SPECIAL REPORT

Ethical Considerations in Emergency Planning, Preparedness, and Response to Acts of Terrorism

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Abbreviations:
ED = Emergency Department
EMS = Emergency Medical Services
PTSD = post-traumatic stress disorder
SARS = severe acute respiratory syndrome
VIP = very important person
US = United States of America

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Abstract

Throughout the globe, healthcare providers are increasingly challenged with the specter of terrorism and the fallout from weapons of mass destruction. Preparing for and responding to such manmade emergencies, however, threatens the ethical underpinnings of routine, individualized, patient-centered, emergency healthcare. The exigency of a critical incident can instantly transform resource rich environs, to those of austerity. Healthcare workers, who only moments earlier may have been seeing two to three patients per hour, are instantly thrust into a sea of casualties and more basic lifeboat issues of quarantine, system overload and the thornier determinations of who will be given every chance to live and who will be allowed to die. Beyond the tribulations of triage, surge capacity, and the allocation of scarce resources, terrorism creates a parallel need for a host of virtues not commonly required in daily medical practice, including prudence, courage, justice, stewardship, vigilance, resilience, and charity. As a polyvalent counterpoint to the vices of apathy, cowardice, profligacy, recklessness, inflexibility, and narcissism, the virtues empower providers at all levels to vertically integrate principles of safety, public health, utility, and medical ethics at the micro, meso, and macro levels. Over time, virtuous behavior can be modeled, mentored, practiced, and institutionalized to become one of our more useful vaccines against the threat of terrorism in the new millennium.

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Introduction

During the last decade, terrorism-related emergencies have impacted nearly every corner of the globe. Sadly, groups like Al Qaeda, Hizbullah, and Hamas have become household words. Without warning, such events can instantly become true disasters, overwhelming the capacity of the community to respond, and imposing significant clinical, moral, and ethical challenges at the micro, meso, and macro levels. At the micro level, core dilemmas center on patient care and the interests of individual patients and the providers caring for them. At the meso, or system level, challenges arise principally in the interactions of various individuals and organizations, including Emergency Medical Services (EMS) personnel, firefighters, police, hospital-based healthcare workers, and volunteers. Finally, at the macro level, global challenges of justice and resource allocation, priority setting, preparedness, planning, and conducting operations under infectious, radioactive, or austere conditions demand special considerations of multiple stakeholders in order to minimize harm to whole populations. Numerous potential ethical challenges that arise from the threat of terrorism are shown in Table 1.

Level	Ethical challenges
Micro (Doctor-Patient)	1. Care of hysterical, demanding, or grieving patients who demand extra or unneeded care 2. Care of non-citizens, foreigners, prisoners, or terrorists 3. Prioritizing care of VIPs, civil servants, leaders, military, and health care personnel 4. Maintenance of privacy in the throes of overcrowding and media's "right to know" 5. Reporting requirements that impact individual patient liberty, confidentiality, and HIPAA rules 6. Conducting research and procuring informed consent on vulnerable victims under duress 7. Treating victims who are radioactive, contagious, or potential threatening to the individual provider's health 8. Triaging rapidly, objectively, accurately and optimally given limited information and time 9. Extending provider scope of practice at the limits of surge capacity 10. Balancing provider roles as agents of state, public health, or individual patients
Meso (Provider-Provider)	1. Assisting colleagues even when doing so may endanger self 2. Role shifts, power struggles, turf battles, and teamwork requirements 3. Dealing with provider impairment or reckless behavior 4. Trainee/employee safety before, during and after terrorist attacks 5. Occupational exposure, reporting requirements, and privacy concerns 6. Optimizing communication between providers and first responders at all levels 7. Conflicts of interest within organizations compete for local, state, or federal funding 8. Magnanimity and goodwill toward colleagues and coworkers under stress 9. Addressing mental hygiene, safety, and wellness needs for self and other providers 10. Policies for quarantine and reciprocity for disability, lost wages, and time off work
Macro (Doctor-Society)	1. Individual willingness/duty to respond altruistically, heroically, to a societal need vs. duty to family 2. Opportunities for fame and fortune by leveraging public ignorance, fear and paranoia 3. Conflicts of interest in setting priorities for resource allocation and preparedness 4. Duty to engage in preparedness courses, disaster drills, vaccination programs, and volunteer corps 5. Justice in resource allocation and stewardship: cost-benefit of stockpiling drugs, new vaccine development, and widespread purchasing of PPE or decontamination equipment 6. Resisting unethical polices, ethnic profiling, and vilification of specific religious groups or nationalities 7. Duty to honestly enlighten lay persons and federal, state and local policymakers via the media 8. Waiver of consent for research on terrorized populations 9. Establishing protocols for triage, codes of conduct, and activation of disaster plans 10. Scope of expertise and using non-physicians or non-fully trained providers under austere conditions 11. Enduring economic, health, and legal risk in the absence of reciprocity, disability, or Good Samaritan protections

Table 1—Ethical challenges that arise from terrorism (VIP = very important person; PPE = personal protective equipment; HIPAA = The Health Insurance of Portability and Accountability Act)

