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Ethics in Emergency Medicine

MUST I RESPOND IF MY HEALTH IS AT RISK?

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□ **Abstract—Background: Widespread epidemics, pandemics, and other risk-prone disasters occur with disturbing regularity. When such events occur, how should, and will, clinicians respond? The moral backbone of medical professionals—a duty to put the needs of patients first—may be sorely tested. Discussion: It is incumbent on health care professionals to ask what we *must* do and what we *should* do if a dangerous health care situation threatens both ourselves and our community. Despite numerous medical ethical codes, nothing—either morally or legally—*requires* a response to risk-prone situations from civilian clinicians; it remains a personal decision. The most important questions are: What will encourage us to respond to these situations? And will we respond? These questions are necessary, not only for physicians and other direct health care providers, but also for vital health care system support personnel. Those who provide care in the face of perceived risk demonstrate heroic bravery, but the choice to do so has varied throughout history. To improve individual response rates, disaster planners and managers must communicate the risks clearly to *all* members of the health care system and help mitigate their risks by providing them with as much support and security as possible. Conclusions: The decision to remain in or to leave a risky health care situation will ultimately depend on the provider's own risk assessment and value system. If history is any guide, we can rest assured that most clinicians will choose to stay, following the heroic example established through the centuries and continuing today.** © **2018 Elsevier Inc. All rights reserved.**

□ **Keywords—ethics; medical; bioethics; assessment; risk; codes of ethics; pandemics; disasters; disaster planning; emergency physicians; health personnel**

INTRODUCTION

Disasters that pose risks to responding health care professionals occur with disturbing regularity. Influenza pandemics have occurred several times in each century since the Middle Ages, and three occurred during the 20th century: in 1918, 1957, and 1968. In the 21st century alone, aside from natural and man-made disasters, major emerging and reemerging infectious disease outbreaks, epidemics, and pandemics have included severe acute respiratory syndrome (SARS), chikungunya, Zika virus, cholera, H1N1, measles, Middle East respiratory syndrome coronavirus, and Ebola (1). In 2017, the World Health Organization determined that additional diseases posed a substantial risk of causing widespread public health disasters. These included arenaviral hemorrhagic fevers (e.g., Lassa fever), Crimean Congo hemorrhagic fever, filoviral diseases (e.g., Ebola and Marburg), Nipah and related henipaviral diseases, Rift Valley fever, and severe fever with thrombocytopenia syndrome (2). In their 2018 report, they added "Disease X," which represents a serious international epidemic caused by a pathogen currently unknown to cause human disease (3). Increased international travel and instability have increased the risk for infectious spread and exposure to nuclear, biological, and chemical weapons.

Seemingly mundane—because we have become inured to them—influenza epidemics strike nearly every year with devastating effect. Public health officials often fail to produce a highly efficacious influenza vaccine,

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with a vaccine effectiveness ranging from 10% (2004–2005) to 60% (2010–2011) between 2004 and 2018 (4). This leads to an overwhelming number of the sickest patients presenting to emergency departments (EDs), putting the health of physicians and ancillary staff at risk. We are on the cusp of developing a universal influenza vaccine that is effective against all flu strains (5,6). In the interim, officials are bracing for the next periodic flu pandemic, such as that of 1918–1919, which is estimated to have infected 500 million persons worldwide and killed 3% to 6% of the world's population (7).

When a similar disaster occurs posing personal risks to health care professionals, how should physicians respond to the catastrophe? The moral backbone of medical professionals—a duty to put the needs of patients first—may be tested as they weigh multiple factors to determine whether to stay and carry out their professional roles or to step back and decrease their personal risks.

Most disaster plans depend on physicians, nurses, support staff, and prehospital personnel to maintain the health care system's front line during crises. Yet planners cannot automatically assume that all health care workers will respond. Research suggests that although 80% or more of physicians and nurses might respond to mass casualty incidents, only about half would remain to work during an epidemic or radiological disaster or after a terrorist incident involving a chemical, biological, radiological, or nuclear agent (8–10). Workforce shortages in health care systems already stressed by increased patient care demands could lead to system failure (8). Response rates are further altered by an individual's race, sex, marital status, prior military service, specified role in the disaster plan, full-time or part-time status, and site of employment (11,12). Health care professionals with clinical, ED, or other acute care experience were more willing to report to and stay at work than those from other areas (12). Today, as deadly diseases devastate regions around the globe, each of us must ask what we *must* do and what we *should* do if an intractable epidemic threatens our community. Public officials, when planning for disasters, must factor in whether health care personnel will choose to stay and "fight" or to flee, and then must modify their own plans and behavior to ensure the maximum health care workforce.

