

# Health and Well-Being of Intensive Care Unit Physicians

## How to Ensure the Longevity of a Critical Specialty



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### KEYWORDS

- Burnout • COVID-19 • Moral distress • Wellness • ICU staffing • Diversity • Inclusion

### KEY POINTS

- There is a high incidence of burnout among physician intensivists.
- The stresses of our specialty leave the intensivist particularly vulnerable to burnout syndrome.
- The COVID-19 pandemic has only exacerbated the incidence and severity of burnout among physician intensivists.
- The shortage of physician intensivist could potentially lead to even higher rates of burnout syndrome in the specialty.
- Institutions need to make a concerted effort to prevent and treat burnout in the specialty of critical care medicine.
- Institutions and individuals do have options to lessen the burden of burnout syndrome in critical care medicine.

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## INTRODUCTION

A second epidemic coexists with the coronavirus disease 2019 (COVID-19) pandemic; it has been smoldering for many years, and the extreme pressures of COVID-19 have only fueled the flames. Physicians, and specifically those providing critical care services, are suffering from anxiety and burnout at an alarming rate.<sup>1,2</sup> This epidemic of burnout has now reached a crisis level; it has driven droves of physicians to scale back work hours or leave health care altogether.<sup>3</sup> Without acknowledging the health and well-being of the critical care physician, the survival of the specialty is at risk. This review provides a brief history of the burnout epidemic, examines the impact of the COVID-19 pandemic on intensivists, explores how burnout may disproportionately affect different groups of individuals, and discusses possible solutions to preserve the specialty of critical care.

Before the onset of COVID-19, there was a yearly net loss of critical care physicians that led to uncertainty surrounding the critical care workforce. Despite increasing fellowship spots and alternate pathways for entry into critical care, this gap was anticipated to widen.<sup>4</sup> Contributing factors included the aging population of the United States, an increasing burden of disease, a move toward 24/7 physician coverage of the intensive care unit (ICU), and expansion of intensivists outside of the ICU.<sup>4</sup> Another contributing factor to the yearly net loss of critical care physicians was the trainees' direct observation of a burnt out work force.<sup>5</sup> In 2016 there was a call to action from the Critical Care Societies Collaborative (an organization made up of representatives from the American College of Chest Physicians, American Thoracic Society, Society of Critical Medicine, and American Association of Critical Care Nurses) to address the issue of burn out among critical care providers.<sup>6</sup> Contemporaneous surveys indicated that more than half of critical care practitioners were experiencing burnout.<sup>7</sup> In a survey of anesthesia intensivists, nearly 10% of respondents felt burnt out "all the time" and 75% reported at least "sometimes" feeling burnt out.<sup>8</sup>

In the wake of that call to action, the academic community has responded with numerous publications discussing the effect of burnout on health care workers. To date, most research includes surveys and assessments to identify risk factors and consequences of burnout (**Table 1**).<sup>7,9–13</sup> Although these risk factors may ring true for many health care professionals, critical care providers appear to be affected at an increased rate due to the unique, high-acuity environment of the ICU where physicians are repeatedly exposed to high levels of stress, conflict, and moral distress.<sup>13</sup> Left unchecked, burnout is associated with high personal and organizational costs. In fact, in the United States the estimated cost associated with replacing health care workers due to departure or reduced hours is about \$4.6 billion annually.<sup>3</sup>

**Table 1**

**Contributing factors and consequences of burnout in physicians**

<b>Factors Contributing to Burnout in Physicians</b>	<b>Consequences of Burnout in Physicians</b>
<ul style="list-style-type: none"> <li>• Women</li> <li>• Younger age</li> <li>• Trainees</li> <li>• Midcareer faculty</li> <li>• Patient work loads</li> <li>• Long hours</li> <li>• Stressful work environment</li> <li>• Unsatisfactory work environment</li> <li>• Conflicts with colleagues</li> <li>• Administrative tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Health and well-being of physician</li> <li>• Decreased quality of health care</li> <li>• Medical errors</li> <li>• Reduced patient satisfaction</li> <li>• Increased cost of care</li> <li>• Reduced effectiveness at work</li> <li>• Less commitment to job/organization</li> <li>• High turnover and associated costs</li> <li>• Difficult interpersonal relationships</li> <li>• Loss of mentorship for junior faculty</li> </ul>

