

Beyond the ICU Rotation

The Importance of Trainee Involvement in Post-Intensive Care Unit Clinics

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ABSTRACT

Medical learners are vital to the care of critically ill patients in the intensive care unit (ICU). Although these learners are exposed to the challenges and stresses of acute ICU management, they do not typically experience the benefits of following ICU patients and families longitudinally after their ICU rotation. Post-ICU clinics and recovery programs may fill this crucial gap in trainee education. These clinics have emerged as an appealing approach to potentially support patient recovery, enhance provider satisfaction, and provide feedback on vital lessons learned in long-term follow-up to improve the quality of ICU care. Notably, the effect of such a program on trainee education has not been explored. In this article, we propose a framework for medical learner participation in post-ICU follow-up based on the Accreditation Council for Graduate Medical Education milestones and discuss the potential benefits, including: education about post-ICU recovery, including post-intensive care syndrome and post-intensive care syndrome-family; experience in quality improvement to enhance ICU care by understanding long-term outcomes; engagement in reflection; and mitigation of compassion fatigue and burnout.

Keywords:

graduate medical education; critical illness; quality improvement; feedback; compassion fatigue; psychological burnout

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Medical learners, such as students, interns, residents, and fellows, play a vital role in caring for critically ill patients in the acute phase of their illness. They are on the front lines of many intensive care units (ICUs), tackling diagnostic challenges, leading difficult family conversations, and managing ethical dilemmas. Despite the emotional and physical energy spent caring for patients and their families, medical learners—and ICU clinicians in general—do not routinely engage in longitudinal follow-up of ICU patients or their families beyond their ICU rotation. Increasingly, institutions are addressing the clinical need for longitudinal follow-up with the implementation of post-ICU clinics or recovery programs. These programs provide continuity of care through specialized, multidisciplinary follow-up (1). They may benefit attending clinicians and staff who are able to see the positive impact of their work in the ICU and understand long-term outcomes to drive quality improvement within clinical practice (1). The benefit of such a program has not been explored for trainees. Although not all trainees will become intensivists, clinicians from all disciplines will likely care for ICU survivors in a variety of settings, such as primary care clinics, outpatient surgery centers, or dialysis centers. Therefore, we believe that post-ICU follow-up presents a prime opportunity for learners to engage in reflection, create actionable change in clinical practice, and potentially mitigate burnout by celebrating successes. In this article, we present a framework for trainee engagement in post-ICU follow-up based on the Accreditation Council for Graduate Medical Education (ACGME) milestones and explore the benefits of this engagement on trainee education and well-being.

CURRENT PRACTICES FOR POST-ICU CARE

Most survivors of respiratory failure or shock suffer some degree of impairment in cognition, mental health, and/or physical function after leaving the ICU (2, 3). New or worsened impairment in one or more of these domains after critical illness is known as the post-intensive care syndrome (PICS), which can persist long after discharge and substantially impact quality of life (1, 4–7). Families also experience lasting impairments in mental health and psychosocial well-being, referred to as PICS-family (PICS-F) (8).

Knowledge of these common long-term consequences of critical illness is important as we seek to improve clinical ICU practices, including recognizing risk factors for the development of PICS and PICS-F and implementing mitigation strategies (7, 9, 10). To address these long-term impairments, the Society of Critical Care Medicine's THRIVE initiative piloted post-ICU clinics and peer support collaboratives as an approach to improving ICU survivorship (11, 12). Post-ICU clinics and peer support groups improve awareness of PICS and may enhance recovery for patients and families, although data regarding the optimal approach are limited (1). Furthermore, these initiatives have been shown to improve staff morale and may provide important lessons for the inpatient teams, improving the quality of critical care delivery (1). Examples of outcomes from these collaboratives include patient-centered informational brochures, organized family conferences, and improved communication between ICU staff and families (13).

