although it is not currently the case for simulation education, with respiratory therapists at the helm of the simulation specialist role, this may not be as impossible as it seems.

#### DECLARATION OF INTEREST

The author reports no conflicts of interest.

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