

Pandemic Influenza Triage in the Clinical Setting

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Abstract

Introduction: There has been much federal and local health planning for an influenza pandemic in the United States, but little is known about the ability of the clinical community to deal quickly and effectively with a potentially overwhelming surge of pandemic influenza patients.

Problem: The attitudes and expectations of emergency physicians, emergency nurses, hospital nursing supervisors, hospital administrators, and infection control personnel concerning clinical care in a pandemic were assessed.

Methods: Key informant structured interviews of 46 respondents from 34 randomly selected emergency receiving hospitals in Los Angeles County were conducted using an Institutional Review Board-approved protocol. The interview asked about supplies/resources, triage, quality of care, and decision-making. At the conclusion of each interview, the informant was asked to provide the contact information for at least two others within their respective professional group. Interviews were transcribed and coded for key themes using qualitative analytical software.

Results: There was little salience that an influx of variably ill patients with influenza would force stratified healthcare decision-making. There also was a general lack of preparation to address the ethics and practices of triaging patients in the clinical setting of a pandemic.

Conclusions: Guidelines must be developed in concert with public health, medical society, and legislative authorities to help clinicians define, adopt, and communicate to the public those practice standards that will be followed in a mass population, infectious disease emergency.

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Introduction

The emergence of highly pathogenic avian influenza (H5N1) around the world and isolated outbreaks in humans has resulted in increased concern about the potential for a pandemic.¹ The recent 2009 H1N1 pandemic provided a test of the plans generated by that concern, and reinforced the need for further preparation. Planning for a potential influenza pandemic has been emphasized by the United States government for all sectors of society, with a special focus on the healthcare sector. State and local health departments as well as federal agencies are expected to have pandemic influenza response plans. The Department of Health and Human Services has provided funding to state and local health departments to help prepare the health sector for a pandemic.

As partners in this planning, hospitals also must be prepared for a pandemic; however, the pre-existing staffing, supply, and bed shortages currently experienced by hospitals in many areas of the country² pose a particular challenge to influenza planning, and the predicted overwhelming surge of ill patients likely will exacerbate existing insufficiencies. United States Department of Health and Human Services models suggest that up to 30% of the population will become ill in a pandemic event, and this includes health-

care providers, further reducing staffing capacity to care for patients.³ Those healthcare workers who are not symptomatic may be reluctant to report to work either to avoid becoming ill or because they need to care for their own families, who either may be ill or directed to stay at home from school or work as part of public health, social isolation, containment measures. Even in situations in which healthcare workers are able to report for work, they may confront limitations on their ability to provide healthcare services due to insufficient bed space, nursing staff, ventilators, intensive care unit space, or antimicrobial or other pharmaceutical shortages. All of these factors are anticipated to adversely affect the medical surge capacity.

The surge in patients seeking care in a setting of limited resources will force the healthcare system to adapt in ways that may compromise healthcare providers' ability to provide what, in non-pandemic times, would be a customarily accepted and expected quality of care. This situation may pose especially difficult choices for those practicing in emergency departments. In the US, the Emergency Medical Treatment and Active Labor Act (EMTALA, 1986) requires virtually all hospitals and ambulance services to provide care to any person needing emergency treatment,⁴ but the convergence of resource shortages and very large numbers of sick patients could place emergency department staff in the position of having to stratify the kinds of care they can deliver. Some patients, for example, who otherwise would have been admitted, might need to be triaged away from the hospital to a more austere care environment, confronting clinicians with disquieting choices having both ethical and legal implications.⁵

Thus, while there has been a call for public health preparedness for an influenza pandemic that has resulted in considerable planning at the state and territorial levels,⁶ less is known about the impact on the hospitals that will be expected to deal quickly and effectively with a patient surge. To help with pandemic planning of hospitals, the US Department of Health and Human Services released a generic checklist.⁷ Specific sections of the checklist direct hospital planners to address issues of triaging patients to separate areas of the hospital, develop criteria for admission of influenza patients, and plan for redirecting healthcare efforts to alternate care facilities. The planners in individual institutions will need to tailor these guidelines based on the variability in hospital practices, locales, and baseline capacities and capabilities. The checklist also identifies the issues of the ethics and basis of prioritizing and stratifying limited healthcare resources to patient populations, but there are no further specifics on how to define or implement such practices.

