Critical care nurses are at the front lines of caring for patients with Ebola virus disease (EVD). Their constant, intimate proximity to infected patients intensifies concerns about their own health as they carry out their professional duties. The introduction of Ebola into the United States and the subsequent infection of 2 critical care nurses have instigated an intense analysis of the boundaries of professional responsibility in caring for patients infected with the virus. Many providers will experience profound moral distress as they weigh their own personal risks relative to their obligations to their patients, colleagues, families, and communities, and to their profession. Although these issues are not new—we have examined them in previous outbreaks of HIV, tuberculosis, severe acute respiratory syndrome—the virulence and high contagion of EVD warrant closer analysis. This column explores 4 ethical concerns related to caring for patients with EVD in the intensive care unit: the boundaries of professional obligation, mandatory versus voluntary staffing, provision of invasive therapies, and speaking up about ethical concerns.

What Is Known About Ebola?
Ebola virus disease is a severe viral hemorrhagic fever transmitted by human-to-human interaction, specifically close contact with body fluids. It is characterized by nonspecific symptoms, including fever, body aches, and sometimes both internal and external bleeding. Ebola virus disease has an acute onset of 6 to 21 days after exposure and can be fatal if left untreated. Ebola was first discovered in 1976 in central Africa, and a number of outbreaks have occurred since. Only recently, however, has the virus emerged in western African areas, including Sierra Leone, Guinea, and Liberia. The current outbreak has been by far the most severe, recording more cases and deaths than in all others combined. Currently, neither proven treatment nor licensed vaccines are available for EVD; however, likelihood of survival significantly improves with oral and/or intravenous rehydration and treatment of specific symptoms.

Taking basic critical-care measures will be imperative to effectively close the current EVD outbreak. In EVD treatment centers, using a combination of intra-venous fluid rehydration, provision of electrolytes, and empiric therapy (including...
antibiotics and antimalarial drugs) is resulting in a dramatic fatality rate decrease of 50%.\(^3\) Furthermore, the use of standard precautions to prevent transmission significantly decreases the likelihood of contracting the virus.\(^3,4\)

Ethically sound decisions are based on good facts. To date, the bulk of data in managing the Ebola crisis is derived from resource-poor countries in Africa. One of the first questions to ask is to what extent the lessons from these settings can inform our current practices. Certain recommendations, such as appropriate personal protective equipment (PPE), need to be modified on the basis of how care is delivered in more resource-intensive settings. Moreover, identification of cases in the United States may occur earlier in the disease course and entail a better prognosis. As experience grows with caring for patients with EVD, data should be collected and freely shared across institutions. These data should be continually assessed to inform current practices and suggest refinements to ensure ethically grounded decision making. The United States is currently not in a crisis situation with a large number of infected patients, and we have the opportunity to develop systems and policies to address some of the ethical concerns proactively.

**The Boundaries of Professional Obligation**

As a foundational ethical mandate, nurses have an obligation to care for all people who are in need of their services.\(^3\) The question is whether this general obligation applies during situations that involve potentially deadly diseases such as Ebola. Do the virulence and contagion of the disease alter this general duty?

One could argue that although nurses have a general duty to care for all people, in some circumstances, the characteristics of the situation exceed nurses’ general obligation. This argument might be justified by (1) the degree of personal risk required to provide care; (2) whether the situation requiring high-risk care occurs in a context of scare resources, including nurses; (3) having no reliable and effective methods to minimize risk; and (4) the lack of effective training or access to effective PPE.

When nurses volunteer to deliver care in uncertain and risky circumstances, are these acts morally obligatory or morally praiseworthy? One might argue that nurses are not meant to be martyrs, and therefore participation in such situations goes beyond a general requirement to provide care and services. Thus, they may be viewed as heroic and, therefore, morally praiseworthy. This analysis is most robust in crisis situations, such as in Africa, where the number of patients in need exceeds the capacities of health care professionals. Although reasonable, albeit not perfect, protocols and equipment to minimize personal exposure risks may exist, the nurse acting in this setting takes on a seemingly overwhelming burden that can be judged to be above and beyond the call of duty, which might imply that nurses who judge the risk to be too great are justified in their interpretation of personal risk and professional responsibility, and individuals ought to be able to volunteer to serve. Alternatively, one could argue that based on the American Nurses Association Code of Ethics,\(^3\) all nurses are required to provide care to those in need, regardless of their diagnosis and unique characteristics. Taken literally, this provision of the Code could require all nurses to be at the ready to provide needed care, providing adequate training and equipment are available. This “all-in” approach is bolstered by nurses’ specialized knowledge and skills and their social contract to use these skills to benefit others who need them and suggests that nurses and other clinicians may, in certain circumstances, be called on to act heroically in these devastating circumstances. In both instances, one must discern how to understand nurses’ ethical obligations not to abandon patients who are in need of their services. In the current situation, this obligation must be weighed in calculating the balance of risk versus responsibility.

