

Ebola Patients and the Ethics of Unilateral Do-Not-Resuscitate Orders

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INTRODUCTION

The bioethicist Joseph Fins, M.D. recently called for unilateral do-not-resuscitate (DNR) orders for all patients suffering from Ebola virus infection.¹ If Dr. Fins' suggestion is adopted it will mark the first time unilateral DNR orders will be made based solely on infection status, and not on individual prognosis. His thoughtful argument is based in the principle of non-maleficence and the concept of futility. Despite this Dr. Fins fails to adequately address the popular misconceptions of DNR orders as "giving up" and letting patients die.^{2,3,4} As a result, Dr. Fins' well-reasoned call for unilateral DNR orders may inflict unintended harms to patients suffering from Ebola hemorrhagic fever. The course of action that strikes an appropriate balance between ethical action and practicality should be a clear, in-depth conversation with patients and their loved ones about the limitations of Ebola critical care in the event of cardiopulmonary arrest, the initiation of preventative intubation or extracorporeal membrane oxygenation (ECMO) before a patient arrests, and the provision of limited cardiopulmonary resuscitation in the event of arrest.

ANALYSIS

While Dr. Fins argues for unilateral DNR orders for all Ebola patients from an ethical standpoint, a DNR may be justified based solely on healthcare workers' inability to provide cardiopulmonary resuscitation (CPR) for Ebola patients. CPR requires a team of physicians, nurses, and a respiratory therapist. In the event of a "code blue" (i.e., patient's cardiopulmonary arrest), any physicians, nurses, and respiratory therapists not involved in the patient's routine care, but necessary for CPR would need to put on their required personal protective equipment (PPE) before helping the patient. Depending on the protocol, 10 to 28 steps are required to properly put on PPE.^{5,6,7,8} In an emergency (e.g., cardiopulmonary arrest), these steps will either take too long for healthcare providers to successfully attend to the patient, or the healthcare providers may accidentally skip, or err on any given step, exposing them to risk of infection. The most likely scenario would be a combination of the two where the patient receives unsuccessful CPR—due to a delay in receiving resuscitative efforts—and one or more healthcare workers are needlessly exposed to the Ebola virus. The only way to overcome this barrier to providing CPR would be to have a 24/7 on call CPR staff already suited in PPE; this would effectively render them unable to attend to any other patients shifting the healthcare worker to Ebola patient ratio to around a dozen to one.

Practical concerns aside, a unilateral DNR for Ebola patients can be ethically justified—just as Dr. Fins argues—on grounds of non-maleficence.¹ Ebola virus infections cause massive internal bleeding, which means that at least some patients experiencing cardiopulmonary arrest will most likely be *in extremis* due to exsanguination (i.e., bleeding out). The chest compressions involved in CPR would most likely worsen the patient's blood loss, in effect hastening death. Furthermore, CPR for such a patient will most likely be futile,

due to their disease process and compounded by the time it takes for healthcare workers to properly don their PPE. Patients who arrest in hospitals have a 6.5-15% chance of survival.⁹ These data do not take underlying disease process into account, which has a great effect on survival rates.¹⁰ As was previously outlined, the time between arrest and CPR will be greatly protracted in the Ebola patient due to the lengthy process of donning PPE, which will make any resuscitative efforts much less effective than if they were started immediately.

Despite these practical and ethical justifications for the unilateral DNR for Ebola patients, Dr. Fins fails to acknowledge that many people, physicians included, do not have an accurate understanding of DNR orders.^{4,9,11,12} A popular misconception of the DNR order treats it synonymously with “giving up.” However the more accurate understanding of a DNR—and how Dr. Fins views it in relation to Ebola patients—is described by the American Medical Association (AMA) as an order preventing the *initiation* of CPR, exclusive of another treatment.¹⁰ A review of CPR on television found that resuscitative efforts in popular media rarely fail.⁹ This feeds an unrealistic public perception of DNR orders as a withdrawal of care. Asking the public to understand a DNR order based on the futility of CPR is extraordinarily difficult if most people expect CPR to revive a majority of patients suffering cardiopulmonary arrest. The potential for misunderstanding a unilateral DNR order is great, and could potentially undermine many patient-physician relationships, regardless of disease.

