

## Ethics, Pandemics, and the Duty to Treat

Heidi Malm , Thomas May , Leslie P. Francis , Saad B. Omer , Daniel A. Salmon & Robert Hood

To cite this article: Heidi Malm , Thomas May , Leslie P. Francis , Saad B. Omer , Daniel A. Salmon & Robert Hood (2008) Ethics, Pandemics, and the Duty to Treat, The American Journal of Bioethics, 8:8, 4-19, DOI: [10.1080/15265160802317974](https://doi.org/10.1080/15265160802317974)

To link to this article: <https://doi.org/10.1080/15265160802317974>



Published online: 18 Sep 2008.



Submit your article to this journal [↗](#)



Article views: 24285



View related articles [↗](#)



Citing articles: 65 View citing articles [↗](#)

**Target Article**

# Ethics, Pandemics, and the Duty to Treat

---

**Heidi Malm, Loyola University Chicago**  
**Thomas May, Medical College of Wisconsin**  
**Leslie P. Francis, University of Utah**  
**Saad B. Omer, Johns Hopkins University**  
**Daniel A. Salmon, Johns Hopkins University**  
**Robert Hood, Florida Department of Health**

---

Numerous grounds have been offered for the view that healthcare workers have a duty to treat, including expressed consent, implied consent, special training, reciprocity (also called the *social contract view*), and professional oaths and codes. Quite often, however, these grounds are simply asserted without being adequately defended or without the defenses being critically evaluated. This essay aims to help remedy that problem by providing a critical examination of the strengths and weaknesses of each of these five grounds for asserting that healthcare workers have a duty to treat, especially as that duty would arise in the context of an infectious disease pandemic. Ultimately, it argues that none of the defenses is currently sufficient to ground the kind of duty that would be needed in a pandemic. It concludes by sketching some practical recommendations in that regard.

**Keywords:** philosophy, moral theory, professional ethics, public health, AIDS, bioterrorism

Do physicians, nurses, and other healthcare workers have a duty to care for patients when doing so exposes the workers themselves to significant risks of harm and even death? More particularly, in the face of serious infectious disease, is there a duty to treat? In the past 20 years, much of the discussion of the duty to treat has occurred in the context of HIV and has focused on the duty of physicians (Arras 1988; Emanuel 1988; Daniels 1991; Harris and Holm 1995). It has asked, for example, whether an individual physician can legitimately refuse to treat a patient who has, or is suspected of having HIV. But the recent and emerging threats of other serious infectious diseases, such as severe acute respiratory syndrome (SARS), drug-resistant tuberculosis, Ebola, and a humanly transmissible avian flu, show this context to be woefully narrow. Among other things, the speed with which influenza can spread shows that such a virus has the potential to overwhelm and ultimately shut down a healthcare system in a way that AIDS never did. Thus, not only

are we concerned with the duty of, say, a surgeon to set the broken leg of an HIV<sup>+</sup> patient, but also with the duty of physicians in general to treat flu victims *qua* flu victims, both to aid the victims themselves and to limit the spread to others. This may necessitate longer hours (and corresponding increased exposure to the virus), potential quarantines, and assignments outside one's normal area of practice. And given that a functioning healthcare system requires the contributions of all sorts of workers, discussions about the duty to treat need also to examine the duties, if any, of nurses, paramedics, technicians, public health workers and various core staff.

With respect to moral theory, numerous grounds have been offered for the view that healthcare workers have a duty to treat. Those grounds include express consent, implied consent, special training, reciprocity (also called the *social contract view*), and professional oaths and codes. But quite often those grounds are simply asserted without being

---

Received 1 June 2007; accepted 27 July 2007.

In 2006, the persons listed as authors on this manuscript formed a working group on ethics and pandemics that was graciously funded, in part, by a grant from the Florida Department of Health. Numerous ethical issues related to pandemic influenza were discussed at multiple meetings. Manuscripts on some of those issues are presented elsewhere. For the present topic, Malm held primary responsibility for crafting, drafting, organizing and refining the particular arguments, with other members of the working group contributing to the discussion as was consistent with their areas of expertise. Each member of the working group commented on at least one draft of the manuscript, as did non-members Margaret Battin, Dan Heffter, Beverly Kracher, and Joan McGregor. The latter are thanked for their input. As is to be expected, and valued, members of the group had different opinions on a number of issues. Thus the views expressed herein do not necessarily represent the views of the Florida Department of Health, nor, for any particular argument, anyone other than Malm. Address correspondence to Heidi Malm, Professor, Department of Philosophy, Loyola University Chicago, 6525 N. Sheridan Road, Chicago, IL 60626. E-mail: hmalm@luc.edu

adequately defended or the defenses critically evaluated. For example, it is easy to find the assertion that healthcare workers have a duty to treat the sick just as firefighters have a duty to fight fires, with little argumentation explaining whether it is part of the job of all healthcare workers or only some, and whether the duty binds the workers individually or as a group (such that the duty is discharged if enough members of the group do the work). The absence of such argumentation and analysis can lead to mistaken assumptions about the scope of the duty and what it entails within that scope. This, in turn, can exacerbate practical problems in pandemic planning as well as create problems of justice if and when, for example, people are dismissed for not fulfilling a mistakenly attributed duty.