DISCUSSION

What Must We Do in the Face of Risky Situations?

Must physicians and other health care personnel respond when they face personal risks? The 20th century saw health care personnel repeatedly face diseases from (initially) unknown agents. These included not only the deadly 1918 influenza pandemic, but also widespread polio, human immunodeficiency virus (HIV), SARS, and more localized outbreaks, including Legionnaires' disease and hantavirus. Yet, until the SARS virus struck Asia and then Canada in 2003 and the Ebola virus appeared in the United States in 2014, few practicing emergency physicians had to ask themselves what they would do if they were personally at risk. For all nonmilitary physicians, this had been a hypothetical problem, the purview of ethicists and historians. Today we know that this is an uncomfortable question for which each of us should have an answer.

Inspired by Thomas Percival, the American Medical Association's (AMA) first Code of Medical Ethics, published in 1847, addressed the issue of personal risk during epidemics: "When pestilence prevails, it is [physicians'] duty to face the danger, and continue their labors for the alleviation of suffering, even at the jeopardy of their own lives" (13). The AMA maintained that policy for nearly two centuries, stating as recently as 2001, "We, the members of the world community of physicians, solemnly commit ourselves to … apply our knowledge and skills when needed, though doing so may put us at risk" (14). More recently, they have retreated from that position, opining that "because of their commitment to care for the sick and injured, individual physicians have an obligation to provide urgent medical care during disasters. This ethical obligation holds even in the face of greater than usual risks to their own safety, health, or life. The physician workforce, however, is not an unlimited resource; therefore, when participating in disaster responses, physicians should balance immediate benefits to individual patients with ability to care for patients in the future" (15).

The American College of Emergency Physicians, meanwhile, has continued to advocate Percival's precept, stating in the 2017 *Code of Ethics for Emergency Physicians* that "*Courage* is the ability to carry out one's obligations despite personal risk or danger … Emergency physicians exhibit courage when they assume personal risk to provide steadfast care for all emergency patients, including those who are agitated, violent, infectious, and the like" (16).

Despite these ethical codes, nothing—either morally or legally—*requires* a response to risk-prone situations from civilian clinicians; it remains a personal decision.

What Should We Do in the Face of Risky Situations?

When deciding what we *should* do in a risk-prone situation, each of us will prioritize our personal and professional values, those traits in ourselves that we consider to be our highest priorities and fundamental driving

forces. Most clinicians first assess the risks to our own and to our family's life, health, and safety. We may then factor in, to varying degrees, our religious beliefs and personal motivations, all colored by elements of our personality.

Next, we may consider professional factors, including the precepts in our health care profession's oaths and codes, as well as other ethical and religious dicta to which we implicitly subscribe. Rather than using the ambiguous concept of professionalism, most clinicians will use concrete professional responsibilities (9). Among those are:

- Supporting/assuming same risk as colleagues
- Collegial pressure/consequences of not helping
- Augmenting community welfare
- Fulfilling public expectation and trust
- Using societally underwritten special training and professional status
- Fulfilling implied consent to help those in need (social contract)

Emergency physicians may also feel that in these situations they are compelled to use their special knowledge about elegant triage, allocation of scarce resources (e.g., vaccines, prophylactic or treatment medications, or intensive care unit ventilators), public health mandates (e.g., isolation or quarantine, or mandatory vaccination), and using altered standards of care (17).

Clinicians, especially those not trained in emergency care, may also reasonably fear that they lack the necessary skills and knowledge to work in extreme circumstances, especially if they are asked to work outside their normal setting or when resources are scarce. Finally, and not insignificantly, there is the threat (implied or explicit) that health care providers may lose their jobs if they do not participate.