These concerns, which presented a clear and present danger to the specialty in 2016, were amplified and brought to the public eye during the COVID-19 pandemic. Since that time, anesthesiologists and other non-critical care physicians had to pivot and step into unfamiliar roles, often with high stakes.<sup>5</sup> Intensivists and anesthesiologists alike were asked to care for more patients with fewer resources, including critical resources that are designed to keep them safe such as personal protective equipment. ICU bed capacity was rapidly increased and extended into areas such as the postanesthesia recovery unit and operating rooms.<sup>5</sup> Although there initially seemed to be a collective resolve to tackle the virus, repeated onslaughts have pushed critical care providers beyond their limits. Since the initial wave of COVID-19, surveys indicate that burnout is even more pervasive now than pre-pandemic.<sup>14</sup>

The current culture of medicine will be one of the more difficult areas to generate reform of because it is so deeply ingrained. Arnold-Forster and colleagues<sup>15</sup> point out 3 aspects of the culture of medicine that will need to be addressed: medical exceptionalism, medicalization, and individual responsibility. Medical exceptionalism is the idea that to practice medicine one must be self-sacrificing; this leads to unhealthy behaviors and unsafe work practices and leaves physicians vulnerable to exploitation by the health care system to the system's benefit. Medicalization is the notion that physicians with mental health or substance abuse problems are not fit to practice; this has the untoward effect of disincentivizing current practicing physicians from seeking help for mental health conditions. Finally, individual responsibility places the responsibility on the physician to maintain their own wellness. Although physicians should have ownership of their own well-being, this concept, in effect, provides a dispensation to employers; it allows minimal change or implementation of low-cost programs that "support" the physicians to be considered permissible solutions.<sup>15</sup>

### ***Burnout Syndrome: Prevalence, Risk Factors, and Diagnosis***

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A combination of increased expectations, relative lack of workplace support, and longer hours has led to an increase in work-related stress. Burnout syndrome (BOS) has become a worldwide phenomenon among members of high-stress professions, such as critical care physicians. The term "burnout syndrome" was first defined in the 1970s. BOS refers to a work-related constellation of symptoms and signs that usually occur in people with no prior history of psychological or psychiatric disorders.<sup>16</sup> BOS is triggered by a difference between the expectations and ideals of the employee and the actual requirements of the position. Symptoms generally develop gradually and build over time. Initially, physicians may feel emotional stress and disillusionment with the job; they later develop an inability to adapt to the work environment and demonstrate negative attitudes toward their job, their coworkers, and even their patients. The 3 classic symptoms are exhaustion, depersonalization, and reduced personal accomplishment. The result is a physician who questions the value or worth of his or her work and generalized poor professional self-esteem. Feelings of frustration, anger, fearfulness, and anxiety are quite common. The physician may express an inability to feel happiness or pleasure. Physical symptoms such as insomnia, muscle tension, headaches, and gastrointestinal problems may develop.<sup>17</sup>

#### ***Prevalence***

Collectively, physicians are 36% more likely to develop BOS when compared with other high-school graduates. Among physicians, those in acute care specialties such as intensivists, report the highest rates of BOS in medicine, as high as 50%<sup>6</sup>; this is not only stressful for the individual but also may adversely affect the physician's ability to properly care for patients. High patient morbidity and mortality, high

prevalence of moral and ethical issues, and challenging work routines all add to the psychological stress. Chronic psychological stress may lead to feelings of being overwhelmed and can result in physical conditions such as insomnia, fatigue, irritability, anxiety, and depression. These feelings and symptoms can accelerate and intensify when it is perceived that there is insufficient time or unduly limited resources to properly care for patients.<sup>17</sup>

