

TRANSFORMING HEALTHCARE

Training a Hospitalist Workforce to Address the Intensivist Shortage in American Hospitals: A Position Paper From the Society of Hospital Medicine and the Society of Critical Care Medicine

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DEVELOPMENT OF THE POSITION PAPER

In June of 2011, the executive leadership of the Society of Critical Care Medicine (SCCM) and the Society of Hospital Medicine (SHM) convened a daylong summit to discuss intensive care unit (ICU) workforce issues as they affect intensivists and hospitalists. Attendees included the executive leadership of both societies and invited participants with cross-disciplinary expertise in hospital medicine and critical care medicine.

The summit was convened to address the following issues:

- Defining hospitalists' roles in providing ICU coverage in the presence or absence of intensivists.
- Developing standardized and universally recognized supplementary training pathways for hospitalists who practice in the ICU.
- Identifying clinical, logistical, and political barriers that might impair or preclude such training.

At the close of the summit, the executive leadership of both societies agreed that they had sufficient consensus on the aforementioned issues to delegate a subgroup of participants to formulate a position paper. The authors of the position paper were selected based upon their diverse professional experience, senior leadership in both SHM and SCCM, and their cross-disciplinary expertise in hospital medicine and critical care medicine. Four of the 5 authors (E.M.S., J.R.D., M.J.G., P.A.L.) are board-certified intensivists. Three (E.M.S., J.R.D., M.J.G.) are members of both SCCM and SHM, 2 (M.J.G., J.R.D.) are Past-Presidents of SHM, and 1 (P.A.L.) is Immediate Past-President of

SCCM. E.M.S. and D.D.D. are current members of the SHM Board of Directors.

After the summit, the authors held several conference calls to review the structure and content of the position paper. The boards of directors of both societies independently approved a draft of the paper and the executive leadership of both societies approved subsequent revisions. The position paper was submitted for joint publication in the *Journal of Hospital Medicine* and *Critical Care Medicine* and underwent formal peer-review by reviewers representing both societies.

INTRODUCTION

The growing shortage of intensivists and its implications for hospitalized Americans is well documented and remains an ongoing concern for hospitals, clinicians, payers, and the federal government.¹⁻⁷ Despite numerous recommendations that intensivists manage critically ill adults,^{8,9} most American hospitals cannot and will not meet this proposed standard.^{10,11} When surveyed, only 20% of Michigan hospitals participating in the Keystone Project responded that they staffed their ICUs exclusively with board-certified intensivists, and 75% maintained open ICU staffing models.¹² The mismatch between intensivist supply and demand is expected to worsen as inpatient volume and acuity grow in concert with an aging and increasingly comorbid American population, yet with the exception of a 2010 agreement between the American Board of Internal Medicine (ABIM) and American Board of Emergency Medicine (ABEM) to cosponsor a medical critical care fellowship pathway for emergency medicine (EM) physicians, little has changed to expand the intensivist trainee pipeline. Although the addition of a sanctioned EM critical care pathway is a positive development, it is unlikely to significantly impact the intensivist shortage in the near term. Between 2000 and 2007, 43 emergency medicine physicians entered non-board sanctioned American critical care fellowships,¹³ while in the 2011–2012 academic year, 1957 trainees are enrolled in adult critical care medicine fellowships (surgery, anesthesia, medical critical care, and pulmonary/critical care).¹⁴ It

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remains to be seen if the availability of a formal critical care pathway will significantly increase the numbers of emergency medicine physicians who pursue critical care training.

The growing intensivist shortage has coincided with the appearance of hospitalists, physicians who focus on the care of hospitalized medical patients, on the healthcare landscape.¹⁵ Increasing from 2000 to 34,000 practitioners in 15 years, hospital medicine is the fastest growing specialty in organized medicine, with an estimated plateau of as many as 50,000 practitioners.¹⁶ As of 2009, hospitalists were present in 89% of hospitals with over 200 beds, largely replacing primary care physicians as the managers of ICU patients in non-tertiary hospital settings.¹⁶ In surveys performed by the Society of Hospital Medicine, 75% of hospitalists reported that they practice in the ICU, often shouldering much of the responsibility for managing critically ill patients.¹⁷ In 37.5% of Michigan Keystone Project hospitals, hospitalists served as attending physicians of record in the ICU.¹⁰ Although legitimate concerns have been raised about whether hospitalists are uniformly qualified to practice in the ICU, this issue has become moot at many hospitals where intensivists are either in short supply or entirely absent.^{18–21} As previously noted by Heisler,²² the issue is no longer whether hospitalists “should” practice in the ICU, but rather to ensure that they do so safely, effectively, and seamlessly in collaboration with intensivists, or independently when intensivists are unavailable.