Given the extraordinary circumstances that an influenza pandemic likely will pose to hospital-based clinical staff, this project was designed to identify some of the parameters of healthcare providers and hospital administrators that would impact their ability to care for large numbers of patients presenting to their hospital emergency departments. This paper explores the level of understanding of pandemic influenza planning by hospital-based clinicians and administrators, and self-perceived willingness to implement triage practices and stratified levels of care to patients presenting to their emergency departments. Specific objec-

tives were: (1) to learn if key staff members were aware of the potential for a pandemic; (2) understand the implications such an outbreak would have for the emergency setting in their respective hospitals; and (3) determine if they were familiar with any specific guidelines that would impact the clinical management of large numbers of variably ill patients.

Methods

The study was conducted among hospitals in Los Angeles County between 2006 and 2007. Adhering to an Institutional Review Board-approved protocol, key informant interviews were conducted with selected participants from hospitals across the County. The informants included emergency department physicians, emergency department nurses, hospital nursing supervisors, infection control nurses, and hospital administrators. A target was established to interview 10 representatives from each group. For each of the five informant groups, one of the seventy-eight 9-1-1 receiving hospitals in the County was randomly selected as the starting hospital. The emergency department in the hospital was contacted by a member of the research team and asked for the name and contact information for a potential participant. The participant was contacted by telephone, read an informed consent statement and asked if s/he would be willing to schedule an in-person interview at a convenient time and place. Following the interview, the participants were asked to provide the names and contact information for two of their colleagues at a different institution for potential participation in the study. This snowball sampling technique was employed until there were no more participants willing to participate. At that point, an additional hospital randomly was chosen.

Participants were interviewed by a member of the University of California, Los Angeles (UCLA) Center for Public Health and Disasters (CPHD) study team concerning their opinions, attitudes, knowledge, and expectations as they related to the capability of systems of care to deal effectively with triage in the clinical setting during an influenza pandemic. The interviewers used a semi-structured interview guide, and interviews were tape recorded and transcribed.

Interviewers were provided with a list of questions to help guide the inquiry toward the topics of patient triaging and management systems for large numbers of patients presenting to emergency departments during a pandemic. They addressed several general themes: (1) institutional supplies and resources; (2) triage parameters within their institutions; (3) quality of care issues that could lead to stratification of patients away from their institutions; (4) the ethics of such triage decision-making; (5) knowledge about someone with authority for institutional decisions; and (6) whether the respondent felt s/he could adhere to institutional decisions concerning the clinical triage of patients. The individual interviewers assessed the need to provide more or less detail in accordance with participant responses and attitudes so as to help elicit responses that were specifically relevant to each question.

The content of the collected responses was used to determine the existing awareness and concerns of clinical providers

and to help identify factors that might impact the delivery of accepted quality healthcare services in a pandemic situation.

The transcribed interviews were reviewed and a hierarchical coding frame was created by the study team. Overarching categories were established based on repeated themes, including “general concerns”, “planning”, “state/federal resources”, “ethical concerns”, “ventilation”, “labs”, “triage”, “rapid containment”, “quality of care”, “staffing issues”, “the public”, “chain of command”, and “management structure”. Within these categories, individual codes were created from the data to capture the numerous interview responses. Three members of the study team coded the interview responses for each case, which were then compiled and summarized for analysis. Processing of the data was conducted using standard qualitative analysis techniques, identifying trends, agreements, and dissenting opinions.

Results

Participants from 34 hospitals in Los Angeles County were interviewed. These hospitals included public facilities, academic medical centers, and community hospitals, which spanned the geographic area of the county. A total of 46 individuals were interviewed: emergency department physician (11), emergency department nurse (7), infection control nurse (9), nursing supervisor (9), and hospital administrator (10).

Although representatives of all staff groups were concerned about the operational mechanics of triaging large numbers of patients with influenza-like illnesses, these issues more commonly were raised by frontline practitioners, doing the “on the ground” work: infection control staff, and emergency department nurses and physicians. Many of their concerns focused on the logistical considerations of triaging large numbers of patients: the triage site itself, sufficient staff to perform triage, infection control at the triage site or when moving patients to another hospital location, crowd control, and patient surge. Despite concerns of how to manage the screening and triage of such an influx, there appeared to be little cognitive confrontation about the prospects of stratifying the type of care to be offered to patients. These issues were reflected in some of the comments by respondents:

“We’re like the Eveready Bunnies, we just keep going and going and doing everything we can.” (Emergency Department nurse)

“Personally I have no ethical concerns.” (Emergency Department physician)

“I don’t really feel we would do anything different for any kind of disaster, either flu or bioterrorism.” (Infection Control nurse)

“They come here and we take them.” (Nursing Supervisor)

In an attempt to focus respondents more directly on the possibility of applying reduced standards of practice for different patient populations, the following questions were posed by the interviewers:

“What are some ethical concerns you might have relating to triaging of patients within the clinical setting?”