The shortage of critical care physicians, along with the increased demand for overnight ICU coverage, has raised the awareness of BOS and its recognitions among physicians. Up to 50% of critical care physicians have reported symptoms of severe BOS. The situation is even worse in pediatric critical care physicians, with up to 71% of physicians reporting symptoms of severe BOS, which is double the rate of general pediatricians. Among physicians in general, critical care physicians report the highest prevalence of BOS, with emergency medicine physicians a close second.<sup>17</sup>

### **Diagnosis**

BOS is most commonly diagnosed via the Maslach Burnout Inventory (MBI). The MBI is a questionnaire that asks respondents to score themselves on a Likert scale the frequency that they experience certain feelings related to their work. The MBI score grades the presence and severity of a decreased sense of personal accomplishment, emotional exhaustion, and depersonalization. Those who score beyond a cutoff value on the MBI are diagnosed with BOS. Unfortunately, there are no established cutoff values for intensivists, making comparisons among different studies difficult.<sup>17</sup>

Other overlapping conditions with BOS include compassion fatigue, moral distress, and even a perceived delivery of inappropriate care. Moral distress occurs when the practitioner feels constrained from taking the ethical and appropriate action; this may be due to self-doubt, conflict avoidance, or perceived imbalances of power. Cost reduction, concern for legal ramifications, and poor communication strategies may also play into moral distress. Perceived examples of inappropriate care may occur in situations such as care of noncompliant patients, perceived futility of aggressive care, perceived inadequate quality of care, or observation of a patient's wishes being ignored. Compassion fatigue is the gradual reduction in compassion over time due to mounting frustrations with the individual practitioner's situation or environment. Inappropriate administration of care has been perceived in 25% of critical care nurses and up to 32% of ICU physicians.<sup>17</sup>

### **Risk factors**

Certain personal attributes are known to be associated with BOS, including being self-critical, having poor coping strategies, sleep deprivation, and overall poor work-life balance. Idealism, perfectionism, and individual overcommitment are also known to contribute to BOS, along with having an inadequate social support system. Interestingly, younger physicians show nearly twice the prevalence of BOS when compared with older physicians. These symptoms may appear as early as residency training.<sup>17</sup>

Organizational factors associated with BOS include an increased workload, inadequate rewards, poor sense of community, and lack of control over the work environment. For critical care physicians, the number of night shifts per month and time since the last nonworking week has clearly been associated with the incidence of BOS.<sup>17</sup> Having to make repeated ethical decisions is also associated with a high rate of BOS. Poor working relationships and workplace conflict are other factors at play; this represents one potentially modifiable risk factor.<sup>17</sup>

End-of-life care is a risk factor for BOS, and higher individual ICU mortality rates have been associated with higher BOS rates. Caring for dying patients and involvement in decisions to forego life-sustaining treatments are clear stressors.<sup>17</sup>

Sleep disruption is an often-unavoidable consequence of shift work. Insufficient and interrupted sleep is much more common than among those working normal daytime schedules. Interestingly, working in a university hospital setting has also been associated with a higher incidence of BOS, possibly related to the typical higher acuity found in these settings.<sup>17</sup> Fig. 1 summarizes the potential risk factors for burnout.

### Consequences of burnout

A survey conducted by the European Society of Intensive Care Medicine (ESICM) in 2020 revealed an incidence of depression, anxiety, and severe burnout as high as 30% to 50% among intensivists.<sup>18</sup> In late 2021, the American Society of Anesthesiologists (ASA) Committee on Critical Care Medicine conducted its own survey in the United States. This survey incorporated members of the ASA, the Society of Critical Care Anesthesiologists, and the Anesthesiology Section of the Society of Critical Care Medicine. Of note, 65% of the respondents practiced in academic medical centers. Results showed that 42% of respondents met criteria for generalized anxiety disorder, whereas 32% of respondents demonstrated severe symptoms of anxiety. These symptoms were particularly common in females and younger respondents. Seventy-three percent of female, compared with 58% of male respondents, reported that working as an ICU physician during the COVID-19 pandemic had increased their feelings of burnout.