POTENTIAL VALUE OF HOSPITALISTS IN THE ICU

Hospital medicine and critical care medicine share similar competencies and values. Eighty-five percent of practicing hospitalists are internists, who have historically been well trained to manage acutely ill hospitalized patients. Categorical internal medicine (IM) training emphasizes acute inpatient medicine, with residents spending approximately two-thirds of their training time in the hospital. Many of the cognitive skills required for practicing critical care medicine are encompassed in categorical IM training, as well as in the Core Competencies in Hospital Medicine.^{23,24} Furthermore, hospitalist staffing models are specifically adapted to meet the needs of acutely ill patients. With their consistent presence in the hospital (many programs provide 24:7 in-house coverage), hospitalists see patients several times a day if necessary and can respond to their acute needs in real time. In many institutions, hospitalists are tasked as first responders to in-house emergencies, often covering ICUs when intensivists are unavailable.

Most importantly, hospital medicine and critical care medicine are philosophically aligned. Both disciplines are defined by their location of practice rather than by an organ system or constellation of diseases.

Both specialties embrace hospital-based process improvement, lead multidisciplinary teams, and champion quality and safety initiatives.^{23,25} Hospitalists and intensivists routinely collaborate to improve hospital care through shared protocol implementation, patient throughput management, and quality improvement initiatives. The ideology and mechanics of high-performing hospitalist and intensivist programs are extremely similar.

LIMITATIONS OF HOSPITALISTS IN ICUs

Although the majority of hospitalists are general internists, individual hospitalists' skills may be heterogeneous, reflecting differences in training and clinical practice experience prior to becoming hospitalists. A hospitalist entering practice directly from a rigorous categorical IM training program will likely have different skills and knowledge than an ambulatory-based general internist who makes a mid-career switch to hospital medicine. Furthermore, increasingly stringent restrictions on housestaff work hours and patient loads, coupled with increasing emphasis on ambulatory medicine, have substantially decreased IM residents' cumulative exposure to acutely ill inpatients and inpatient procedures, raising concerns that the current generation of IM residents are less well-prepared to manage ICU patients than their predecessors. The growing prevalence of family practitioners in the adult hospitalist workforce (currently estimated at 6%–8%), who generally are not as rigorously or comprehensively trained in critical care medicine as internists, further complicates efforts to broadly categorize adult hospitalists' ICU skills.^{26,27}

Once hospitalists enter the workforce, they have few formal opportunities to significantly advance their critical care knowledge and skills. Existing critical care educational offerings are generally limited to 1- or 2-day critical care refresher courses or narrowly focused ICU skills courses, such as acute airway management or critical care ultrasonography. These courses, while valuable, are often insufficient for hospitalists who need to broaden their general critical care knowledge base or obtain skills that they did not acquire in residency training. The result is a hospitalist workforce that practices in the ICU but has limited opportunity to enhance the skills and knowledge necessary to do so safely and competently.

ENHANCING HOSPITALISTS' SKILLS TO PROVIDE CRITICAL CARE SERVICES

In the absence of a systemic solution to the intensivist shortage, the healthcare marketplace is independently developing alternative critical care delivery solutions, such as deploying telemedicine systems and expanding the roles of nurse practitioners and physician assistants in the ICU. To a lesser extent, there have been calls for hospitalists to fill similar “intensivist extender” roles in the ICU, and Heisler and others have

TABLE 1. Specialty-Specific Critical Care Training Requirements in the United States

Pathway	Prerequisites	Duration	Minimum Clinical Training Requirements	Research Requirement
Medical critical care ³⁹	Complete a 3-yr internal medicine program	24 mo for general internists 12 mo for internists who are enrolled in, or have completed, an accredited 2-yr IM fellowship	6 mo MICU 3 mo other ICU 3 mo elective (determined by individual program)	Research required; no duration is stipulated Research requirement waived for 1-yr fellows
Pulmonary critical care ⁴⁰	Complete a 3-yr internal medicine program	36 mo	9 mo of critical care (identical to medical critical care) 9 mo of pulmonary medicine 6 mo of relevant electives encouraged 30 mo of pulmonary clinic	Research required, but duration not specified; generally 12–18 mo
Surgical critical care ^{41,42}	Complete at least 3 yr of training in general surgery, neurosurgery, urology, or OB/GYN	12 mo	8 mo in SICU ≤2 mo in other ICUs ≤2 mo in relevant non-ICU electives	No research requirement
Anesthesiology critical care ⁴³	Complete a 4-yr anesthesiology program	12 mo	9 mo in ICU 3 mo in clinical activities or research relevant to critical care	No research requirement
Emergency medicine critical care	Complete an emergency medicine program and maintain ABEM board certification	24 mo	6 mo MICU 3 mo other ICU 3 mo elective (determined by individual program)	Research required; no duration is stipulated
Pediatric critical care	Complete a pediatrics or anesthesiology program	36 mo	At least 12 mo of relevant clinical rotations; no other specifications	At least 12 mo of research

