An economic policy which does not consider the well-being of all will not serve the purposes of peace and the growth of well-being among the people of all nations.

Eleanor Roosevelt

The business of medicine is governed by economic principles balancing supply and demand. What are the implications when something intrinsically valuable, such as health care, is a part of the equation? How does a consumer or a researcher define the economic value of an intervention?

Health care systems in the US use the time-honored pathway of patient arrival at the emergency department (ED), assessment, stabilization, determination of critical care needs, an admission bed order, and then a wait for an intensive care unit (ICU) bed to become available (termed boarding), which can take hours or even days. Causes of boarding are multifactorial; patients with higher-acuity illness, increased length of hospital stays, diminished ICU bed availability, and medical staff shortages have shifted the supply-to-demand ratio to the demand side.1 Emergency department volumes continue to increase daily as patients lose access to primary care.2 Boarding of critically ill patients in the ED is problematic on many levels.3 The practice leads to delayed diagnosis, increased complications, increased mortality, and increased length of hospital stay. In addition to creating economic challenges and complex administrative problems, boarding has a negative impact on the wellness of clinicians and nurses, as well as patient-centered health care goals.4 Prior work has assessed (among other solutions to this problem) bridging the default pathway with the implementation of an ED-ICU domain.4 This approach facilitates the provision of critical care services for the patient while still in the ED and is a clinically viable solution for some health care systems.4

The University of Michigan opened an ED-ICU as a solution for critical care boarding in 2015. Prior publications have delineated the efforts of this work and the associated benefits for patients.4 In JAMA Network Open, Bassin et al5 have addressed the economic implications of this model of care. Through a retrospective study from the perspective of quality per unit cost, the investigators focused on the denominator of this equation and evaluated direct costs incurred by the institution to deliver patient care. They studied the inflation-adjusted change in mean direct cost of care for patients before and after the implementation of a 9-bed ED-ICU with care provided by an emergency medicine (EM)-led team. Patients admitted to this unit would have otherwise undergone ED boarding and then likely admission to an inpatient ICU. Their findings demonstrated that despite a higher degree of acuity of illness and increased cost of care delivery, implementation of an ED-ICU was cost neutral for medical care delivered across their institution's total ED population.

The economics of this model are multifaceted and perspective dependent. Clinicians, payers, critically ill patients, other patients, and overall health care systems will each value the ED-ICU solution differently. In determining systems of justice, the philosopher John Rawls suggested that we imagine adopting a “veil of ignorance” by ignoring our own personal circumstance, thus setting aside our biased perspective and giving us the ability to objectively consider how to best operate a system.6

The ED is one of the few areas of a hospital that function without an option to turn away patients. Emergency medicine physicians are expert at caring for patients with any injury or illness in their first hours of need and managing care for all patients irrespective of acuity with high levels of
quality and efficiency.\textsuperscript{7} Prior EM efforts have improved care in realms such as sepsis, acute coronary events, and stroke with solutions focusing on the patient and diagnosis in a time-sensitive manner.\textsuperscript{8}

Only within the past decade have EM physicians been granted the opportunity to pursue board certification in areas of critical care medicine (by the American Board of Medical Specialties through internal medicine, anesthesiology, surgery, and neurology). Emergency medicine physicians training and working in critical care now hold positions of clinical and administrative leadership in various inpatient ICUs. Critical care is not a physical location but a mindset of high-intensity workup and intervention with the goal of patient diagnosis, stabilization, and treatment in a time-sensitive fashion. Critical care initiated in the ED improves patient outcomes.\textsuperscript{4} Naturally, EM physicians with insights from both the ED and ICU perspectives bring a unique solution to the problem of ED boarding of patients requiring critical care.

The bioethical principle of justice invokes the concept that when services are in short supply, we have an ethical obligation to find the best way of allocating that scarce resource to all who need it. Over the years, health care in the US has become a limited resource, and the fragile ecosystem supporting it has been exposed during the ongoing COVID pandemic. This was apparent as hospital parking garages were turned into ICU bays and EM physicians were called on to extend the scope of their patient care to prolonged critical care therapies and procedures. This supply crisis affects not only critically ill patients but all other patients in the ED, as well as clinicians and staff who are stretched beyond normal expectations. In this setting of increased demands on the ED, we have witnessed a diminishing supply of caregivers, with physicians, nurses, and ancillary personnel leaving the field as a result of devastating stress.\textsuperscript{9} The House of Medicine, as termed previously,\textsuperscript{10} has a responsibility to patients and their families but also to the clinical teams who provide their care. The ED-ICU model acknowledges the skills and talents of EM physicians and nurses who have critical care expertise and provides the appropriate venue to use those skills to benefit the critically ill patient. It is a win-win solution. If we adopt a veil of ignorance, which of the multiple solutions to the problem is best? We posit that it depends on the system but should not focus solely on monetary economics.

The ED-ICU model is not the singular solution, but in some environments it is definitely a solution. The model has been shown to improve patient care, maintain economic viability, reduce ED boarding, and provide important resources to a greater number of critically ill patients. Although there are many economic perspectives, this model also addresses the perspectives of quality of care in real time and matches clinician skills to patient needs. Economic viability is important, but it may be even more important to prioritize the human value of the solution to all stakeholders. Creating an efficient and high-quality ED-ICU benefits patients and their families and brings value to physicians, nurses, and ancillary staff, especially during times of resource scarcity. The ethics of health care do not stop at the patient but extend to the clinical teams as well. Although it may not be the answer for every system, the ED-ICU concept can be built on to further weave together the fabric of multidisciplinary critical care. The ED-ICU should be applauded as a viable solution to an existing health care problem. In the chaotic world of boarding, it promotes peace for patients and growth for the clinical teams. Emergency and critical care medicine, a relatively new critical care specialty, is well positioned to help the House of Medicine delineate novel solutions for the well-being of all critically ill patients.
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REFERENCES