Unlike the customary one-patient-at-at-a-time ethics, mass casualty incidents introduce unique triage, resource allocation, provider safety, and public health issues that demand a recalibration of familiar ethical and moral codes which govern work during times of plenty. While the full spectrum of moral dilemmas cannot be fully anticipated, we submit that advance moral preparation will make the medical personnel's work easier and ensure optimal quality service to both individual patients and the general public. In particular, we espouse the notion that virtue-based ethics are more adaptable to the multiplicity of rapidly changing disaster circumstances than mere principles, rules and protocols, particularly since the scope, magnitude, and dynamics of a particular terrorist challenge cannot be determined in advance. The discussion of virtue set forth below will provide a guide for understanding this ethic in general terms and this will then be applied to exemplary moral challenges that may arise in the more specific context of terrorism.

Virtue-Based Ethics

Virtue is the most ancient branch of ethics. *Ethike*, Greek for "character", is the etymological basis upon which much of classical Western ethics is built and is integral to the ancient notion of what it means to be a good or virtuous person. The earliest recorded depictions of character (*ethike*) or virtue (*arete*) are found in Homer's *Iliad*, which animates the heroes of the Trojan War—Hector and Achilles—with an overarching quest for virtue. Homer used the Greek word *arete* to describe not only virtue, but excellence of every kind (e.g., a son excels his father in every kind of *arete*—as athlete, as soldier and in mind).[1] In

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particular, *arete* describes those excellences or virtues that enable an individual to properly do what his or her role requires. The extension of arete from the battlefield of Troy to the rubble of ground zero is a fitting extrapolation.

This notion of moral excellence or virtue was most highly developed by Aristotle around 330 BC. Under his brilliance, virtues became the basis of ethics for the next 2000 years. In his famous Nicomachean Ethics, Aristotle states that the exercise of virtues is necessary to live a good and happy life.[2] Virtues are dispositions to be good, and include not only good actions, but good thoughts and feelings as well. Aristotle further described virtue or character as the golden mean between deficiency and excess.[3] He also recognized that virtue must be practiced and cultivated in order to become a regular habit of moral behavior.[2]

Fifteen hundred years after the death of Aristotle, virtue-based ethics reached their apex with the teachings of St. Thomas Aquinas. Aquinas emphasized the importance of the primary virtues (prudence, courage, temperance, and justice) and added the theological virtues of faith, hope, and charity.[4] He further contrasted this expanded list of seven cardinal virtues, with the seven deadly sins or vices (gluttony, envy, wrath, sloth, greed, lust, and pride).[4]

With the advent of modern science, medieval virtue was assaulted in the West by a succession of thinkers, including Machiavelli, Hobbes, Nietzche, Ayn Rand, and others.[5–7] Only recently, with the publication of Alasdair MacIntyre's *After Virtue* in 1981, has any consideration been given to reversing this trend.[8] Two apostles of MacIntyre, Pelligrino, and Thomasma have argued that health care has become too steeped in the tradition of following rules, laws, Hippocratic codes, and utilitarian practice guidelines.[8,9] Although following rules and optimizing outcomes are important, the classic notions of character and virtue, though often neglected, are equally important for ensuring that healthcare professionals fulfill their roles in promoting the interests of patients and the greater community to which they belong.[10]

The assertion that virtue is basic to the practice of emergency and disaster medicine demands that we accept as a starting premise that there is an ideal way that emergency medical professionals should be. Aristotle discussed the ideal way we should be as our *telos*, or natural end.[2] We assert that the *telos* or goal of the emergency medical professional is not merely to support Hippocratic principles, legal dicta, clinical policies, or even community emergency plans; it is more fundamentally to become a good, moral, and honorable professional who genuinely cares for and about patients.[10] Virtue provides an ideal model of behavior for which to strive in one's quest to serve humanity. Also, virtue is its own intrinsic good and promises a stronger possibility for fulfillment, thereby enriching the satisfaction we get from our practice, as both persons and professionals. Blind adherence to rules, algorithms, and the status quo, by contrast, merely threaten us with diminished autonomy, adversarial patients, legalistic restrictions, and a morally impotent and inflexible emergency response system. Virtue provides a solution to the modern medico-legal paralysis that is good for patients, professionals, and society.

Having healthcare workers on hand with a basic goodness of character is central to emergency preparedness as temporal exigencies in the wake of mass casualty events do not allow for protracted moral reflection and ethical deliberation. Accordingly, preventive measures and a priori policies that amplify virtue and ensure ethical practice are warranted. For example, emergency preparedness training must not only build emergency response competencies, but must also provide opportunities for character and team building. Fostering virtue proactively may be thought of as a kind of moral vaccination against the ethical pitfalls inherent in emergency response. Seven virtues that express the qualities, dispositions, and uniqueness of the ideal emergency medical team member are offered: prudence, courage, justice, stewardship, vigilance, resilience, and charity. These virtues detailed below are not intended to be all-inclusive. Equally important virtues such as humility have not been specifically mentioned due to practical constraints. As Plato and Aristotle noted, there is considerable overlap between many of the virtues, reflecting both their compatibility and interdependence.[2,11] It would be difficult to have only one virtue and not possess at least some of the others. Because timeless insight can be gleaned from the classic virtues of antiquity, three such virtues—prudence, courage and justice—are examined first. Four additional virtues, not anticipated by Aristotle, but central to the practice of emergency medicine and disaster work—stewardship, vigilance, resilience, and charity—are examined last.