Although considerations of public perception are important, a widespread misconception of DNR orders among the lay public is much less problematic than misconceptions within hospital staff. Some studies have indicated that the AMA’s definition of DNR orders is not fully understood or implemented by healthcare providers.^{11,12} The implications of these findings indicate that the mere appearance of a DNR in a patient’s chart affects the non-CPR treatments they will receive, potentially resulting in less than optimal care. If a unilateral DNR is enacted for all Ebola patients, any physicians without a proper understanding of DNR orders may treat Ebola patients less aggressively than they would patients requesting full resuscitative efforts. While this potential exists already, the individualized nature of ordering a DNR requires a discussion between physicians and patients regarding the patients’ end-of-life goals of care, including but not limited to CPR and a DNR orders. However, a *unilateral* DNR order removes the impetus for such a discussion to occur. In effect the unilateral DNR could cause, at least theoretically, the death of patients suffering from Ebola infection who might otherwise have otherwise recovered, solely because of physician misunderstanding. This is ethically unacceptable.

CONCLUSION

Rather than call for the highly controversial unilateral DNR as Dr. Fins has done, a more nuanced approach would be equally effective at maintaining healthcare worker safety and would be less ethically problematic. Upon admission, the attending physician should have a conversation with the patient, and their loved ones, as to the realities of providing CPR to patients with Ebola hemorrhagic fever. They should explore the patient’s goals of care, and whether or not the patient wants CPR or a DNR order. In the event that a patient requests “everything be done” (i.e., perform aggressive CPR), the physician and the ICU team should explore “pre-emptive” CPR-like options (i.e., aggressive, non-futile life-sustaining medical treatments like intubation or ECMO) prior to an arrest, as well as less aggressive, yet still effective, CPR efforts (i.e., withholding chest compressions, only the attending physician and the nurses perform CPR, epinephrine injections, monitor electrolytes) after an arrest. Most importantly, healthcare providers must ensure that their patients don’t feel abandoned, or feel like their physicians will give up on them because they are unfortunate enough to have contracted the Ebola hemorrhagic fever.

¹ Fins Joseph. “Responding to Ebola: Questions about Resuscitation.” The Hastings Center: Bioethics Forum. Last modified October 10, 2014. <http://www.thehastingscenter.org/bioethicsforum>

² Bishop Jeffrey, Brothers Kyle, Perry Joshua, Ahmad Ayesha. "Reviving the Conversation Around CPR/DNR." *The American Journal of Bioethics* 10 No. 1 (2010): 61-67.

³ Burns Jeffrey, Edwards Jeffrey, Johnson Judith, Cassem Ned, Truog Robert. "Do-not-resuscitate order after 25 years." *Critical Care Medicine* 31 No. 5 (2003):1543-1550.

⁴ Clark Jonna, Dudzinski Denise. "The False Dichotomy: Do 'Everything' or Give Up." *The American Journal of Bioethics* 11 No. 11 (2011): 26-27.

⁵ Centers for Disease Control and Prevention. "Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for Putting On (Donning) and Removing (Doffing)." Centers for Disease Control and Prevention Web site. Last modified October 20, 2014. <http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html>

⁶ Sterk Esther, ed. "Filovirus Haemorrhagic Fever Guideline, 2008." *Medicines Sans Frontieres* 2008.

⁷ University of Nebraska Medical Center. "Donning Biological PPE – Ebola Patients." University of Nebraska Medical Center. Accessed November 7, 2004. http://app1.unmc.edu/nursing/heroes/ppe_posters_vhf.cfm

⁸ World Health Organization. "Steps to put on personal protective equipment (PPE)." World Health Organization. Last modified August 2014. http://www.who.int/csr/resources/publications/ebola/filovirus_infection_control/en/

⁹ Diem Susan, Lantos John, Tulskey James. "Cardiopulmonary resuscitation on Television." *The New England Journal of Medicine* 334 No. 24 (1996): 1578-1582.

¹⁰ Council on Ethical and Judicial Affairs American Medical Association. "Guidelines for the appropriate use of do-not-resuscitate orders." *Journal of the American Medical Association* 265 No.14 (1991): 1868–1871.

¹¹ Beach Mary Catherine, Morrison R. Sean. "The Effect of Do-Not-Resuscitate Orders on Physician Decision-Making." *Journal of the American Geriatrics Society* 50 No.12 (2002): 2057-2061.

¹² Cohen Rubin I, Lisker Gita N, Eichorn Ann, Multz Alan S, Silver Alan. "The impact of do-not-resuscitate order on triage decisions to a medical intensive care unit." *Journal of Critical Care* 24 No.2 (2009): 311-315.