Abbreviations: ABEM, American Board of Emergency Medicine; ICU, intensive care unit; IM, internal medicine; MICU, medical ICU; OB/GYN, obstetrics and gynecology; SICU, surgical ICU.

suggested developing limited, competency-based critical care training to allow hospitalists to manage a subset of ICU patients, either independently or collaboratively with intensivists.²² Several healthcare systems are in various stages of developing such critical care training programs for their hospitalists, many of whom already practice in the ICU. These programs will likely blend fellowship-level training with supervised attending duties in the ICU, with the expectation that graduates will be able to independently manage a portion of an ICU population (Timothy G. Buchman, MD, PhD, Department of Surgery, Emory University School of Medicine, personal communication, May 11, 2011).

Although informal hospitalist training programs could make an important contribution to ICU staffing, they raise new concerns as well. In the absence of uniform, formal training and evaluation standards, the quality and consistency of these homegrown programs could vary widely, with participants developing critical care skills and competencies that might not conform to requirements set forth by the Accreditation Council for Graduate Medical Education (ACGME). Even if training could be standardized, the practical implementation of a 2-tier intensivist model would create extreme political and operational challenges for hospitals, which would be required to differentially credential and privilege providers with similar training and overlapping patient responsibilities. In light of

these complexities and uncertainties, hospitalists might be unwilling to risk investing in lengthy training offering uncertain recognition and delineation of what they can and cannot do in the ICU.

A more durable long-term solution is to create an ACGME-sanctioned and accredited critical care certification pathway for IM hospitalists, with the express goal of expanding the intensivist workforce by attracting practicing hospitalists to critical care fellowship training. Hospitalists who complete such training would be full-fledged intensivists, subject to the same privileges and expectations as any other intensivist.

We believe that many hospitalists could acquire the competencies necessary to become board-eligible intensivists in less than the 2 years currently required for general internists to complete critical care medicine training. The existence of 6 unique pathways for critical care training and board certification in the United States, all maintaining unique training criteria and durations of training, strongly suggests that competent intensivists can be trained through disparate pathways to achieve equivalent outcomes (Table 1). For example, both surgical and anesthesia critical care programs require only a single added year of training following their respective residency training programs.^{28,29} Of the 24 months that comprise a medical critical care fellowship, only 12 months of clinical duties are required, with the remainder allocated to electives, quality-improvement initiatives, research, and other

academic pursuits.³⁰ The ACGME and ABIM have tacitly acknowledged that medical critical care training is achievable in less than 2 years, by allowing those who enter or complete accredited 2-year fellowships in other medical specialties to obtain critical care certification with a single additional year of critical care training.³⁰ If infectious disease and nephrology fellows can become competent intensivists with a single year of critical care training, it is reasonable to believe that experienced IM hospitalists can do so as well.

Offering a 1-year critical care fellowship training track for experienced IM hospitalists will require careful consideration of which components of existing 2-year critical care fellowship can be removed or condensed without materially compromising the quality of training. Hospitalists participating in a condensed 1-year training program would need the maturity and experience to “hit the ground running,” mandating a robust entry bar predicated upon relevant prior clinical practice experience. We believe that 3 sequential years of prior hospitalist practice experience is a reasonable prerequisite for participation. Additionally, eligible hospitalists would need to participate in the (currently voluntary) ABIM Focused Practice in Hospital Medicine Maintenance of Certification (MOC) process,³¹ which mandates completion of hospital-based education and practice improvement modules. Prior training and participation in quality improvement (QI) processes could supplant some of the scholarly activity that is currently expected during the nonclinical portion of a traditional 2-year medical critical care fellowship, and candidates would be required to have completed at least one meaningful hospital-based QI initiative while still in practice.