The Seven Cardinal Virtues in Times of Terror

Prudence

To the ancient Greeks, prudence was synonymous with *phronesis* or practical wisdom. This virtue connotes discernment, perspicacity, judiciousness, and proper discrimination. *Phronesis* was considered by Aristotle to be the prerequisite basis of all other virtues, since it was needed to properly weigh between justice, temperance, and all the other virtues and vices. Prudence or sound judgment is central to the functioning of the health care team in preparing for and responding to terrorist threats. Prudence instills a basic common sense, which is indispensable to the proper application of technical and moral facts in particular cases. In emergency medicine and disaster medicine, there are no quick formulas for the determination of right action and right emotion since each patient and each situation is unique. Balancing burdens and benefits, assigning triage categories, knowing when to provide or withhold a treatment, and selecting a patient disposition, are all manifestations of prudence and cannot readily be found in textbooks. All of clinical judgment involves some measure of prudence. This is particularly critical during terrorism-related events when uncertainty and urgency are rampant. The exercise of prudence reflects one's professional competency and is, thus, essential to the development of leadership, trust and respect within the health care team. Since prudence promotes safety, its opposite is recklessness, particularly that borne of cowboys and risk-takers. Emergency medical providers lacking prudence are vectors of danger and collateral damage, and hinder effective emergency response.

Courage

"Virtue is bold, and goodness never fearful."
William Shakespeare. Measure for Measure, Act III, i[12]
"Tisn't life that matters! Tis the courage we bring to it."
Hugh Walpole. Opening sentence of Fortitude (1913)

Moral courage is a type of *fortitude* that emergency physicians need daily but especially when preparing for and responding to terrorist events. In everyday emergency medicine, courage is required at the micro level when advocating for patients against utilization review nurses, managed care gatekeepers, employers, police, trainees, consultants, incompetents, assailants, families, and the media. Courage is also manifest in the bravery required to put aside our own fear when treating the violent, psychologically agitated criminal, or even the terrorists themselves. Unlike machismo, courage sometimes means accommodation or "turning the other cheek" when, for example, an angry patient hurls insults and threats. The words of Austrian poet Rainier Maria Rilke (1875-1926) offer insight into this higher form of courage:

"Perhaps all the dragons in our lives are princesses who are only waiting to see us act, just once, with beauty and courage. Perhaps everything that frightens us is, in its deepest essence, something helpless that wants our love."[13]

Courage is also manifest by acting decisively when information is lacking. Fortitude is needed to abide by public health reporting statutes or to enforce quarantine provisions in the throes of a bioterrorist attack or a public health emergency like severe acute respiratory syndrome (SARS). According to Aristotle, courage is the mean between foolhardiness and cowardice. While refusing to treat a patient with inhalational anthrax is cowardice, expressing pus from abscesses with bare hands is just plain foolish. Courage is something else. Courage is embracing the duty to care for victims of terrorism without undue concern for malpractice exposure, infectious disease risk, or economic reimbursement.

In addition, courage is exemplified by being steadfast. For example, courage is required to advocate for larger public health needs when scarce resources are being directed at politically-motivated public health programs (e.g., immunization against any disease in the absence of a credible public health threat). A measure of bravery is also required to challenge incompetence, or academic fraud, especially common during the pork barrel feeding frenzy that followed 11 September 2001. It takes courage to say "no" to the lure of fame and fortune when they are being handed out wholesale to anyone who would shamelessly feign expertise in the areas of homeland security, emergency management, or terrorism-preparedness. Ultimately, we must have the courage and integrity to take responsibility for the short comings of our profession and bravely right the wrongs of our own moral failings as well as those of our colleagues. We must monitor and discipline ourselves and resist the temptation of blaming others—society, attorneys, bureaucrats, and insurers—for our own moral blemishes. In summary, courage is having the moral resolve to do the right thing even when it is difficult, inconvenient or unpopular to do so.

Justice

Justice, another ancient virtue, was the principle theme of Plato's *Republic*.[11] Today justice is not only a virtue, it is also one of the four key principles of medical ethics as understood in the West (along with beneficence, nonmaleficence and respect for autonomy).[14] Justice requires that practitioners be fair and keep political passions in check. With discussions of rationing, access, and runaway costs pre-empting discussions of terrorism in many venues, justice may replace autonomy as the ordering principle in the 21st century. Although establishing distributive and social justice seems like a more appropriate task for the electorate, emergency medical providers must assume this duty as well, especially in the wake of terrorism-related events. Accordingly, emergency physicians and other health care practitioners must resist public, legislative, or institutional policies that are unfair or unjust. Justice demands that healthcare be distributed fairly and equitably, according to need. The virtue of justice enjoins practitioners to adhere to the World Medical Association's Declaration of Geneva's entreaty to treat patients regardless of "age, disease or disability, creed, ethnic origin, gender, nationality, political affiliation, race, sexual orientation or social standing." Such justice is a lofty goal, and may contradict the political will of governments to care for soldiers ahead of civilians. It may also challenge providers to resist the demands of very important persons (VIPs), families, and friends for the greater good of humanity. Justice, as with prudence, is essential to the development of mutual trust, especially between disaster team members and preparedness planners in administrative roles.

