The Case for Interprofessional Teaching in Graduate Medical Education

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ABSTRACT

Interprofessional education has been promoted as a strategy to dismantle professional silos and promote collaborative patient care. Citing this, medical educators have emphasized the widespread integration of interprofessional education into undergraduate medical education curricula. However, in the current residency training environment, little reinforcement exists for principles gleaned from interprofessional education, and little is known about the role that interprofessional providers have in resident education. In this perspective, we offer the concept and practice of interprofessional teaching to bolster the benefits of interprofessional education during residency training. Interprofessional teaching, relatively unexplored and potentially underutilized, may offer many of the same benefits of interprofessional education but is more readily adapted for the graduate medical education setting. The intensive care unit, characterized by a culture of multidisciplinary teamwork and complex patient care, is an ideal setting in which to use interprofessional teaching. Prior to enthusiastically implementing interprofessional teaching interventions, careful consideration should be paid to the setting, strategies, and impact on all key stakeholders.

Keywords:
interprofessional education; medical education; interprofessional teaching; graduate medical education; intensive care unit

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The groundbreaking report, *To Err is Human*, published by the Institute of Medicine in 2000, identified the siloed nature of healthcare professions as a root cause of medical error (1). Since that time, much has been published about the value of collaborative interprofessional practice in various healthcare settings, and integration across health professions education and interdisciplinary teams has been widely promoted (2–7). Exposing trainees to interprofessional education (IPE) experiences at all levels has accordingly become a priority across professions. Medical educators have predominantly implemented IPE initiatives for undergraduate medical education (UME) learners (6, 8), but little has been published about IPE during graduate medical education (GME), the period of training likely to have greater impact on long-term practice patterns (9). In this perspective, we argue it is imperative for GME educators to find ways to incorporate interprofessional teaching (IPT) and learning into postgraduate training. Taking advantage of the multidisciplinary environment of most teaching hospitals, this will require moving beyond the strict definition of IPE, in which students from different professions learn together, to embracing the idea of IPT, in which diverse healthcare professionals are enlisted as teachers for medical learners (10). We identify the intensive care unit (ICU) as a model for interprofessional interactions and highlight this as an ideal patient care setting to study, pilot, and assess IPT strategies.

IPE is defined by when "two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes" (11). This is traditionally accomplished by bringing together groups of students from various professions and facilitating an educational experience. IPE has been proposed as a way to improve collaboration, enable communication, dismantle training silos, and counteract stereotypes (3, 12). Major groups, such as the World Health Organization, Agency of Healthcare Quality and Research, and Institute for Healthcare Improvement, have endorsed this approach, spurring the creation of the Interprofessional Education Collaborative, a consortium of educational leaders across multiple healthcare professions convened for the purpose of promoting IPE (11, 13, 14).

For medical trainees, IPE has been widely implemented in the UME setting over the past decade, particularly after the Liaison Committee on Medical Education introduced a new standard requiring medical schools to "… prepare medical students to function collaboratively on healthcare teams that include health professionals from other disciplines as they provide coordinated services to patients" in 2014 (15). Despite the emphasis on IPE in the UME setting, there has been little focus on maintaining interprofessional learning in the GME setting. As such, comparatively little is known about IPE for GME learners. A single survey of residency program directors, indicating that IPE was present in the majority of programs but with widely variable amounts of time, was limited by an extremely low response rate (16). Available literature suggests that enthusiasm for IPE wanes as students transition into GME (17), and GME learners report that IPE is advocated for and acknowledged but not witnessed in clinical practice (18, 19). Stemming from this, despite the emphasis on IPE in UME, interprofessional collaboration and teamwork remains suboptimal in GME settings (20–23).

Although the reasons behind the attrition of IPE experiences have not been fully explored, the clinical GME setting is not conducive to conventional IPE for a variety of reasons, including few peer learners available from other health professions and limited time, space, expertise, and buy-in. Some have tried to overcome these barriers using simulation learning opportunities for interprofessional teams (24, 25), but the need for facilities, protected time, and expertise limit the potential impact of this approach. In short, we have not adapted the concept of IPE to fit GME learners and educators. Without structures in place to bolster interprofessional interactions, our trainees are missing out on potentially influential learning experiences that could shape interprofessional collaboration throughout their careers, and our medical teams may not be meeting their full collaborative potential.