Although clinicians have a significant, but not an absolute, moral duty to work during a disaster, it may be overridden by conflicting personal duties: to protect both their family and their own safety (9). Clinicians must balance these conflicting personal and professional responsibilities, basing their decision on how they view the consequences for themselves and their families, patients, colleagues, and perhaps others (9).

The question becomes: When does personal risk and one's responsibility to one's self, family, and friends outweigh the professional duty to respond? One consideration is that a clinician's duty to respond may diminish as the level of personal risk increases (17). Clinicians need not assume suicidal risks to care for patients, although, as seen in the response to the West African Ebola epidemic (2014–2016), some have (9,18).

Because no absolute obligation exists for clinicians to respond to risk-prone situations and the decision remains a personal one, the most important questions are: What will encourage us to respond to these situations? and, Will we respond?

What Will Encourage Clinicians to Respond in Risky Situations?

People decide which risks to fear or to avoid based on their own perceptions of the source and quality of the information they receive (19,20). Quick, emotional impressions often precede and guide "rational" appraisals of risk (21). If they are given incomplete information, "providers may make decisions based on heated emotions and panic; their risk perception may be inaccurate. Providing the best current information about risks and opportunities to assist during a crisis will help health care professionals make defensible decisions in difficult circumstances" (9).

Research has shown that "people naturally exaggerate the risk of phenomena that are unknown or 'dreaded,' such as those with delayed, irreversible or manmade effects; those that have new, unknown, or unobservable risks; or those that are global. They also exaggerate the risks of phenomena 'hyped' by the media" (9). Conversely, people tend to play down even substantial risks with which they are familiar, such as influenza, smoking, and not wearing seatbelts.

A combination of trust, intuition, and emotions plays a significant role in shaping risk perceptions during conditions of uncertainty (22). In crises, individuals must balance good information from adequate (transparent) media, government, and other sources to help identify the actual risks to themselves and their loved ones. Distributing this type of information, including accurate risk assessments and descriptions of protective measures, will encourage the maximal number of clinicians to respond to the situation. As happened during the Ebola virus outbreak, both in Africa and, after a few cases appeared in returning health care volunteers, in the United States, risk perceptions were amplified through a rapid "ripple effect," resulting in potentially significant adverse personal, political, and economic consequences (18,19).

An important lesson from the SARS outbreak is that, whereas most clinicians will "stay and fight," vital support personnel, including those in materials and supply, logistics, cleaning, information technology communications, maintenance, and refuse removal, may feel no commitment to assist; moreover, they may feel undervalued, unprotected from risks, and omitted from vital communications (23). During the 2009 H1N1 outbreak, for example, many doctors and nurses at a large New York hospital system—especially from the EDs and intensive care units, which saw the highest number of ill patients—were absent due to proven illness; their social workers and counselors, however, had the highest

absence rate, which they claimed was due to illness, although they were shown to have the lowest infection rate of any group (8). To ameliorate such situations, disaster planners and managers should do everything possible to communicate the risks clearly to *all* members of the health care system and to provide them with as much support and security as possible. Research also demonstrates that to obtain the maximal response during risk-prone and other disasters, planners must do everything they can to mitigate perceived risks and to address other concerns that may prevent staff from responding.

Research shows that disaster planners can, depending on the nature of the disaster and the responders, mitigate common responder concerns that may prevent them from being either able or willing to work in a disaster (Table 1) (8–10,12,18,24–27). Responders are generally most concerned about the safety of their family and loved ones rather than about themselves. Highly effective strategies for planners involve assessing the most common concerns of their workforce and addressing those concerns within the limits of their budget and situation. For example, multiple studies show that females are less likely to respond to disasters, and more than 90% of nurses are women. Therefore, prioritizing their concerns, such as providing childcare in the wake of widespread school closings, may be extremely important (10,28). Potential responders to significant international risk-prone disasters, such as Ebola, may be dissuaded from responding by a negative and conflicting public response to returning responders, minimal organizational support, and confusing public health policies regarding quarantine (18).

Will We Respond?