Frighteningly, 75% of respondents considered institutional wellness resources to be unhelpful. Sixty-four percent of respondents felt their participation in critical care

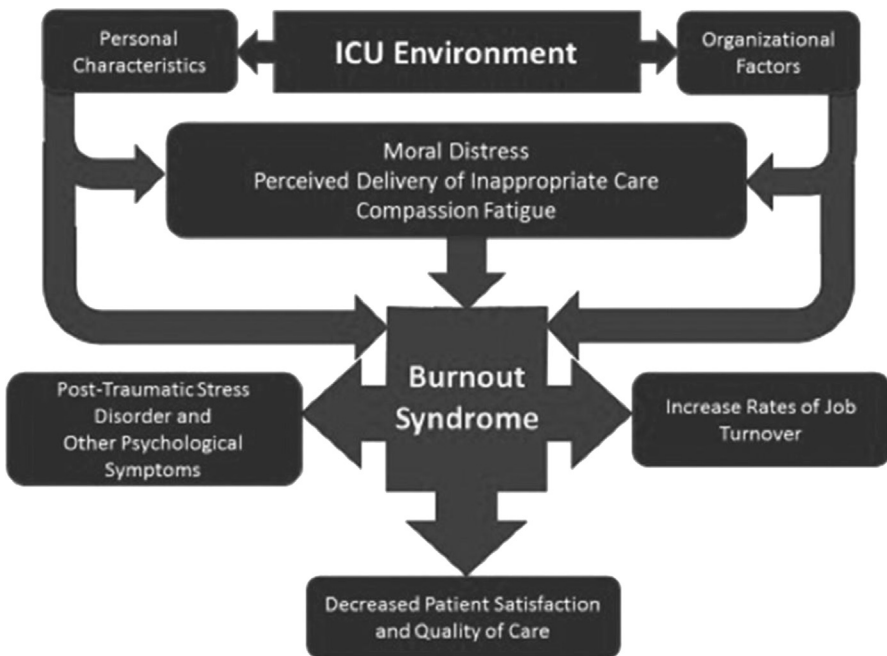


Fig. 1. Risk factors associated with burnout syndrome. Moss M, Good VS, Gozal D, Kleinpell R, Sessler CN. An Official Critical Care Societies Collaborative Statement: Burnout Syndrome in Critical Care Healthcare Professionals: A Call for Action. *Crit Care Med.* 2016;44(7):1414–1421.

clinical duties increased during the pandemic, whereas 28% of respondents felt their satisfaction with their professional life declined during the pandemic. Of note, this survey was conducted before the widespread availability of COVID-19 vaccination for medical providers.<sup>1</sup> Collectively, these data demonstrate a high incidence of generalized anxiety disorder and a high level of burnout among critical care anesthesiologists.<sup>1</sup>

The consequences of BOS among critical care practitioners can be catastrophic; it may result in posttraumatic stress disorder (PTSD), drug or alcohol abuse, and even suicidal thoughts. Physicians in general have been shown to have higher rates of alcohol abuse than the general population. PTSD may be the result of frequent exposure to traumatic events or the result of one catastrophically traumatic event. Participation in end-of-life issues, caring for combative patients and family members, postmortem care, caring for massive hemorrhage, and feelings of being overextended are all recognized triggers associated with PTSD.<sup>17</sup>

The impact of BOS on the workforce is detrimental, to say the least. The loss of practitioners results in increased health care costs, lower productivity, poor morale, an overall reduction in quality of patient care, and higher patient mortality rates. A recent study estimated the total cost of burnout among Canadian physicians to be more than \$200 million. There is a strong linear relationship between burnout scores and medical errors as well.<sup>17</sup>