To address this deficiency, we believe that IPT should be embraced as an acceptable alternative to IPE, serving the purpose of improved education and ultimately enhanced teamwork. IPT is defined as "when professionals act as teachers for learners from a different discipline to improve collaboration and the quality of care" (10). Both IPT and IPE emphasize teamwork and development of mutual respect, but IPT differs in that learners are taught by fully trained nonphysician medical professionals (e.g., nurses, pharmacists, nutritionists, etc.) and are not learning with students from other professions (10). IPT is distinguished from the interprofessional interactions that inherently occur within many teaching hospitals; the emphasis is nonphysician professionals teaching medical trainees.

This type of teaching is much more feasible within the current structure of GME, in which multidisciplinary rounds have become increasingly common, and integrated patient care highlights the complementary expertise of all team members. Indeed, multiprofessional work, patient acuity, immersion in collaboration, and availability of interprofessional providers are key facilitators of IPE (26). Many of these characteristics are exemplified by and inherent to the ICU setting, where nurses, pharmacists, and respiratory therapists participate in daily rounds alongside medical trainees, and evidence supports the provision of interprofessional care to these complex patients (27–30). The physical proximity of interprofessional clinicians in the ICU setting, both on rounds and at the bedside, provides opportunities for both informal and formal interactions with medical trainees, and a sense of urgency is engendered by critical illness and patient deterioration necessitating teamwork. Harnessing these interactions into true IPT by creating a structure, and ultimately a culture, that promotes teaching encounters represents a powerful way to bring IPE into the clinical sphere. Examples of potential IPT topics in the ICU are listed in Table 1.

IPT, similar to IPE, promotes interprofessional collaboration and is thereby theoretically likely to produce similar benefits. Furthermore, these benefits may be more impactful and durable in the clinical setting, where there is more gravity and consequence. For medical trainees, capitalizing on the expertise of interprofessional colleagues enriches education and demonstrates in real time how the skills of interprofessional team members contribute to optimal patient care. Conversely, teaching trainees, and the associated acknowledgment of their professional expertise, may improve job satisfaction for interprofessional providers. Effective IPT

Table 1. Examples of potential interprofessional teaching topics and approaches in the ICU setting

Topic	Interprofessional Teacher	Teaching Approach
Sedation and analgesia	ICU pharmacist	Small-group didactic teaching
Operation of the AED for CPR	Senior ICU nurse educator	Hands-on session with case-based learning
Demonstration of different modes of mechanical ventilation	Respiratory therapist	Bedside teaching with demonstration
Mobilization of ICU patients	Physical therapist	Bedside teaching with demonstration
Considerations for nutrition in the critically ill patient	Nutritionist	Small group didactic teaching

Definition of abbreviations: AED = automated external defibrillator; CPR = cardiopulmonary resuscitation; ICU = intensive care unit.

also has the potential to enhance psychological safety across teams and professions, lowering barriers to speaking up. It follows that cultivating these interprofessional relationships has the potential to reduce errors, promote collaboration, and ultimately improve patient care (31–33).

We acknowledge that implementation of IPT may be challenging, even in the multidisciplinary environment of the ICU. Currently, rigid structures of teams, rounds, and workflow may limit opportunities for teaching. Tradition, hierarchy, and institutional cultures may dampen enthusiasm or passively discourage teaching from interprofessional providers. Furthermore, lack of awareness of specific professional expertise may hinder the inclusion of interprofessional providers in teaching. There may be challenges identifying teaching topics or lack of insight into whether interprofessional colleagues are interested in teaching. Finally, interprofessional providers may have competing demands, such as patient care responsibilities, administrative roles, or mentoring trainees in their specific professions. The extent to which these potential benefits or barriers truly impact the feasibility or execution of IPT has yet to be explored.

As IPT represents a new educational approach, we advocate for the rigorous study of its use and outcomes. Previously, much of the data regarding the effectiveness of IPE has focused on learner satisfaction and/or learner self-report of knowledge or skill (3). Although similar outcomes can also be assessed for IPT, it is also feasible to perform observational studies in the clinical environment to assess for objective changes in collaborative behaviors, such as interprofessional contributions on ICU rounds. In doing so, we can better characterize both the nature and variability of current IPT practices as well as the impact of potential interventions to promote IPT.

Furthermore, for any endeavor to be successful, buy-in from key stakeholders is essential. Even though IPE and IPT rely on a commitment from interprofessional colleagues, the medical education community has yet to explore with any rigor

the experience of our interprofessional colleagues acting as teachers for residents. In particular, few studies have investigated the impact that interprofessional providers have on resident education (34–37). Beforeadvocating for the widespread implementation of IPT initiatives, we believe it is crucial to better understand the attitudes and perceptions of IPT held by our interprofessional colleagues, with the goal of finding ways to facilitate IPT that will be embraced by all parties. By understanding their perspective and experience, we can truly collaborate with our interprofessional colleagues in both education and patient care.

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