“If a new patient arrives at your facility in an advanced stage of influenza, do you have concerns if you have to triage them to an auxiliary facility?”

These questions provoked respondents to respond more specifically regarding both the operational and ethical issues of triage.

“We treat everybody the same regardless of what’s wrong with them.” (Emergency Department nurse)

“I don’t think there are any different concerns in a pandemic flu when you triage. I don’t have any ethical concerns.” (Emergency Department nurse)

“Whether our patients are urgent or non-urgent, they all get the same type of care.” (Emergency Physician)

“I don’t know what lower quality of care would mean. I don’t think it will be my concern.” (Nursing Supervisor)

“Lower quality of care is a totally foreign concept to this organization. It’s always do the max for everybody. Get the Cadillac out for that person.” (Infection Control nurse)

“What about the liability components?” (Hospital Administrator)

The following prompts were aimed at the ethical issues faced when confronting the possibility of modifying customary standards of patient care due to an overwhelming case load:

“If you have to restrict care to a particular patient based on anticipated survivability, what are some of your concerns triaging them home or to a hospice setting?”

“What are some ethical concerns that might challenge your ability to give sufficient care to patients if triage based on survivability would occur?”

“If you had to provide a lower quality of care than typically delivered under non-emergency situations, what are some of your concerns?”

Responses reflected both the emotional and operational stresses posed by such decision-making.

“Physicians will establish a scale in which to base treatments.” (Infection Control nurse)

“The biggest concern is the emotional wear and tear on the staff... we think we can do the best for everybody. Sometimes we just can’t.” (Emergency Department nurse)

“I don’t think we have that kind of experience... I don’t think we have the training to understand what decisions might need to be made.” (Emergency Physician)

“...you can’t save everybody. You are going to have to use your resources for those that can be saved.” (Nursing Supervisor)

“I would imagine government agencies to give us those guidelines.” (Hospital Administrator)

Discussion

The findings of these key informant interviews illustrate two critical concerns in the preparation of hospital-based practitioners to respond to an influenza pandemic. First, at least in this respondent group, there appeared to be little salience that an influx of variably ill influenza patients would be much more than “business as usual... only bigger.” Emergency department staff are clinically oriented healthcare professionals who are accustomed to pulsations in their patient loads. There is a collective mindset consistent with pulling together and working harder in order to manage abrupt increases in patient census. Responses to the initial questions concerning large numbers of patients reflected this “can do” attitude, rather than a primary awareness of

the prospects of having to stratify healthcare decision-making to accommodate a potentially overwhelming number of patients. The ethics of such a triage situation were not apparent in the initial thinking about a pandemic influenza surge plan. Second, when they were made aware of the unsavory proposition of having to stratify admitting decisions and levels of care for their patients (sometimes after interviewers reframed the dilemma more than once), respondents revealed a lack of preparation to address these contingencies. Some of the nurses deferred to physician leadership, while some physicians suggested a lack of preparation to make such decisions, and hospital administrators sought governmental policies for guidance. This ambiguity in preparedness at the emergency department practitioner level exists after years of federal, state, and local efforts to prepare for an influenza pandemic.

Pandemic Influenza Planning from the Top Down

The recognition of the need to prepare for an influenza pandemic was recognized several years ago and was articulated in a 2000 report to the United States Congress by the General Accounting Office, entitled, "Influenza Pandemic: Plan Needed for Federal and State Response".⁸ In the years that followed, the Department of Health and Human Services issued the National Pandemic Influenza Preparedness Plan in 2004,⁹ the National Strategy for Pandemic Influenza in 2005,¹⁰ and the Implementation Plan for the National Strategy for Pandemic Influenza in 2006.¹¹ Locally, the Los Angeles County Department of Public Health released "Hospital Pandemic Influenza Guidelines for Acute Care Hospital Settings" in March, 2006, "... designed to assist those responsible for managing pandemic influenza in traditional health care settings such as acute care (hospitals) settings" (page i, Version 1.5).¹² The federal government subsequently established a Website, <http://www.pandemicflu.gov>, and, on 12 September 2007, posted a Hospital Pandemic Influenza Planning Checklist to assist hospitals in organizing their resources and staff to respond to a pandemic.⁷

In 2006, the US Congress appropriated \$350 million to support state and local pandemic influenza preparedness efforts,¹³ and in 2007, the Department of Health and Human Services allocated an additional \$175 million to public health departments specifically for pandemic influenza preparedness.¹⁴ During the first decade of this century, there has been a concerted effort, both nationally and locally, and supported with substantial amounts of federal funding, to drive health department and hospital pandemic influenza preparedness.