Stewardship

The *American Heritage Dictionary* defines a steward as "one who manages another's property, finances, or other affairs."[15] Stewardship, like justice, is a quality that helps emergency medical providers shepherd resources, employ therapeutic parsimony and administrate with temperance and self control.[16] Preparing for terrorism-related events requires objectivity and a steadfast refusal to be swayed by marketing, vendors, or even governments when money and resources are being dissipated on expensive equipment that will never see the light of day. Corporate and individual greed are antithetical to the good of society and rationing at the micro, meso, and macro levels is required in times of austerity. Emergency medical providers are already trained to guard resources by their daily refusal to provide marginally beneficial care to some victims and patients, while guaranteeing a basic level of care for others. The ethical and virtuous emergency medical provider will act as a professional and as a dutiful citizen to ensure that services are accessible and available to all who need them, especially the most vulnerable. Recognition of the duty of stewardship may also be found in the "Principles of Ethics for Emergency Physicians" adopted by the Board of Directors of the American College of Emergency Physicians in 1997 and reaffirmed in 2001.[17] Principle 9 of this document states, "Emergency physicians shall act as responsible stewards of the health care resources entrusted to them." The duty of stewardship thus enjoins emergency physicians to

make effective use of the health care resources at their disposal. In times of plenty, this is less challenging, but in times of terror, austerity may require limiting the provision of beneficial care, or outright rationing. Rationing may raise the ire of clinicians and the distrust of patients, but it is sometimes a necessary component of stewardship in the wake of a mass casualty incident. Although it is not possible to provide comprehensive protocols that address all of the allocation and triage decision that providers must make in austerity situations, the prudent steward will attempt to maximize outcomes and minimize harms in the overall population being served. This utilitarian approach to stewardship demands a careful consideration of the likelihood, magnitude, and duration of benefits to patients and populations, the urgency of the situation, and the cost of burdens of allocation and triage strategies to patients, payers, government, and society.

Vigilance

The virtue of vigilance is central to the disciplines of emergency medicine and disaster medicine. In few other specialties are physicians called upon to be ready, willing, and able to assist patients, paramedics, and colleagues, immediately, twenty-four hours a day. This around-the-clock guardianship does not weaken during weekends, holidays, or nights. In fact, most emergency care is provided during nontraditional work hours. As in the wake of a terrorist attack, demands in emergency medicine are unpredictable and uncontrollable, defined only by the patient's needs and illnesses. Yet alertness and preparedness are required, despite the circadian disharmony that threatens personal wellness. Expectations of excellence must always be met. No matter what the illness, no matter what the crisis, someone stands ready in the emergency department to help. This is what it is to be vigilant in times of trauma, disaster, terrorism or life threatening illness. Eveready, responsive, and argus-eyed, emergency healthcare workers stand sentinel as medical guardians against epidemics, disasters, and multiple casualty events. Emergency medical providers constitute the very fabric of the American healthcare safety net.[18] Multiple aspects of emergency preparedness, including preparedness for terrorism-related events and syndromic surveillance, rely heavily upon the vigilance of emergency medical providers to be successful.

Resiliency

Resiliency refers to sustained competence under stress and prevents disillusionment when working in the midst of lawless terrorists who follow neither codes of ethics nor the Geneva Convention.[19] In the reign of terror, no target is sacred, and healthcare workers and hospitals are vulnerable to both the direct and indirect fallout from a terrorist attack. Consequently, a tired, overstressed staff requires a certain elasticity and optimism in order to stave off cynicism, resignation, numbing and professional burnout. This type of diverting optimism or resilience enables one and encourages others to recharge emotional stores (e.g., when a frightened toddler comes to the emergency department (ED) moments after losing a parent, one is still able to effectively use child play to calm the child down).

This does not imply that compassion, empathic listening, and sensitivity are to be abandoned. To the contrary, a resilient provider is "all things to all people" and gives victims and coworkers exactly what they need without becoming derailed from the overarching task at hand. Excellence in emergency medicine and disaster medicine requires transcendent flexibility, adaptability, and cooperative ability, thereby, allowing one to work well with patients and team members of all types. Resiliency greatly facilitates one's ability to recover undaunted from change or misfortune. It is also manifest in an ability to not take personally every insult hurled by angry patients, families, and coworkers. Resilient persons are hardy, curious, purposeful, expectant of change, and trust in their own power to influence the course of events.[20] Maintaining flexibility and coping with the typical circadian disharmony of the disaster or terrorism recovery worker is difficult, but the virtue of resiliency is facilitated through the psychosocial support of the health care team. An appropriate sense of humor and wittiness coupled with an unsinkable optimism can keep the team spirit afloat even in the harshest environment. Resiliency is thus another essential virtue to the practice of emergency medicine and disaster medicine when responding to terrorism-related events.