### ***Impact of Coronavirus Disease 2019 on Intensive Care Unit Providers***

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The recent COVID-19 pandemic has put unprecedented stress on the world's critical care resources. Data from the ESICM show that the pandemic has had an overwhelming psychological impact on practicing intensivists. Between February and May 2020 alone, there were more than 350,000 deaths directly attributable to the severe acute respiratory syndrome coronavirus 2. The increased work hours and limited logistic support placed incredible stress on practicing intensivists. Scarcity of resources such as personal protective equipment, ICU beds, and ventilators only increased the psychological burden. According to the ESICM data, symptoms of anxiety during the pandemic exceeded 46.5%, depression was reported by 30.2% of intensivists, and severe burnout symptoms were reported by 51% of intensivists. Female gender, younger age, living in a city of more than 1 million inhabitants, and higher religiosity were all associated with higher reported rates of anxiety and severe burnout. Intensivists who reported symptoms of anxiety, depression, or severe burnout reported significantly higher rates of taking sleeping pills and smoking. Interestingly, the number of patients with COVID-19 managed did not seem to be associated with an increase in psychological distress.<sup>18</sup>

### ***Improving Wellness in Critical Care***

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Since 2016, the pandemic has no doubt moved burnout into the mainstream as a central issue in health care, with most now acknowledging it as an issue pervasively affecting the medical community at large.<sup>19</sup> Efforts at burnout mitigation, however, have not significantly adapted to meet the needs of the critical care practitioner. For a specialty that demonstrated great adaptability during the pandemic in terms of shifting to meet the needs of the public, current efforts to address burnout mitigation seem inadequate. The classic "more research is needed" is often a common conclusion of health care research involving wellness committees and other efforts combating burnout. When burnout is an issue causing increasing rates of alcohol abuse, dysfunction in personal relationships, self-isolation, and depression, it should be clear that there is no time to waste.<sup>20</sup> Ignoring this progressive public health problem will not only be a stain on the moral compass of the health care system but also may ultimately result in its collapse.

The good news is that simple steps are easily accessible. Less than half of physicians report their workplaces offer a wellness program to reduce stress and/or burnout. More than 40% of physicians report they avoid seeking help for burnout or depression because of fears of risking disclosure to medical boards. When asked what would most help reduce burnout, a more manageable work schedule was the primary choice of all survey respondents, followed by increased compensation to avoid financial stress. In addition, greater respect from colleagues and the health care team, and improved autonomy were important solutions.<sup>20</sup>

In the setting of a worsening intensive care workforce shortage and rising burnout, an important question arises surrounding what the optimal patient load-to-intensivist ratio is to maintain quality of care and physician wellness.<sup>21,22</sup> Several studies have sought to address this question in various ICU settings with inconclusive results.<sup>23–26</sup> Two studies looking at ICUs in the United Kingdom and France showed hospital mortality worsened above a certain threshold of patient beds-to-intensivist ratio.<sup>23,25</sup> Gershengorn and colleagues<sup>23</sup> demonstrated a U-shaped association with hospital mortality when both lower (below 7) and higher (above 12.5) patient-to-intensivist ratios led to higher mortality. This U-shaped relationship implies there is an optimal range for patient-to-intensivist ratio whereby having a patient load too low leads to compromised care due to inexperience and a patient load too high leads to detrimental care due to overwork and ineffectiveness. On the other hand, studies in the United States, Australia, and New Zealand populations did not find an association between patient-to-intensivist ratio with hospital mortality.<sup>24,26</sup> Although hospital mortality did not differ, Dara and Afessa<sup>26</sup> did find ICU length of stay was longer when the ratio was 15 or more.

Multiple studies have investigated various critical care schedules and team models with indeterminate results. There is evidence to support limiting the number of consecutive ICU days (less than 7) worked for an intensivist, leading to shorter patient ICU length of stay without increased ICU readmissions and hospital mortality.<sup>27</sup> In addition, Ali and colleagues<sup>28</sup> demonstrated that weekend cross-coverage for intensivists to reduce the number of weekends worked led to less provider burnout and better job satisfaction without adversely affecting hospital mortality or length of stay. Two studies compared a day/night shift work model with an on-demand staffing model with a daytime intensivist who was available by phone at night and found that the shift work model had lower provider burnout without differences in patient outcomes.<sup>29,30</sup> However, evidence regarding 24-hour intensivist staffing has not yielded a clear consensus on patient outcomes and cost-effectiveness.<sup>31</sup>