POST-ICU RECOVERY PROGRAMS FOR TRAINEES

Post-ICU clinics and recovery programs present a unique opportunity for personal

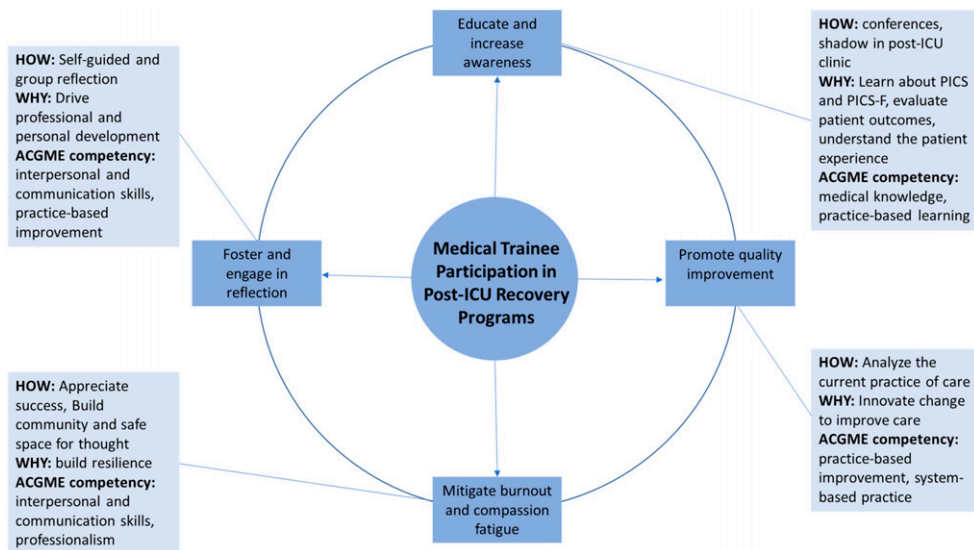


Figure 1. Framework for how participation in post-ICU care benefits medical trainees. ACGME = Accreditation Council for Graduate Medical Education; ICU = intensive care unit; PICS = post-intensive care syndrome; PICS-F = post-intensive care syndrome–family.

and professional growth for medical learners, including medical students, residents, and fellows. We propose that through participation in post-ICU care, medical trainees may 1) gain awareness of critical outcomes and complications; 2) engage in quality improvement to optimize ICU practices; 3) reflect on medical decision-making and team communication; and 4) mitigate burnout (Figure 1). These activities build on all of the core competencies as described by the ACGME, including professionalism, appropriate and effective patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, and system-based practice (14).

AWARENESS OF ICU OUTCOMES AND COMPLICATIONS

In the ICU, clinicians and trainees make management decisions each day that may impact long-term outcomes for survivors, yet they remain unaware of the implications of their decisions, as these outcomes extend beyond the walls of the ICU and

therefore escape recognition. Medical trainees should be educated about the consequences of both pathologic processes, such as acute respiratory distress syndrome, and the effects of the measures taken to combat it, such as sedation and paralysis. Through participation in post-ICU clinics, medical trainees can learn about the outcomes of critical illness and the variety of interventions used to treat it. Other specialties, such as pediatrics, have begun to incorporate follow-up programs into training. This integration has been shown to be educational for trainees ranging from medical students to neonatology fellows, and it has been suggested to be formally introduced into training programs (15). Follow-up clinics provide critical knowledge of long-term outcomes and may influence ICU practices and care outside of the ICU, including primary care and other inpatient care (1). Therefore, if trainees are encouraged to participate in these follow-up clinics, either through the formal ICU curriculum or as an elective rotation, they will have this opportunity to gain the knowledge and practice-based

learning to improve patient care. Alternative avenues for education include incorporation of PICS and PICS-F topics during general conference time. For example, at our institution, ICU survivors and family members have presented their experience at house staff and faculty conferences, providing a powerful educational experience. This example of narrative critical care has arisen from the larger discipline of narrative medicine and has been more studied over the recent years, being attributed to better understanding of the commonalities and differences in the patient ICU experience (16).

Understanding and awareness of long-term ICU outcomes may aid trainees when they are talking to future patients and families about ICU care, prognosis of critical illness, and goals of care. These conversations happen in numerous settings, including when a patient is considering transfer to ICU for escalation of care, is in the ICU receiving care, is transferred to the medical ward from the ICU, and is seen outpatient after an ICU admission. This new practice could improve the education and formation of competent and considerate clinicians, wherever they may practice and care for an ICU survivor.

QUALITY IMPROVEMENT

ICU survivors have high rates of morbidity and postdischarge healthcare use (1, 4, 7). Post-ICU recovery programs may offer an important opportunity to inform changes to ICU care through a deeper exploration of long-term outcomes (8). In fact, many of the innovations in modern critical care delivery, and their subsequent dissemination, have been driven by a desire to mitigate these long-term consequences. For example, increased duration of mechanical ventilation and use of deep sedation is associated

with greater risk of PICS (9, 10). This is one of many reasons that ICUs have sought to systematically implement daily spontaneous awakening trials and spontaneous breathing trials for appropriate patients (9, 10). Early mobilization of ICU patients is another effective intervention to reduce duration of ventilation and delirium and combat PICS; increasingly, ICUs are investing in the resources necessary to accomplish early mobility, driven by the opportunity to mitigate PICS (9, 10). Continuing to explore the impact of long-term outcomes is essential to motivate and guide interventions in the ICU.

Given the importance of continuous quality improvement, the ACGME requires practice-based improvement as a core competency for trainees. More specifically, they state: “residents must demonstrate the ability to analyze the care they provide, understand their roles within healthcare teams, and play an active role in system improvement processes” (14). Through participation in post-ICU programs, medical trainees can learn about these outcomes, investigate their risk factors, and develop intervenable actions to prevent them.