Charity

Charity, effacement of self-interest, temperance, humility, and altruism are perhaps the highest levels of virtue. Charity goes beyond the mandates of nonmaleficence (avoiding harm) and mere beneficence (doing good). Charity denotes the cheerful giver, such as one who volunteers to work to help cover for an ill or injured colleague. An altruist is neither clock-watcher nor self-seeker, but is willing to attend to a patient's or co-worker's concerns beyond the work relationship despite real or imagined inter-professional boundaries. Volunteering to respond to a terrorist attack without concern for pay, working for a pregnant colleague during a serious infectious disease outbreak—this is benevolent charity.

Although Aquinas first introduced charity as one of the cardinal virtues in the Middle Ages, charity is noble in secular society today because it denotes supererogation, self sacrifice, and generosity that goes beyond what is merely expected by the social contract with society.[4] Charitable providers take literally the poetic opening words of the World Medical Association's Declaration of Geneva: "I solemnly pledge to consecrate myself to the service of humanity." Charitable providers are willing to submit to such a rule and code of conduct, even as terrorists and egoists are not.

To be truly charitable one must be humble and allow other members of the team to receive praise. In addition, true charity is nonjudgmental and understanding when coping with self-involved or narcissistic co-workers. Charity is critical to the team effort in delivering emergency medical care as Aristotle's golden mean between the extremes of obsequiousness and self-centeredness. Charity helps us cope with uncooperative co-workers or clientele. Generosity to patients and colleagues may be manifest in many ways. Being charitable includes being a team player

and being forgiving and magnanimous. Self-effacing charity goes well beyond simple diplomacy and distinguishes the truly excellent professional from the barely competent. Even in this age of diminishing professional autonomy and entrepreneurial invasion, charity remains the pinnacle of all virtue because, it is about our destiny or calling to help through genuine caring and selfless giving. In short, charity is our "ultimate task", as described by Rilke:

"For one human being to love another human being: that is perhaps the most difficult task that has been entrusted to us, the ultimate task, the final test and proof, the work for which all other work is merely preparation."[13]

Case Studies in Emergency Management

Ethical Dilemmas in Emergency Planning and Preparedness

1. You are a member of a community emergency management committee that is prioritizing specific types of disasters for emergency planning and preparedness programs during the upcoming year. You are also aware that if your committee chooses to focus on bioterrorism-related events, it stands to receive significant funding from a special government program. You are also aware that your community is still inadequately prepared for tornadoes and floods, which regularly impact your geographic area. Your vote is crucial to the selection process. How should you proceed?
2. As the director of a public health agency in a country with limited resources, you are ordered by your government to begin immunizing emergency medical providers against smallpox based on the suspicion that terrorists might release smallpox in the future against your country. You are aware that no case of smallpox has been reported in the world since 1979 and that no evidence has been put forth that any terrorist group has access to the smallpox virus. You are also aware that smallpox vaccine poses a small but quantifiable health risk to vaccine recipients and that several other health care priorities in your country are worthy of the resources that will be spent on immunizing emergency medical providers against smallpox. How should you proceed?

President Bush recently signed into law the Public Health Security and Bioterrorism Response Act of 2002, which authorizes spending $4.6 billion on medication stockpiles, vaccine development, anti-microbial research, and state and local preparedness efforts. Such spending seems disproportionate to the burden of illness from bioterrorist events, which have killed only five persons in the United States of America (US) in recent decades. By comparison, an entire 747 plane-load of citizens are lost on US highways on a daily basis for which there are no special institutes or federal research programs being commissioned to address this insidious traffic safety problem. However unpopular, physicians must have the courage to speak out on health spending priorities. Squandering precious resources must be resisted and available monies should be redirected to more worthy and vital public services than the "bug of the month." Justice and fairness require that this is so. Providers and researchers must have the courage to support proper spending measures and must possess a sense of stewardship to ensure the prudent use of funds for diseases that kill patients every day. In particular, if community emergency management funding can be applied to dual-use emergency planning and preparedness programs, then its acquisition under the guise of bioterrorism may be justified. On the other hand, prudence would dictate that smallpox vaccination should proceed on a voluntary basis. In the absence of adequate assurances, safeguards, and reciprocity, vaccination of emergency medical providers should not be mandatory in the absence of a credible threat.

Ethical Dilemmas in Emergency Response: Duty to Care

1. You are on duty as a paramedic when a large terrorist bombing occurs inside a building in your city. Your commander orders you go into the bombed structure to assist any survivors. You hesitate because you are aware that terrorists sometimes deploy secondary bombs specifically targeting first responders such as yourself. How should you proceed?
2. An outbreak of hemorrhagic fever has occurred in your city and several health care workers are already infected. Even though your hospital has activated its emergency plan, it is short-handed because some ED personnel are refusing to come to work. Your supervisor calls and demands that you report for duty. Your spouse pleads with you to remain home and reminds you that you have a duty to protect your family. How should you proceed?