Efforts have been made to extend intensivist coverage and offload the ICU work burden with other health care professionals, trainees, and telemedicine. Advanced practice providers (nurse practitioners and physician assistants) are increasingly being integrated into the ICU care team model and have been shown to provide quality care through improved continuity of care, adherence to best practice guidelines, and collaboration in the ICU.<sup>32</sup> Furthermore, the use of residents and fellows can improve intensivist efficiency while providing a rich critical care educational experience. It is important to stress that the education of the trainee should remain a priority, which, at times, can place increased demand on the intensivist. In addition, non-critical care boarded physicians, such as hospitalists, have been safely utilized in the ICU without worsening ICU mortality or ICU length of stay.<sup>33,34</sup> With appropriate competency-based training and close collaboration with consultation services, non-critical care boarded physicians provide considerable value to ICUs in community hospitals and rural settings.



There has been an emerging interest in telemedicine since its origin in 1977.<sup>35</sup> With the ability to provide critical care expertise remotely, telemedicine has the potential to significantly alleviate the ICU workforce burden. However, there are inherent limitations without the physical intensivist presence, and questions persist whether telemedicine is cost-effective in the setting of inconclusive patient outcomes.<sup>36–39</sup> There are more convincing data to support telemedicine in ICU settings with low-intensity daytime intensivist staffing and sicker patients.<sup>40</sup> Unfortunately, studies investigating the effect of telemedicine on intensivist's burnout, quality of life, and job satisfaction are lacking, and this remains an area of significant interest.

Never more evident than in the past two years during the COVID-19 pandemic, the unexpected imbalance in critical care needs and patient volume with available ICU resources further strains the ICU workforce and leads to health care provider burnout.<sup>22,41,42</sup> All these factors must be considered to determine the appropriate staffing model for a particular ICU.

### ***Diversity, Equity, and Inclusion in Critical Care***

An important part of improving wellness in health care is to create a genuine sense of belonging and being valued for our unique experiences and skills. The population in the United States has become more ethnically and racially diverse over time, and it is projected that there might be no racial majority group by 2035.<sup>43</sup> This growing diversity, however, is not reflected in the US health care workforce providing care for this population. The lack of diversity can significantly impact culturally mindful delivery of health care.<sup>44</sup>

The Association of American Medical Colleges collects data on diversity, and their report from 2019 shows that women comprise 35.8% of the physician workforce.<sup>45</sup> This representation has increased over time with the greatest increase seen in the less than 34-year age group. Encouragingly, at the undergraduate level, female students have achieved parity with male students.

However, black and Latino physician representation has remained at a standstill; in 2013 it was 4.2% and 4.6%, respectively, and in 2018 it increased to 5% and 5.8%. This finding represents a deficit when compared with these minorities' representation in the general population. These disparities are also seen in anesthesiology and critical care ([Table 2](#)).

There are significant advantages to tackling issues of inequality. Unconscious bias regarding women, for instance, can be tackled by increasing the visibility and representation of women in leadership. "You can't be what you can't see," a quote attributed to Marian Wright Edelman, holds true to this situation. Increasing representation of underrepresented minorities allows opportunities for inspiration and mentorship for those starting out in their career. A study from the United Kingdom also showed that

<b>Demographic</b>	<b>Academic Anesthesiology Faculty Cohort</b>	<b>Anesthesiology Resident Cohort</b>	<b>US Physician Cohorts</b>
Women	26%	33%	36%
Black	4.80%	4.97%	5%
Hispanic	5%	5%	5.80%
Native American	0.30%	0.13%	0.30%

Obtained with permission from Nwokolo OO et al.<sup>60</sup>



health care organizations with higher diversity of gender and race in their boards tended to be more innovative and had higher performance levels.<sup>46</sup> A diverse team can lead to fresh perspectives, innovative ideas, increased productivity, and competitive advantage.<sup>46,47</sup> Diverse teams can also lead to greater patient satisfaction, improved access to care for underserved populations, and a more expansive research agenda.<sup>47</sup> A systematic meta-analysis showed patient and provider racial concordance, improved communication, and patient satisfaction.<sup>48</sup>