Pandemic Planning at the Hospital Level

Despite all of these efforts, the question remains whether hospital-based practitioners are aware of these plans and if, in the event of a pandemic, they will be able to draw upon them in order to manage the projections of very large numbers of potentially seriously ill patients. According to federal projections, susceptibility to the pandemic influenza subtype will be universal, the clinical disease attack rate will be 30% in the overall population, and illness rates will be highest among school-aged children (about 40%) and decline with

age. Among working adults, an average of 20% will become ill during a community outbreak. Perhaps most relevant to hospital-based clinical practitioners, especially in emergency departments, 50% of those who become symptomatic will seek outpatient medical care.¹⁵

Assessing the ability of healthcare systems to appropriately manage this type of patient surge during a pandemic can uncover significant, complex clinical and ethical dilemmas concerning rationing and prioritization of care and the optimal use of scarce resources. These concerns may evolve from such factors as hospitals with insufficient logistical and bed capacity to care for patients who would, in more usual situations, be admitted for inpatient care. They also may reflect the conditions of impacted, overcrowded emergency departments that are no longer capable of handling an overwhelming number of patients. An additional parameter that must be considered is the likely reduced availability of healthcare workers due either to their own infection with the pandemic strain, a refusal to risk their own health to care for contagious patients, or their inability to leave dependent family members at home. All of these factors may necessitate the implementation of triage strategies that call for reductions in the usual standards of patient care.

Factors in Pre-Existing Hospital Overcrowding

The consequences of such a massive mismatch between numbers of ill patients presenting to emergency departments, insufficient inpatient capacity, and staffing shortages may represent an amplification of circumstances that already are either in play or poised to occur in metropolitan emergency departments across the US. In 2003, the National Hospital Ambulatory Medical Care Survey reported that approximately one ambulance is diverted away from its closest receiving hospital because that hospital's emergency department was too overcrowded to safely care for one more patient.¹⁶ In Los Angeles County, the number of hours that emergency departments were on ambulance diversion tripled between 1998 and 2004.¹⁷ One reason for the overcrowding of emergency departments is the permanent closure of emergency departments themselves, either as hospitals close completely or choose to discontinue providing emergency medical care at their facilities. Between 1993 and 2003, there were 9% fewer emergency departments in the US, even as the number of patients seeking emergency department care increased by 26%. On the inpatient side of the equation, there was a coincident reduction of 703 hospitals and 198,000 inpatient beds.¹⁸ This growing insufficiency of inpatient bed capacity has resulted in patients who need hospitalization having to "board" in the emergency department because there are no available inpatient beds in which to care for them.¹⁹ In Los Angeles County, where the key informant interviews of this study were conducted, the numbers are even more striking. According to the California Office of Statewide Health Planning and Development, >2,100 hospital beds were closed county-wide between 1996 and 2006,²⁰ while during this same time, the County's population increased by more than 1.1 million.²¹ But even if there were sufficient numbers of beds to accommodate a rapid increase in patients needing hospitalization, an on-going

shortage of nurses still would handcuff a hospital's ability to care for them. In 2006, the Center for California Health Workforce Studies at the University of California, San Francisco, reported an estimated shortage of 10,000 registered nurses in Los Angeles County,²² and this is reflective of a national shortage of approximately 116,000 nurses according to a 2007 report by the American Hospital Association.²³

The Ethics of Modified Standards of Care

The difficulty for hospitals in Los Angeles as well as in other regions of the country to provide acute care for emergency patients during "normal" times will pose substantial logistical and unsavory ethical challenges in the event of an influenza pandemic. The findings of the key informant interviews suggest that these challenges are not primary in the thinking of those who will be charged with caring for a prolonged influx of large numbers of influenza patients. When probed, however, respondents quickly were overwhelmed by such a scenario, as they attempted to grapple with simultaneous strategies for patient triage, prioritization of care, and modification of customary clinical practices. The recognition of the demands on Intensive Care Units that will follow a pandemic were described by the Task Force for Mass Critical Care published in *Chest* in 2008.²⁴ But, even as those demands have been identified, the necessary clinical and ethical guidance for the emergency department triage of large numbers of variably ill patients remains elusive, although this dilemma has been discussed in national forums such as the American Public Health Association in 2006 and the UCLA Conference on Public Health and Disasters in 2007.^{25,26}