In such dangerous situations, the virtues of courage, resiliency, and charity all come into play. While charitable self-effacement and altruism are the highest form of virtue, reckless self-destruction is considered neither prudent nor virtuous. However, a *duty to care* certainly does exist, based on one's position or professional standing, which must not be ignored. An emergency medical provider with resiliency will see these situations as opportunities to make a significant difference and will remain optimistic while embracing the challenge. Of course, balancing courage and fear, while averting needless martyrdom, is vital. While supererogation and the charitable act of volunteering cannot be compelled, emergency medical providers cannot choose which patients to assist and which ones to ignore (just as police cannot choose which criminals they chase). Emergency response is central to the job and part of the public trust. Remaining as safe as possible, while on the job, is a parallel obligation.

Ethical Dilemmas in Emergency Response: Triage

1. A letter alleged to contain anthrax powder is released inside an office in a municipal government building, exposing two dozen persons in the immediate area. Several hundred more persons were in the building at the time the letter was opened, including the mayor, who was in his office on another floor. Local public health officials recommend that everyone in the building should receive chemoprophylaxis against inhalational anthrax pending an environmental investigation. Since your hospital is three blocks away from the site, almost all of those people in the building are now lined

up outside your ED awaiting triage. As the senior emergency physician on duty, your chairman calls and asks you to see the mayor ahead of everyone else. How should you proceed?

2. A nuclear explosion has occurred nearby and pandemonium has ensued. Hundreds of injured victims have descended on your emergency department. As the only emergency physician on duty at the time, you are now performing triage in the driveway in front of your locked down emergency department. People are screaming for you to triage them into the emergency department first. Some are yelling that women and children should be helped first. Someone insists that his wife is a nurse at the hospital, so she should be let in first. An injured man identifies himself as a police officer and demands that he be allowed in the ED for treatment now. How should you proceed?

While many have called for new and international triage protocols, the particularities of each event make such strategies ungeneralizable.[21,22] The two examples above represent relative extremes on the spectrum of triage decision-making. In the former, treating the mayor first has little delay associated with it and may be considered an appropriate prioritization of resources and expedition since he is vital to the functioning of the civic core. His role may also be central to local emergency response as was demonstrated by New York City Mayor Rudolph Guiliani in the aftermath of 11 September 2001, especially in regard to dealing with the media. Stewardship and prudence would allow such an advantage to occur, as long as there were reciprocal benefits to society and the overall costs were little.[23]

In the latter scenario, however, there is relative chaos. A prudent physician would have to base his or her triage decisions on a more egalitarian and utilitarian model and rely primarily on the virtue of justice to arrive at the fairest solution. While the physician may have been threatened by the policeman, his or her duty to give priority to the police would have to weigh against the risks and benefits of such a choice to the population as a whole. A first come, first served model would also be imprudent. However keeping potentially contaminated individuals outside the hospital, where they can be decontaminated en masse is one example of a just and fair approach. In addition, the aforementioned virtue of vigilance would have promoted this same physician engaging in a disaster drill well ahead of the real life disaster and his or her response and triage system may have already been rehearsed in advance.

Ethical Dilemmas in Emergency Response: Duty to Safeguard the Public Health

1. You are a physician evaluating a patient with a fever and an unusual rash in the emergency department and you seriously begin to believe that this might be a case of smallpox. When you ask the nurses to move the patient into a respiratory isolation room, the patient becomes agitated and tries to leave the emergency department. Although you explain to him that he might have smallpox, he demands to sign out against medical advice or he will sue you. How should you proceed?
2. Terrorists have taken hundreds of people hostage inside an auditorium in your city. As a tactical physician, you work closely with your local police agency during police actions in which persons may be injured. You are told that your police agency is about to deploy a new aerosol that will incapacitate everyone inside the building and enable the police to storm the auditorium to free the hostages. You are also ordered to keep this information secret in order to protect the success of the mission. You are aware of the many hostages who died during the 2002 Moscow theatre rescue due to inhalation of aerosolized fentanyl and wonder whether this new aerosol may harm those inside the auditorium. You also expect that if the local EMS agency and nearby hospitals are forewarned, then more personnel and equipment necessary for supportive care are likely be pre-deployed, thus potentially saving lives. How should you proceed?

This first case poses a serious dilemma, since protocols for quarantine are not well described in most state legislatures, even though the precedent for paternalistic policies dates back nearly 100 years to *Jacobsen v. Massachusetts* (1905), wherein local boards of health were upheld in their requirement to compel vaccination to safeguard public health or safety.[24] Although the plaintiff thought the compulsory vaccination program violated his liberty, the Supreme Court held that the statute providing for the mandatory vaccination program was constitutional since "all should be governed by certain laws for the 'common good'."[24] Whether the courage of the healthcare workers in the above example wherein the patient wanted to leave against medical advice would be upheld by the courts today is open to serious question. If the patient had small children or others at home who were immunocompromised, restraining the patient against his will would likely be both courageous and prudent.