### **Women and underrepresented minorities**

In 2017, Lane-Fall and colleagues<sup>43</sup> published their work on the emerging demographic trends in Critical Care Fellow recruitment from 2004 to 2017. Their work highlighted the significant increase in female fellows from 29.5% in 2004 to 38.3% 2014 ( $P < 0.001$ ). The number of Hispanic fellows increased from 7.7% in 2005 to 8.4% ( $P = 0.015$ ), whereas the absolute number of black fellows increased, but it was not significant ( $P = .92$ ). The number of American Indian/Alaskan Native/Native Hawaiian/Pacific Islander fellows decreased from 1% to 0.3% ( $P < .001$ ) over the same time.<sup>43</sup> Overall, women and racial/ethnic minorities continue to be underrepresented.

Despite improving recruitment at the undergraduate and medical school levels, women continue to be underrepresented in some specialties, including critical care, and in leadership roles in all specialties. Workforce demographics surveys from the United States, United Kingdom, and Australia show that the proportion of female intensivists is 14% to 26%. The Women in Intensive Care Study, published in 2018, confirmed these data.<sup>49</sup> The study surveyed 84 critical care societies and received responses from 70.1% of their membership, with most information coming from higher-income countries. The study used pooled data to generate an estimate that the proportion of women was about 37%  $\pm$  11% (range 26%–50%). The study also shed light on female representation in critical care societies, as presidents or as part of the membership (Tables 3 and 4).

Research productivity, funding, and publications are integral to advancement in academic medicine. Women continue to be underrepresented in this area as well; less than one-third of first authors in critical care journals are women, and they count for only one-fourth of senior authors.<sup>50</sup> Miller and colleagues<sup>51</sup> examined the

<b>Society</b>	<b>Number (%) of Female Presidents 2000–2017</b>
ESICM <sup>a</sup>	0/9 (0%)
SCCM ( <a href="http://www.sccm.org/About-SCCM/Leadership/Past-Presidents">http://www.sccm.org/About-SCCM/Leadership/Past-Presidents</a> )	7/17 (41%)
ANZICS ( <a href="http://www.anzics.com.au/www.anzics.com.au/about-us.html">http://www.anzics.com.au/www.anzics.com.au/about-us.html</a> )	1/9 (11%)
WFSICCM	1/5 (20%)
CICM of Australia and New Zealand <sup>b</sup> ( <a href="http://www.cicm.org.au/About/Honours-Awards#PastPresidentsandDeans">http://www.cicm.org.au/About/Honours-Awards#PastPresidentsandDeans</a> )	0/5 (0%)

*Abbreviations:* ANZICS, Australia and New Zealand Intensive Care Society; CICM, College of Intensive Care Medicine; SCCM, Society of Critical Care Medicine; WFSICCM, World Federation Society of Intensive and Critical Care Medicine.

<sup>a</sup> Personal correspondence with Prof. Andrew Rhodes, past president of ESICM.

<sup>b</sup> Data for CICM only from 2010, the date of inception of the college. Obtained with permission from Venkatesh et al.<sup>49</sup>

Meeting	2015 (%)	2016 (%)	2017 (%)
ESICM	15	15	16.9
SCCM <sup>a</sup>	29	30	27
ISICEM	7.5	11.4	7.8
CICM of Australia and New Zealand	7.7	17.2	34

*Abbreviations:* CICM, College of Intensive Care Medicine; ESICM, European Society of Intensive Care Medicine; ISICEM, International Society of Intensive Care and Emergency Medicine; SCCM, Society of Critical Care Medicine.

<sup>a</sup> SCCM includes a proportion of nonphysician participants.

Obtained with permission from Venkatesh et al.<sup>49</sup>

representation of women in 2 academic anesthesiology journals (*Anesthesiology* and *Anesthesia & Analgesia*) over 4 years (2002, 2007, 2012, and 2017) and showed an increase in female first authorship, senior authorship, and editorial board membership by 10%, 9%, and 6%, respectively. Women are also less likely to be on expert panels at conferences or on the editorial boards of journals.

