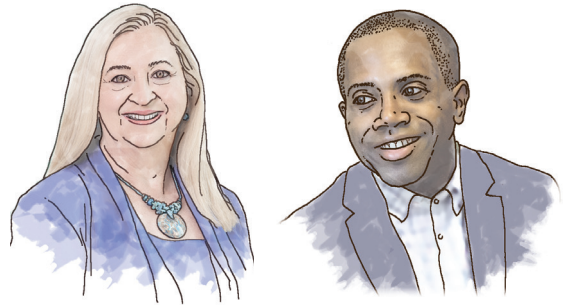


# Editorial

## BEDSIDE TO WORLDWIDE

By Cindy L. Munro, PhD, RN, ANP, and Aluko A. Hope, MD, MSCE



In day to day critical care practice, we focus primarily on our individual patients and on what is happening at the critical care bedside. Our thoughts and our activities are occupied with meeting the needs of each of our patients during their stay in the intensive care unit (ICU), investigating ways to improve their outcomes, and embedding high-quality evidence in our units. As we fulfill our obligations to patients as individuals, we also need to cultivate a greater recognition of how critical care is interconnected to public health in local and global communities.

Improving outcomes for our patients requires that we look beyond the proximate causes of ICU admission, to upstream factors that—if addressed—could reduce the future burden of critical illness and its sequelae. These upstream factors can affect the frequency, severity, and prognosis of critical illness. Although health equity, social determinants of health, and global sustainability development goals are often viewed as public health issues, their effects underlie the problems experienced by critical care patients.

The health of our local communities and the global population affects critical care burden of disease, presentation, progression, outcomes, and recovery. Social issues such as gun violence, poverty, substance use, and food and housing insecurity predispose to and complicate critical illness. Natural forces, including climate change, may directly and

indirectly affect critical care practice. Health needs worldwide strain the capabilities and resources of the global critical care community and necessitate the development of evidence-based interventions and screening programs for entire health systems, communities, and populations.

The American Association of Critical-Care Nurses (AACN) recognizes the important role that critical care nurses can take in mitigating risks of critical illness through local community engagement. AACN Chapters compete annually for prestigious Excellence in Chapter Community Education and Public Service Awards.<sup>1</sup> These awards recognize chapters that promote AACN and critical care nursing through outstanding community-targeted activities, such as education of the public and partnerships with community organizations.

Three AACN chapters who received the award in 2020 exemplify how critical care nurses can lead community engagement (Great Basin Chapter in Nevada, Greater Raleigh Area Chapter in North Carolina, and San Fernando Valley Chapter in California).<sup>1</sup> Two of the chapters provide “Stop the Bleed” training<sup>2</sup> to their local communities. “Stop the Bleed” is a national program to teach the general public to respond quickly and appropriately to bleeding emergencies that occur in the community. The Great Basin AACN Chapter’s interest in offering “Stop the Bleed” training was inspired by mass casualty events, including the Reno Air Race crashes and the October 2017 Las Vegas mass shooting. The San Fernando Valley Chapter provided

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doi:<https://doi.org/10.4037/ajcc2021734>

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“Stop the Bleed” training at a local parish as part of their commitment to supporting vulnerable people in their community. The Greater Raleigh Area Chapter led community education programs about sepsis recognition and treatment, as well as providing instruction in hands-only cardiopulmonary resuscitation (CPR). The education offered by these AACN chapters prepared people to respond to injury and serious illness in their communities.

Ongoing collaboration with community partners is another key strategy used by AACN Excellence in Chapter Award recipients to meet community needs and expand the influence of critical care nurses beyond the ICU. The Great Basin Chapter collaborates with Donor Network West, providing ongoing organ donation education that assists in promoting organ donation in the community. The Greater Raleigh Area Chapter has robust partnerships with the local food bank, a Guardian ad Litem program, and local backpack buddy programs that directly address health disparities of vulnerable people in their community.