The tactical physician in the second case is confused about whether he is a doctor or the police. Role confusion can be avoided by being clear in advance what one's role requires (vigilance), but when there are serious threats to life, healthcare workers must be willing to risk their job for the greater good and have the courage to save life, even if the decision to do so is not shared with all staff. From the Code of Ethics from the American College of Emergency Physicians (ACEP) promoting the interests of the populace is legitimized and addressed directly as *The duty to promote the public health* [25]

"Emergency physicians advocate for the public health in many ways, including the provision for the many uninsured. As the safety net for victims of economic, physical, and emotional disaster, EDs are a vanguard against a constellation of medical and social ills. Emergency physicians have first-hand knowledge of the grave harms caused by firearms, motor vehicles, alcohol, and other vectors of preventable illness and injury. Inspired by this knowledge, emergency physicians should participate in efforts to educate others about the potential benefits of well-designed laws, programs, and policies that advance the overall health and safety of the public."[25]

Ethical Dilemmas in Emergency Response: Media Relations

1. Terrorists release nerve gas at an airport in a distant city, causing hundreds of casualties. Later that day, your hospital appoints you to speak to a local television station about the event. You have no first-hand knowledge of the event, but the media promise national exposure for your participation. They have graphic images of people choking, screaming, and passing out and want to air this footage as well as your interview. How do you proceed?
2. A reporter specifically asks how many decontamination showers your hospital has available if a similar event were to occur in your city. You know that your emergency department only has one shower, but you don't want to embarrass your hospital or alarm an obviously worried public. How should you proceed?

In this era of mass media, a prudent physician will consider that events in one nation can easily influence behavior in another. One example of these global effects are evidenced by the events of 11 September 2001 appearing to have had a brief, but significant inverse effect on the suicide rate in England and Wales.[26] For the population at large, most exposure to a terrorist event will be indirect, via all forms of media, such as radio, newspapers, the internet, and particularly television. Even those not directly involved or physically injured by a terrorist act or perceived threat, can exhibit signs and symptoms of emotional distress and post-traumatic stress disorder (PTSD) by witnessing a trauma or through the impact of a trauma happening to others.[27] A study of the Oklahoma City bombing concluded that bomb-related television exposure to middle and high school students was a primary predictor of elevated PTSD scores and also played a role in sustaining these symptoms.[27] Similarly, the viewing of images of people jumping or falling from the World Trade Center correlated strongly with PTSD symptoms and depression more so than other images.[28] Since vicarious victimization appears more likely in the presence of repeated and unnecessary exposure to disturbing images, media exposure must be titrated, especially for children.[28–31]

Since it is through the use of modern media that terrorists depend on maximizing their negative impact on the psyche, the media must be carefully controlled to optimize societal outcome. The media must inform the public, but must be requested to act with discretion and restraint. The media will usually oblige if treated with respect, recognizing that like other rescue workers, they serve an important and complementary role in disaster work and recovery. Health officials and community leaders should courageously warn the public of the emotional and mental health hazards of intensive disaster exposure via the news media.[28] Vigilance demands that contacts with the news media, for example, need to be coordinated early and rules, guidelines, and policies need to be firmly established in advance. Webmasters and other media personnel must be educated to understand that news coverage of terrorist attacks can contribute to PTSD symptoms.[30] A policy of full disclosure about truth in reporting and what information is relevant to public safety and which is sensationalistic muckraking must be discussed a priori. Being prepared both decreases the worry that precedes crisis and the turmoil that follows. Speculation must be avoided and detailed accounting of what is being done to counter any terrorist threat needs to be relayed to the public. Recommendations for specific steps that the public needs to take to protect themselves also need to be expressed, but all statements need to be honest, balanced, and fair. Compliance with all standard privacy policies needs to be established, since invasions of privacy can exacerbate the psychological stress of victims; telling and re-telling their human-interest stories for titillation may be a disservice to victims, bereft families, and the public health.[32] Healthcare spokespersons must be self-effacing enough to resist the lure of fame; they must be prudent to protect confidentiality, and avoid speculation, tabloid hearsay and other rumors that commonly fill the information gaps in times of crisis and only fan the flames of public alarm.[33,34]

Conclusion

Heroes operating in the midst of adversity are no less important today in the subways of Tokyo than they were on the ancient battlefield of Troy. The ethics that informs the development of this basic heroism is the ethics of character or virtue. Modern heroes do not work alone, however, and emergency and disaster management teams rely on both corporate and individual virtue. At a time in which the integrity of both emergency response systems and health professions are perceptibly challenged, emergency health care providers have a tremendous opportunity to reaffirm their commitment to their patients and profession through the adoption of a virtue-based ethic. The virtue paradigm is holistic, but transcends legalistic rule-following and the blind application of principles. Instead, virtue honors the fundamental humanity of all patients, the respect due colleagues, and the ennobled mission to safeguard the public health in times of terror.