Medical trainees would offer a unique perspective to the multidisciplinary approach to quality improvement in the post-ICU setting. Post-ICU programs have the valuable edge of bringing together the expertise of social workers, psychiatrists, pharmacists, physical therapists, occupational therapists, respiratory therapists, physicians, ICU staff, and others (1, 13). Trainees may be additional important stakeholders to add to this team, as they are front-line members of the ICU team, and changes to ICU care delivery will depend on the engagement of trainees in implementation (17). In addition, working with a multidisciplinary team would be another

opportunity for trainees to further their interprofessional communication skills.

REFLECTION

Reflection is a major component of medical education and active learning theory (18). The ACGME states: “Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care on constant self-evaluation and lifelong learning” (14). Reflection allows trainees to cultivate the competency of self-evaluation with the goal of advancing their current knowledge and guiding future learning. Reflective practice also builds professionalism through understanding emotional reactions and difficult interactions, fostering humanism and compassion, and uncovering previously unconscious biases (19, 20). Although the importance of reflection is self-evident, there is little time for reflective thought in a busy ICU. Post-ICU recovery programs can provide the setting for medical trainees to engage in reflection. These reflective opportunities could range from hours of protected educational time during an elective to a quick moment in an ICU. Specific activities that medical trainees can participate in include narrative storytelling, gratitude journaling, and wellness rounds. Dedicated time to practice reflection will allow medical trainees to 1) examine their experiences in the ICU; 2) identify personal areas in need of improvement and actions that should be continued; and 3) set deliberate intentions to guide future situations and learning (20). Through this self-directed process, post-ICU recovery programs can promote and teach reflective practice to medical

trainees that can foster the lifelong learning.

BURNOUT MITIGATION

Burnout is increasingly prevalent among medical professionals; it is characterized by three predominant symptoms: emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment (21, 22). Care of the critically ill exposes clinicians to high rates of mortality, ethical dilemmas, intense emotional conversations, and heavy workloads; this can lead to increased stress for ICU providers and result in high degrees of burnout and compassion fatigue (21, 22). It may be worse for trainees, who may never have dealt with these stressors and who may feel guilty for the deaths that occur under their care. Rather than focus entirely on the negative stressors, learners should recognize what happens to many patients who survive the ICU and return to their families and lives. Post-ICU follow-up provides an opportunity for trainees to continue the relationship they forged in the ICU through a survivor’s recovery. Studies have shown that clinicians who participated in post-ICU clinics found joy in this positive side of recovery, which increased job satisfaction and decreased burnout and compassion fatigue (1, 8). ICU survivorship offers a much-needed perspective that is too often overlooked. As highlighted above, there are additional opportunities to highlight survivorship beyond the clinic, including posters and storytelling events. In addition, medical trainees experience these emotions with other post-ICU team members, creating a provider community (1). Trainees and other team members can reflect and celebrate the lifesaving care they provided. Post-ICU recovery

programs can combat each component of burnout by 1) promoting reflection and characterization of one's emotions and allowing in joy and optimism; 2) humanizing oneself, coworkers, and patients; and 3) celebrating personal and team accomplishments.

CHALLENGES TO IMPLEMENTATION

The integration of a new area of focus into an established curriculum is complex. Residents need to gain adequate exposure to, and knowledge in, a wide array of core topics throughout their training, and the addition of new curricula may detract from these core learning experiences. Thus, careful consideration is needed regarding how this new experience is balanced with other educational priorities. In addition, many post-ICU clinics are more recently established or undergoing change, as more is learned about the optimal approach to post-ICU care. This could lead to increased stress or difficulty for a trainee if they are placed in a clinic without a clear role or expectations.

There are several opportunities to overcome these challenges. Residents are commonly provided outpatient elective time to gain more exposure to subspecialty medicine. Integrating post-ICU clinics into existing outpatient elective experiences is one option to build this experience into existing resident rotations. This would allow for dedicated time and learning of this topic, as well as engaging in reflection and other benefits that we discussed earlier. Incorporation of post-ICU clinics into an already functional pulmonary elective could be an additional solution. Although this may take time away from other pulmonary consult services or other pulmonary clinics, it would highlight a different subset of pulmonary critical care careers in the outpatient

setting. Alternatively, creating time to learn about survivorship within current ICU rotations could capture the greatest audience, as all internal medicine residents, and many medical students, are required to complete ICU rotations. In addition, other trainees, such as fellows, non-internal medicine residents, and other types of students, rotate through the ICU. However, this would need to be carefully balanced with risk of interrupting the critical care inpatient experience, longer work hours, and increased responsibilities during an already high-stress rotation—changes that have been shown to increase burnout in medical trainees (23).

CONCLUSIONS

Post-ICU recovery programs, including post-ICU clinics and peer support groups, show early encouraging evidence for a multitude of benefits to clinicians, patients, and families. Medical trainees can benefit from these programs in many ways, personally and professionally. Using the ACGME core competencies as a framework, we elucidate the possible benefits of trainee engagement in post-ICU care: education on long-term outcomes to inform better ICU clinical practices, practice in continuous quality improvement, engagement in reflection, and burnout mitigation. Post-ICU recovery programs have a bright future for the practice of critical care in and out of the ICU and should be further investigated as part of the curriculum.

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