Through community engagement, education, and support, critical care providers can improve the health of their local communities in ways that improve outcomes of acutely ill patients. The impact of community education and support may be easier to demonstrate for some projects than for others. Broad community knowledge of how to control bleeding could substantially increase the number of individuals who survive a mass casualty event, and less bleeding before ICU admission could measurably improve ICU outcomes in survivors. In other cases, the impact of community interventions may be more difficult to ascertain. For example, smoking cessation is crucial to long-term lung health, but the linkage between a smoking cessation program and subsequent avoidance of ICU admissions may be difficult to quantify. Nevertheless, research regarding

effective methods of public education and evaluation of programs is important.

Because global events can also affect critical illness, we need to look at engagement beyond our local communities. Climate change is a striking example of a global threat that is anticipated to affect human health in multiple ways, and there are clear implications for critical illness.<sup>3-7</sup> Cardiac, pulmonary, and renal conditions can be worsened by heat stress, and the dangers are worse for older adults, children, and socioeconomically disadvantaged people. Climate change is expected to exacerbate both natural disasters and infectious diseases, with subsequent associated health problems.

Increased wildfires in the past decade illustrate how natural events may worsen health. Wildfire smoke is a potent and toxic air pollutant and has been associated with exacerbations and worsening of asthma and other lung conditions.<sup>3</sup> The 2020 wildfire season in the western United States was the most severe on record; record-breaking levels of dangerous air pollution occurred, and in Oregon, emergency department visits for lung problems increased 10% in the month of September 2020.<sup>8</sup> Although the long-term health effects of worsening wildfire seasons remain speculative, concerns about the potential for increased numbers and severity of chronic lung diseases are not unwarranted.

Climate change may also lead to new patterns of infectious diseases. Changes in environmental temperatures, humidity, and rainfall can lead to expansion of the geographic range of pathogens and vectors.<sup>9</sup> Rising temperatures that extend the range of mosquitos, for example, could broaden the areas where serious mosquito-borne diseases are endemic.

Critical care resources differ among and within areas of the world, and responding to local and global challenges is not an easy task. The coronavirus disease 2019 (COVID-19) pandemic has sharply underscored the ongoing global need for highly trained critical care clinicians, robust public health and health care systems, and adequate resources for care of critically ill patients. Equitable provision of resources in the face of global need is complicated by political, socioeconomic, and policy issues.

Investigation of solutions for optimal care across high- and low-resource settings has the potential to

## About the Authors

**Cindy L. Munro** is coeditor in chief of the *American Journal of Critical Care*. She is dean and professor, School of Nursing and Health Studies, University of Miami, Coral Gables, Florida. **Aluko A. Hope** is coeditor in chief of the *American Journal of Critical Care*. He is an associate professor at Albert Einstein College of Medicine and an intensivist and assistant bioethics consultant at Montefiore Medical Center, both in New York City.

# “ Developing knowledge for practice that can be broadly applied and sharing that knowledge and best practices among all critical care providers are important strategies to improve outcomes in critical illness throughout the world. ”

identify interventions that are less dependent on advanced technology. Baker<sup>10</sup> suggested that in low-resource settings, outcomes could be improved by earlier recognition and treatment of critically ill patients, with a focus on simpler and cheaper therapies, including better nursing care, close 24-hour monitoring, and appropriate oxygen therapy. Schell and colleagues<sup>11</sup> proposed provision of essential emergency and critical care through attention to 2 key domains: first, identification of patients in need of critical care; and second, provision of a basic set of interventions by trained staff using treatment guidelines.

Critical care nurses can be an important component of building global critical care capacity. Many lower-technology interventions will be led by nurses and feasible for translation to less resource-rich environments. For example, prone positioning of patients can be accomplished even if specialized equipment is not available. Improvements in nursing care can be accomplished even when availability of technology is limited. Since opening its first ICU in 1984, Zambia has made a substantial commitment to supporting the education and development of critical care nurses<sup>12</sup> and serves as a model of expanded critical care services and improvements in quality in a resource-constrained environment.

Developing knowledge for practice that can be broadly applied and sharing that knowledge and best practices among all critical care providers are important strategies to improve outcomes in critical illness throughout the world. Critical care providers must continue to raise public awareness, disseminate and advance knowledge, and seek to influence policy discussions and data-based decision-making about local and global issues. From the bedside to worldwide, we can make a difference in critical care outcomes through advocacy and leadership.

The statements and opinions contained in this editorial are solely those of the coeditors in chief.

## FINANCIAL DISCLOSURES

None reported.

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