In this analysis, we recognized the timelessness of the classic virtues of Western thought—prudence, courage, and justice. To them we added four others, drawn from widespread influences that are important in the practice of emergency healthcare in the context of terrorism: stewardship, resilience, vigilance, and charity. Together, these virtues inform an ethical basis for emergency management of terrorism-related events.

References

1. Homer. *The Iliad, translated by EV. Rieu;* 1946.
2. Aristotle: *The Nichomachean Ethics.* Boston: Reidel Publishing; 1975.
3. Hardie W: *Aristotle's Ethical Theory. New York*: Oxford University Press; 1980.
4. Aquinas T: *Readings in Summa Theologiae; translated by Jordan, M.* Notre Dame, IN: University of Notre Dame Press; 1990.
5. Machiavelli N: *The Prince.* (Trans. with Intro.). New York: Penguin Books; 1975.
6. Hobbes T: *Leviathan.* Harmonsdworth: Penguin Books; 1985.
7. Rand A: *The Virtue of Selfishness.* New York: New American Library; 1965.
8. MacIntyre A: *After Virtue.* 2d ed. Notre Dame, IN: University of Notre Dame Press; 1984.
9. Pelligrino E, Thomasma D: *The Virtues in Medical Practice.* New York: Oxford University Press; 1993.
10. Larkin GL: *The Cardinal Virtues of Emergency Medicine.* Presented Paper at the Society of Ancient Greek Philosophy. Binghampton, New York 1997.
11. Plato: *The Republic.* Trans B. Jowett. Roslyn, New York, 1942.
12. Shakespeare W: *The Complete Works of William Shakespeare.* Garden City, New York: Doubleday & Company, Inc., 1936.
13. Rilke R: In: Mitchell S (ed), *The Enlightened Mind: An Anthology of Sacred Prose.* New York; 1991.
14. Beauchamp T, Childress JF: *The Principles of Biomedical Ethics.* Vol 44. New York: Oxford University Press, 1994.
15. American Heritage Dictionary. 6th ed. New York: Random House; 1982.
16. Larkin GL, Weber JE, Moskop JC: Resource utilization in the emergency department: the duty of stewardship. *J Emerg Med* 1998;16:499–503.
17. American College of Emergency Physicians. *Code of Ethics for Emergency Physicians.* 2002 (25 July 2002).
18. Fields W, Asplin B, Larkin GL, *et al*: The Emergency Medical Treatment and Labor Act as a Federal Health Care Safety Net Program. *Acad Emerg Med* 2001;8(11):1064–1069.
19. McGloin J, Widom C: Resilience among abused and neglected children grown up. *Development and Psychopathology* 2001:1021–1038.
20. Waysman M, Schwarzwald J, Solomon Z: Hardiness: An examination of its relatioship with positive and negative long term changes following trauma. *Journal of Traumatic Stress* 2001;14(8):531–548.
21. Domres B, Koch M, Manger A, Becker HD: Ethics and triage. *Prehosp Disast Med* 2001;16(1):53–58.
22. Pesik N, Keim M, Iserson K: Terrorism and the ethics of emergency medical care. *Ann Emerg Med* 2001;37:642–646.
23. Mill JS: *Utilitarianism.* Vol 10. New York: Liberal Arts Press; 1957.
24. Jacobson v. Massachusetts: Supreme Court; 1905.
25. Larkin GL, Moskop J, Derse A, Iserson K: Ethics Manual. ACEP. Available at www.acponline.org/ethics/ethicman.htm. Accessed 21 May 2002.
26. Salib E: Effect of 11 September 2001 on suicide and homicide in England and Wales. *Br J Psychiatry* 2003;183(3):207–212.
27. Pfefferbaum B, North C, Flynn B, *et al*: The emotional impact of injury following an international terrorist incident. *Public Health Rev* 2001;29(2-4):271–280.
28. Ahern J, Galea S, Resnick H: Television images and psychological symptoms after the September 11 terrorist attacks. *Pyschiatry* 2002;65:289–300.
29. Schuster M, Stein B, Jaycox L: A national survey of stress reactions after the September 11, 2001 terrorists attacks. *N Engl J Med* 2001;345:1507–1512.
30. Duggal HS, Berezkin G, Vineeth S: PTSD and TV viewing of World Trade Center. *J Am Acad Child Adolesc Psychiatry* 2002;41(5):494–495.
31. Veenema T, Schroeder-Bruce K: The aftermath of violence: Children, disaster, and posttraumatic stress disorder. *J Pediatr Health Care* 2002;16(5): 235–244.
32. Mullin S: Public Health and the media: The challenge now faced by bioterrorism. *J Urban Health* 2002;79(1):12.
33. Glass T: Understanding public response to disasters. *Public Health Rep* 2003;116 Suppl 2:69–73.
34. Njenga F, Nyamai C, Kigamwa P: Terrorist bombing at the USA Embassy in Nairobi: The media response. *East Afr Med J* 2003;80(3):159–164.