Disaster preparedness planning should consider not just how people are expected to respond, but rather why they are likely to respond (29). Those who provide care in the face of perceived risk (real or not) demonstrate heroic bravery, but making the choice to do so has varied

Table 1. Disaster Responders' Concerns and Planners' Potential Mitigating Actions (8–10,12,18,24–26)

Responders' Concerns	Mitigating Actions
Risk to/safety of responder	• Actions to help protect responder: priority for vaccinations, priority for prophylactic/treatment medications, appropriate/sufficient PPE, and prespecified responder decontamination procedures • Clear, continuous, consistent, honest, and transparent communication to all responders • Continuously available (and updated as necessary) disaster plan • Knowledgeable individuals available to answer any workplace safety questions
Risk to/safety of responder's family and loved ones	• Actions to help protect family: priority for vaccinations, priority for prophylactic/treatment medications, decontaminating responder, and providing PPE at home • Clear, proactive, consistent, honest, transparent, and ongoing communication from employer to responder's family • Continuously available (and updated as necessary) disaster plan • Knowledgeable individuals available to answer any questions about responder and family safety
Child and elder care	• Provide paid sitters or care at health care facility • Arrange, in advance, for local governments to keep schools open, whenever possible
Risk to/safety of responder's pets	• Provide or pay for pet care
Trust/confidence in health care organization/leadership	• Have and communicate to all employees an all-hazard disaster plan, including risk-reduction measures, that is easily accessible, practiced, and modified as necessary based on circumstances. • Maintain clear, continuous, consistent, honest, and transparent communication to all responders about current disaster knowledge and plan • Overtly and continuously demonstrate duty to protect and support responders
Inadequate disaster-related Human Resource policies (27)	• Provide life/disability insurance and liability/legal protection for duration of disaster response • Responders may leave work as necessary • Flexible work hours • Clear return-to-work policies • Provide responders with communication (if possible) to their families
Adequate reimbursement for time and activities	• Guaranteed appropriate pay/comp time/bonus pay for the level of their activities
Safe, guaranteed transportation	• Private vans or room and board at health care facility • Arrange, in advance, for local governments to keep mass transit systems running, whenever possible
Mandatory quarantine	• Clear, consistent, and reasonable quarantine policy
Personal illness/PTSD	• Guaranteed treatment for disaster-acquired medical/psychiatric problems
Job requirements	• Effort to make all responders feel they are a valued part of the disaster response • Clear description of any modified job expectations/requirements during disaster

PPE = personal protective equippment; PTSD = posttraumatic stress disorder.

throughout the history of medicine. In the second century CE, Galen, physician to Emperor Marcus Aurelius and considered the father of Western medicine, fled Rome as the deadly Antonine Plague (possibly smallpox or measles) approached the city (30). In contrast, in 1793, Dr. Benjamin Rush, one of America's most notable physicians and a signer of the Declaration of Independence, stayed to care for yellow fever victims in Philadelphia, the new country's capital and largest city. He wrote to his wife, "It would be as much your duty not to desert me in that situation, as it is mine not to desert my patients" (31). (They remained married until his death 20 years later.)

In the 20th century, physicians stayed at their jobs during the great 1918 influenza pandemic that followed World War I, and many perished (32). And, although some physicians refused to treat patients afflicted with the uniformly fatal HIV/AIDS virus during the 1980s and 1990s, when a new illness (ultimately found to be Hantavirus) began killing people on New Mexico's Navajo reservation, emergency physicians, among others, continued to treat patients despite the risks (33,34). When SARS struck Asia and Canada in the early 2000s, most health care professionals stayed to treat their patients, even though some became ill or died (35,36). In recent years, scores of health care workers have died and even more have taken ill while caring for patients suffering from any number of old, but resurgent infectious epidemics (37).

CONCLUSIONS

The decision to remain in or to leave a risky health care situation will ultimately depend on the provider's own risk assessment and value system. Professional ethical statements about expected conduct establish important professional expectations and norms, but each individual will interpret and apply them according to his or her own situation and values. Thus, physicians should reflect on their professional and personal responsibilities in crises *before* they must face them. Public and private institutions should create plans for effectively protecting their workers, and honestly communicating with them and the community when a disaster strikes. By doing this prior to the next pandemic or disaster that includes personal risk, we can encourage all health care providers and support personnel to "stay and fight." If history is any guide, we can rest assured that most clinicians will choose to stay, following the heroic example established through the centuries and continuing today.

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