Confronted by an absolute lack of inpatient capacity, treatment protocols must be developed in order to reduce the number of patients being admitted to hospitals, redistributing them instead to auxiliary care facilities that might provide intravenous hydration and non-ventilator respiratory care. In some cases, patients might be advised to return home, with care rendered by family members for those with more minor symptoms. In a more bleak scenario, those with co-morbidities that predict non-survivability also might be discharged home, with comfort measures being the only alternative in the context of an overwhelming community-wide pandemic. The ethical and legal implications of such decision-making should be founded in the generation of thoughtful, yet authoritative, policies that both the medical community and society at-large will be asked to endorse. Without such standards, there is a risk that the application

of triage measures in the clinical setting may be applied differentially, within and across state jurisdictions.

Conclusions

There were three influenza pandemics in the 20th century: 1918 (Spanish), 1957 (Asian), and 1968 (Hong Kong). The Department of Health and Human Services projects that in a mild to moderate pandemic, similar to those in 1957 and 1968, 45 million Americans will seek outpatient care, and 865,000 will require hospitalization.³ Although millions of dollars have supported years of systems planning, vaccine research, and stockpiling of anti-viral medications, the concern remains whether hospital-based emergency practitioners understand the potential magnitude of a pandemic in their communities, know their institutional plans and policies, and will be able to withstand the ethical dilemmas posed by the need to reduce standards of clinical practice in order to deliver the most appropriate care to most of the affected population. Without direct communication to the practitioners who will have to implement health department and hospital pandemic influenza plans, it is likely that responses to such a pandemic will be delivered in a disorganized and inequitable fashion.

In order to focus emergency department clinical efforts to be able to respond in an effective, equitable, and compassionate way to the predicted overwhelming caseload in an influenza pandemic, nationally applicable policy should be developed that parallels those already in place for hospital and health department strategic planning. Existing bed shortages will be amplified in such a crisis, and practitioners should know what will be expected of them as they triage patients into hospitals, alternate care sites, or home. Similarly, the public must be informed as to the standards that uniformly will be applied to them should they become ill and seek emergency medical evaluation and treatment.

This is not to say that every community across the country will handle a communicable disease emergency in identical fashion. Different communities have different hospital capacities and patient triage standards. Those individuals who live in different communities will experience the kinds of medical resources available in those communities. Federal health authorities should, however, promulgate pandemic influenza planning for clinical practitioners. Such actions, perhaps in concert with public health, medical society, and legislative authorities will help clinicians define, adopt, and communicate to the public those practice standards that will be followed in a mass population infectious disease emergency.

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Editorial Comments—Pandemic Influenza Triage in the Clinical Setting

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There have been great efforts on the federal and local levels to prepare for the specter of a severe influenza pandemic, however knowledge gaps and operational challenges remain. It is critical to assess if current top-down efforts actually are improving and/or likely to improve the ability of on-the-ground clinicians to respond effectively, efficiently, and ethically to the formidable healthcare challenges of a severe influenza pandemic. Because severe pandemics involve acute *shortages of resources*, such as ventilators, beds, and clinical staff, a formidable challenge will include planning for and responding to the ethical questions of *who will receive resources and care, when and under what conditions?*¹ Hospital clinicians, and in particular, emergency physicians, will be at the forefront of these decisions which will require more than mere technical consideration of survival probabilities and resource capabilities.^{2–7} Rottman and co-authors of the study, “Pandemic Influenza Triage in the Clinical Setting” are to be commended for recognizing the need not only to study the efficacy of current planning efforts on the hospital level, but to particularly focus on the preparedness and willingness of hospital clinicians to make the necessary ethical decisions.

The study results are striking. By surveying 46 healthcare professionals, Rottman and co-authors highlight that hospital clinicians are unaware of the general and ethical challenges that occur during a pandemic. Moreover, the study shows that when hospital clinicians are made aware of the potential challenges, including triage and resource allocation decision scenarios, they are “quickly overwhelmed” and unable to reason through the scenarios and/or draw upon cohesive and consistent response action plans. This study is immensely helpful in that it demonstrates the acute preparedness and knowledge gaps regarding ethical decision-making, although the results would be statistically stronger with a larger respondent pool. This information is highly relevant because a failure by the clinical community to make ethical decisions in a pandemic not only exposes the clinician and his or her hospital to legal liability, but also is likely to lead to a failure to save the most amount of lives possible. For example, without preparedness in ethical decision-making, a clinician may decide to allocate resources and provide care on a first-come, first-served basis or lottery system. Although these two systems might seem superficially fair, this type of decision-making is not likely to maximize the total number of lives saved. Additionally, because select survey responses extend beyond pandemics to include bioterrorism and disasters generally, the study results may be applicable for consideration in multiple hazard disaster planning.