Some of the causes of this disparity have been attributed to women having a higher proportion of family responsibilities compared with male counterparts, women having not been in the system long enough (pipeline theory), or women not being considered natural born leaders.<sup>52</sup> Women frequently suffer from “imposter syndrome” and undervalue their own achievements. Women may not apply for a job if they do not fulfill 100% of the criteria.

### **The aging workforce**

Another area that may be frequently overlooked is the aging critical care workforce. According to the American Medical Association Council, the number of practicing physicians aged greater than 65 years had increased by 374% between 1975 and 2013.<sup>53</sup> Most studies focus on younger trainees or competency assessment related to aging; there is a lack of literature on the impact of burnout on older physicians and successful aging.

How does burnout impact older physicians? What accommodations may be required to assist physicians as we age? How do we assess competency yet maintain dignity? An Australian study assessed the impact of burnout on older physicians (age 61 years or greater) and found less psychological distress, burnout, and suicidal ideation than younger and middle-aged colleagues. Risk for psychological distress was highest for older physicians with a preexisting mental health disorder. Activities that caused the most amount of stress for older physicians were public speaking, working long hours, litigation fears, and having too much to do at work. Older physicians had fewer financial stressors but higher personal stressors (health issues, caregiver role, deaths in the family) compared with their younger colleagues.<sup>54</sup>

Several studies demonstrate the impact of aging as cognitive decline, manifesting as decreased processing speed, limited ability to complete complex tasks, and increased difficulty deciphering irrelevant information among other findings.<sup>53</sup> However, due to a lack of direct correlation with age, variability of results, and concerns regarding age-based discrimination, most societies recommend voluntary physical examination or cognitive testing after 65 to 70 years of age. Another common problem that may affect ICU physicians at one time or another is chronic fatigue from working long hours, especially at night. Some studies suggest that night shifts may have more

adverse effects on older physicians.<sup>55</sup> Possible solutions could be an age-based decrease in call responsibility or allowing flexibility for part time work.

### **Physicians with disabilities**

There is also limited data on physicians with disabilities in anesthesia and critical care. Reports suggest that about 2% of currently employed physicians are disabled.<sup>56</sup> A recent survey identified that physicians aged greater than 54.8 years reported more disabilities. Of those with disabilities, 9.2% identified as a racial or ethnic minority, and 14.7% had served on active military duty.<sup>57</sup> Physicians with disabilities may be capable to perform with increased communal support and advice. Progressive technological support and increased acceptance by society may allow physicians to continue their practice and serve as a source of mentorship and inspiration.

Many challenges lie ahead of our specialty. The Great Resignation<sup>58,59</sup> in health care that has led to the departure of many colleagues en masse as well as the lack of diversity and inclusivity represent 2 areas of primary concern. It is of vital importance that the workplace amplifies voices and highlights leadership roles of underrepresented minorities and creates a genuine sense of belonging and respect. As we face a world where the effects of COVID-19 have forever changed the landscape, changes at the institutional level are needed. Creating diversity among work groups, ensuring gender/racial balance in committees or conference invites, actively recruiting women and people of color for leadership roles, and providing flexible work schedules for both men and women to allow optimal balance of professional versus personal life are plausible starting points. In addition, burnout mitigation efforts need to start from the top down. The systems needs to support the workforce, and the workforce should not be crushed under the weight of a broken system. The goal should be to foster a healthy workforce that engenders a sense of value for unique abilities and experiences, provides equal opportunities to attain promotion and recognition, and ultimately retains our talented workforce for a long time.

### **CLINICS CARE POINTS**

- Exhaustion, depersonalization and reduced personal accomplishment are three classic symptoms of burn out syndrome.
- Depression, anxiety and feelings of burnout are highly prevalent in critical care physicians.
- Women and racial or ethnic minorities continue to be underrepresented in critical care medicine.

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