Although new curricular standards would need to be developed, 1-year medical intensivist fellowships could coexist alongside 2-year fellowships within a single critical care training program, as is the case when internal medicine fellows in other specialties complete an added year of critical care fellowship. However, to meaningfully impact the intensivist shortage, the number and capacity of medical critical care fellowships, which currently train approximately 10% of the critical care workforce, would need to significantly expand.¹³

Importantly, the impact that critical care-trained hospitalists will have on the quality and safety of patient care in the ICU will require evaluation and study. We presume that inserting this new cohort of intensivists into previously unmanaged or undermanaged ICUs will improve care, but this, like many other uncertainties regarding optimal models of ICU staffing, should be subject to rigorous and objective examination through additional clinical research.^{10,32–36}

Offering a 1-year critical care training track will raise new challenges. Skepticism about the rigor and content of 1-year programs may foster the perception that graduates are inadequately trained or skilled to function at

the level of other board-certified intensivists. It is also possible that a 1-year hospitalist–critical care fellowship could divert trainees from traditional critical care programs, offsetting net gains in the number of intensivists. However, we suspect that a 1-year fellowship program will attract primarily practicing hospitalists, while 2-year tracks will continue to attract IM residents. We conceptualize participation in a 1-year hospitalist–critical care fellowship program as a (minimum) 4-year post-residency commitment, consisting of at least 3 years of clinical practice as a hospitalist, followed by 1 year of critical care fellowship training. Internal medicine residents would find a shorter pathway to intensivist practice by enrolling in traditional 2-year critical care or even 3-year pulmonary/critical care training programs. The compensation advantage afforded to intensivists relative to hospitalists (approximately \$100,000 per year) would offset any financial advantage gained by shaving a year off of critical care fellowship training.^{37,38} We also suspect that those seeking careers in academic medicine would almost exclusively opt for a traditional 2-year training pathway.

Finally, while Europe and Australia offer a single common pathway to critical care certification, the United States maintains multiple, independent, specialty-specific training pathways, each with unique durations, requirements, and certification processes. Although consideration of this important issue is beyond the scope of this paper, we believe that developing a hospitalist-intensivist workforce should be part of a broader initiative to reform critical care training to better meet the demand for intensivists across the spectrum of American ICUs. Adopting a global intensivist training strategy that is specialty-independent and specific to critical care medicine may result in a more consistent, collaborative, and interoperable critical care workforce.

CONCLUSION

American critical care training programs have failed to produce enough intensivists to meet demand, and this mismatch between supply and demand will substantially worsen over upcoming decades. Hospitals and healthcare systems, faced with the mandate to provide care for their ICU populations, have already innovated to offset this shortage through the use of telemedicine and the extension of nonphysician providers into ICUs. As the gap between intensivist supply and demand widens, healthcare systems will be increasingly likely to pursue more radical solutions, up to and including independently training their own critical care workforces. We believe that there are better alternatives.

Hospitalists have rapidly proliferated to become the dominant provider of inpatient medical care in American hospitals and are already providing a substantial amount of critical care. As such, they remain a largely untapped and potentially significant source of new intensivists. The skills, competencies, and values embodied in hospital medicine are already highly

congruent with those of critical care. By virtue of their numbers and penetrance into the vast majority of large American hospitals, hospitalists are well situated to make a substantial impact on the intensivist shortage. If only 5% of the projected hospitalist workforce were to receive the critical care training that we propose, 2500 new intensivists would enter the critical care workforce, substantially decreasing the impact of the national intensivist shortage.¹²

Internal medicine hospitalists who obtain additional training as intensivists would also bring new capabilities and flexibility to hospitals seeking to implement intensivist programs. In smaller hospitals that cannot support freestanding intensivist programs, hospitalist-intensivists might divide their time between ICU and ward duties. In larger hospitals, these clinicians might function exclusively as intensivists alongside their traditionally trained peers. Whether they affiliate as hospitalists, intensivists, or something else entirely will largely depend upon the roles that they fulfill, the governance of their institutions, and the departments that most effectively meet their clinical and organizational needs.

Bringing qualified hospitalists into the critical care workforce through rigorous sanctioned and accredited 1-year training programs, will open a new intensivist training pipeline and potentially offer more critically ill patients the benefit of providers who are unequivocally qualified to care for them. Similarly, unification of critical care training and certification across disciplines will better focus efforts to expand the intensivist workforce, more efficiently leverage limited training resources, and facilitate standardization of critical care skills, policies, and procedures across the nation's ICUs. Although moving this agenda forward may be logistically challenging and politically daunting, we believe that the results will be worth the effort.

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