A significant strength of this study is that it highlights the necessity for developing a national, standardized, ethical framework that may be consistently applied, taught and communicated. The authors highlight this knowledge gap by concluding that although particular ethical challenges “have been identified, the necessary clinical and ethical guidance for the emergency department triage of large numbers of variably ill patients remains elusive.” It is correct that a select number of preparedness initiatives have made efforts to discuss and identify ethical issues and values, however, these same initiatives also have, to varying degrees, generated ethical frameworks. The issue is not so much that no ethical frameworks exist, but rather no single, nationally adopted ethical frame-

work has emerged. In fact, the New York State Pandemic Workgroup, the Task Force for Mass Critical Care, the Institute for Medicine, and the University of Toronto all have promulgated ethical frameworks. However, the ethical frameworks, though partially convergent, differ in their overall recommended ethical principles as well as their target audiences. For example, the Task Force for Mass Critical Care recommends a comparatively streamlined set of three ethical commitments.⁸ The New York State Workgroup includes a more expansive five-element ethical framework.⁶ The Institute of Medicine's ethical framework provides a total of seven ethical norms⁹ and the University of Toronto Joint Centre for Bioethics Pandemic Influenza Working Group identifies 15 necessary ethical values.¹⁰ These four prominent planning guides yield a list of 18 different precedent ethical values.¹¹ The multiplicity of ethical frameworks and values presents a potential challenge to developing and promulgating a standardized national framework that may be applied to multi-level decision-making. Nonetheless, survey results, which includes comments such as "I don't really feel we would do anything different for any kind of disaster..." and "whether our patients are urgent or non-urgent, they all get the same type of care", clearly demonstrate a need for efforts in this area.

A further helpful aspect of the Rottman study is that it posits the need for ethics training that fosters greater clinician comprehension, willingness, and ability to meet the demands entailed during a severe pandemic. For example, one study responder states, "I don't think we have that kind of experience... I don't think we have the training to understand what decisions might need to be made." This evidence contribution is critical because merely developing a standardized, national ethical framework is insufficient to guarantee the clinician community's ability and willingness to adhere to the framework. Ethics education is needed to help operationalize the ethical framework. Additionally, although not referenced in the study, hospital ethics training programs are of further value in that they offer means for refining a nationally implemented ethical framework by providing opportunities for clinician feedback. Experts and limited lit-

erature support this need for ethics training, however, greater evidence was needed, which this study contributes.^{11,12}

A further forte of this study is that it highlights potential emotional and psychological challenges for clinicians as necessary pandemic planning concerns. The authors discover this necessary planning step through an emergency department nurse survey response stating that his or her "biggest concern is the emotional wear and tear on the staff..." This finding relates to the finding of the necessity for greater ethics education because it not only creates awareness of the types of ethical questions that will arise, but by explaining the 'why' behind the 'what' to do, it can assist in providing the necessary conviction for clinicians to adopt what could be psychologically overwhelming protocols, as well as avoid potential crisis of conscience. This study result is supported by general disaster medicine literature; for example, the 2005 Hurricane Katrina disaster forced clinicians to make emotionally and psychologically challenging decisions for which they were unprepared.¹³

Rottman and co-authors are to be praised for identifying the need, and for providing preliminary supportive evidence for, the development of a standardized national ethical framework and policies. The authors conclude their paper by stating that, "such actions, (the creation of clinically applicable guidelines) perhaps in concert with public health, medical society, and legislative authorities will help clinicians, define, adopt, and communicate to the public those practice standards that will be followed in a mass population infectious diseases emergency." Interestingly, although study survey responses indicate a need for ethics training, the need is not emphasized in the study conclusions as a means for fostering adoption and communication of national policies and frameworks. Nonetheless, the study is immensely valuable in that it evidences a need for the development, adoption, and communication of a national ethical framework and policies that may be applied at the hospital level. The creation and operationalization of such a framework will greatly assist in minimizing disparities in quality of care and applied ethics, unethical personal or system biases, loss of public trust, legal liability hazards for clinicians and hospitals, and most importantly, failures to maximize the number of lives saved.

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