Critical care nurses, individually and collectively, must explore the tradeoffs of these respective views of professional obligation.

- What is your individual threshold of risk that you are willing to undertake to provide care to people with diseases such as Ebola? What are the ethical tradeoffs?
- Are there other competing obligations or factors (eg, young children, family, colleagues, and institution) that are relevant to your analysis?
- What are the ethical reasons that support decisions to provide care or to request not to participate?
- How will differences in threshold of personal risk be adjudicated or accommodated?
- What promises will nurses make to themselves and each other to meet their general obligation not to abandon patients in need of their care? Is everyone obliged to contribute in the same way?
All critical care nurses must reflect on these important questions by being compassionately self-honest, confronting their fears, and seeking clarification to address gaps in knowledge and assumptions, while reconnecting to their intentions in being a nurse. Being able to distinguish unfounded fears, areas of ambiguity or uncertainty, and one’s character is essential for discerning one’s personal threshold for personal risk versus professional responsibility.

Mandatory Versus Voluntary Staffing
How the boundaries of professional obligations are understood—individually and collectively—will inform the design of various staffing models. Currently, all nurses who come in contact with patients are involved in identifying persons who are at risk of EVD and participating in the triage process if EVD is suspected. This suggests that a mandatory requirement for all nurses is to be educated on the protocols for safely and respectfully responding to suspected cases of EVD. Arguably, this level of training is different from the level of training needed to care for patients with confirmed EVD, where critical care nurses will be in direct contact with blood and other body fluids that significantly increase their risk of exposure. Absent the designation of a specialized and highly trained team, all critical care nurses may need to be trained in infection control and treatment protocols should a patient be diagnosed with EVD and need critical care. This view may be ethically justified on the basis of the obligation of all nurses to provide care to those in need and to fairly allocate risks and responsibilities across the critical care workforce.

Given the virulence and uncertainty about the effectiveness of infection control protocols and treatment regimens for patients with Ebola, and the small number of cases in the United States, it is also ethically permissible to implement voluntary care or self-selection delivery models, at least in the short term, until sufficient experience and data are available to better define the boundaries of risk to nurses at the front lines. In addition, due to their complexity, infection control and treatment protocols may be better implemented by a specialized and highly trained team that is willing to assume additional risk and is committed to providing needed therapies. As with previous infectious outbreaks,2 as more data accumulate and risks and benefits are understood, current policies may shift toward compulsory requirements for all nurses.

Enacting a voluntary care delivery model is predicated on several assumptions:

1. Implementing a voluntary model does not eliminate the ethical responsibility of nurses to provide care to all patients. Rather, it may postpone the implementation of a mandatory requirement based on assessment of risk, adequacy of voluntary workforce, and volume of patients with EVD.
2. Patients in need of critical care must not be abandoned. They must be informed of the boundaries of available treatment and methods of care delivery from the time of admission.
3. Volunteers must be fully informed of the known and unknown risks they are assuming, the training they will receive, the effectiveness and availability of PPE, and resources to support them during and after caring for a patient with EVD.
4. Volunteers who are infected with Ebola have access to treatment and may justify additional compensation and benefits.
5. The burden and responsibility of providing care should be fairly allocated across the nursing workforce.

What would be required of individuals and organizations to support a model of care delivery that relies on volunteers versus a mandatory requirement for all nurses to be trained and required to provide care? One of the considerations is to explore the just allocation of human and material resources that are impacted when a patient with EVD is cared for in the intensive care unit setting. The staffing needed to provide care for a patient with EVD will affect the delivery of care to other critically ill patients within a unit, which can lead to closed beds and fewer staff members to provide care to other patients and also can have an organization-wide impact on nurse staffing. Implementing a mandatory or voluntary model requires attention to creating a trustworthy and transparent process to avoid misguided assumptions, inaccurate facts, and an environment of blame or resentment. Some key questions include the following:

1. Is there consensus among critical care nurses, their leadership, and the organization on

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the boundaries of professional obligations to care for patients with EVD?

2. Are the expectations of professional obligations clearly defined, including when a shift to a mandatory system might be necessary?

3. If a voluntary method is selected, is a transparent process in place to recruit volunteers and inform them of their professional expectations and the reciprocal responsibilities of the organization to provide effective training, equipment, ongoing quality improvement, and support services?

4. What commitments are made to volunteers about compensation, access to treatment, disability provisions, workers’ compensation, and death benefits should a nurse become infected? Do these benefits extend to their families?

5. Will there be requirements for mandatory quarantine of the nurse who has cared for a patient with EVD? If so, how will these requirements be implemented? What are the implications on issues such as travel, family relationships, and other basic liberties?

6. Once agreeing to be a volunteer, can volunteers opt out? Is there a process for managing these situations?

7. What are the expectations of nonvolunteers who will not provide direct care to patients with EVD? In what ways can they contribute to a practice environment that supports those who volunteer?

8. Is there a plan in place to monitor the impact of a volunteer delivery system and anticipate future staffing needs? What are the expectations of nonvolunteers if patient volumes exceed the capacity of trained volunteers?

To fairly allocate the burden and responsibility of caring for patients with EVD, all members of the health care team will need to contribute to the unit’s optimal functioning and make necessary accommodations to support those who volunteer for service. A key element of either system is cultivating social solidarity among health care professionals who work together to support each other’s decisions and integrity. A shared commitment to fulfill our promise to care for the most vulnerable will require reconnecting to our deepest values, fostering respect and cooperation, humility, and gratitude for each person’s contributions.

**Provision of Invasive Therapies**

Considerable ethical concerns surround the scope of treatments that will be offered to patients infected with EVD. The virulence and contagion of the Ebola virus must be considered when determining what critical care interventions ought to be offered to these patients or their surrogates. The limited experience in providing critical care to patients with EVD in the United States suggests that some ethically justifiable boundaries should be considered. More is currently known about the disease trajectory in some resource-poor countries in Africa, where the mortality rate is quite high.

What is not clear is how the provision of critical care therapies in the US system will affect patient outcomes or clinician risks. For example, intubation and dialysis may be effective as supportive therapies during periods of highest hemodynamic instability; cardioversion may be effective to treat cardiac arrhythmias associated with severe electrolyte derangements. Critical care nurses are understandably concerned about the increased risk of exposure to the Ebola-infected patient’s blood or other body fluids during procedures such as intubation, cardiopulmonary resuscitation, dialysis, or extracorporeal membrane oxygenation. For example, an EVD patient receiving maximal therapy who experiences a cardiopulmonary arrest may not benefit from chest compressions. Cardiopulmonary resuscitation is a physically demanding procedure that can cause properly used PPE to become dislodged or compromised and thereby adding additional risk of exposure for clinicians. Similarly, the extra time needed to don PPE may delay the initiation of the procedure, further diminishing its effectiveness.

A beginning point in thinking about the ethical reasoning for offering or limiting certain procedures is to consider the categories listed in Table 1. This grid is not meant to reflect the definitive recommendation on the utility or ethical justification for specific therapies. Rather, it is meant to be a guide for discerning the ethical boundaries of the use of certain invasive therapies based on probability of effectiveness and risk to clinicians. These boundaries may be a reasonable starting point for putting in place policies under conditions of urgency and uncertainty. As more data and experience are gathered, these initial boundaries will need to be reexamined and adjustments made. If policies are developed that limit the use of certain therapies, such as cardiopulmonary resuscitation...
or extracorporeal membrane oxygenation, on the basis of medical ineffectiveness and high risk to health care professionals, patients and families must be informed of these practices on admission to ensure transparency and avoid conflicts as concerns arise. Proactive ethics consultations also can offer additional support for exploring these boundaries before a crisis occurs.

**Speaking Up About Ethical Concerns**

Although nurses have a general obligation to provide care for those in need of their services, they have a corollary obligation to identify situations that involve unethical or unsafe practices. In circumstances where nurses are placed in situations that do not include the elements described earlier, how ought critical care nurses respond? Below are some general guidelines for taking wise and ethically grounded action.

- Have the facts been verified? Are concerns fully informed and assumptions verified? Have fear-based concerns been distinguished from ethical concerns?
- Are the policies and guidelines governing practice, especially related to the care of patients with EVD, understood?
- Have others been engaged in exploring the issues? Have interprofessional team meetings to verify facts and engage in dialogue to identify the ethical issues and possible solutions been convened?
- Has the support of leadership been enlisted? Are the context for decision making and the chain of command for communicating concerns clearly understood?
- Have ethics consultants been involved to facilitate discussions and participate in defining options?
- Has the ethical issue been named and the ethically permissible range of options for addressing it been determined? This might include conscientious voice to identify the concern, conscientious refusal to participate, or in severe cases, responsible whistleblowing or conscientious exit from the organization if the concerns are not adequately addressed or persist despite concerted efforts to address them.

Critical care nurses need to be competent in identifying the ethical issues they confront and they must be confident in taking bold action to address them. They also must be supported to...
bring their concerns to the forefront without fear of being ostracized, disrespected, or retaliated against. All members of the critical care team and the organization have the responsibility to create an environment where nurses are able to practice ethically.

Conclusion
The current threat of Ebola in the United States creates an important opportunity for critical care nurses to examine the very challenging ethical issues that accompany it. Critical care nurses can lead the way by proactively considering the steps needed to create ethically sound policies. Embedded in the tragedy of this disease is an opportunity for the soul of nursing to shine. Nurses have always risen to the challenges of illness, disability, and death. Cultivating an ethic of solidarity among health care professionals, institutions, and the community to fulfill society’s commitment to its most vulnerable members will be a vital anchor as the challenge unfolds.

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