This essay aims to remedy at least a portion of the problem by providing a critical evaluation of five commonly proffered defenses for the view that healthcare workers have a duty to treat. The first section will further clarify the issue, and the second section will locate the issue within moral theory. The third section will provide the critical analysis of the five defenses of the duty to treat, with care being given to the relevance of the arguments to pandemic planning. The final section will sketch some practical recommendations about pandemic planning and the duty to treat.

## CLARIFICATIONS

When considering whether healthcare workers have a duty to treat, it is tempting to ask simply whether healthcare workers may, in the normal course of their days, permissibly deny treatment to particular (potential) patients because of their perceived disease status. Such was the framework commonly adopted when questions about the duty to treat were debated within the context of HIV/AIDS. The debate was initially robust, but with time various groups came to the conclusion that the relevant healthcare workers could not reject patients on the grounds that they had HIV, and this view was codified within a variety of official statements. For example, the American Nursing Association's (ANA, Silver Spring, MD) position statement on risk versus responsibility, revised in 1994, states that "Nursing is resolute in its position that care should be delivered without prejudice, and it makes no allowance for use of the client's personal attributes, socioeconomic or health status as grounds for discrimination" (ANA 1994), and the 2002 edition of the *American College of Physicians Ethics Manual* states that "the denial of appropriate care to a class of patients for any reason, including disease state, is unethical" (ACP 2002). This view was also given legal support when the United States (US) Supreme Court ruled that persons with AIDS are persons with disabilities and are thus protected under the Americans with Disabilities Act (Bragdon v. Abbott 1998, White 1999). Still, although there remains significant dissent to the view, as well as controversy over what it entails, the debate lost its urgency as more was learned about the means of transmitting HIV and how to prevent that transmission. In other words, as the risks of treating people with HIV diminished,

the concerns about the duty to treat in the face of that risk became "merely academic" (Fleck 2003, 3).

The issue re-emerged as other infectious diseases such as Ebola, drug-resistant tuberculosis, monkey pox, and especially SARS came to the forefront. Against these backdrops, discussions about the duty to treat opened up a bit as it was recognized that fulfilling the duty could include extended work hours, quarantines, speedy transmissions, and, unlike with AIDS, a rapid death. With respect to SARS, approximately 30% of the reported cases were among healthcare workers and, in Toronto, Canada, alone, "slightly less than half of the 182 cases involved health professionals. Three of those professionals died after exposure" (Fleck 2003, 3; World Health Organization [WHO] 2003). It has also been reported that while many healthcare workers gave their all in treating the sick, others refused to show up for work and were dismissed as a result (University of Toronto Joint Centre for Bioethics Pandemic Influenza Working Group 2005). There is reason to believe that this pattern would continue in the presence of an influenza pandemic. In a 2005 survey of workers in public health agencies in Maryland, almost half indicated that they would not report for duty during a pandemic (Balicer et al. 2006).<sup>1</sup>

Fortunately, SARS never developed into the global pandemic that was feared. But policy-makers around the world are using lessons from the SARS outbreak to help them prepare either for the anticipated pandemic if the H5N1 strain of avian flu becomes easily transmissible between humans (or if another deadly virus becomes easily transmissible), or if a bio-terrorism event results in a healthcare crisis that threatens to overwhelm a healthcare system in a short period of time (Emanuel 2003). Against these backdrops, pragmatic questions about staffing and moral questions about the duty to treat become paramount, and discussions about the nature of the duty need to open up further still. Whereas AIDS never resulted in a significant patient surge (within developed countries), and whereas SARS was primarily a disease within healthcare institutions,<sup>2</sup> an influenza outbreak would hit the community at large. The patient surge would be tremendous (Zhang et al. 2006; Sobieraj et al. 2007). And in a system with little surge capacity, the fact that numerous healthcare workers would themselves become ill, and thus not be available to work, would only exacerbate the problem.

Further, community-wide quarantines would prevent healthcare workers from getting to their normal place of work, or getting home, and thus necessitate that care be provided at other venues and/or for extended hours (because

1. However, clinicians were more willing to report than non-clinical staff. The perception of the importance of one's role in the agency's overall response was the single most influential factor associated with the willingness to report to work (Balicer et al. 2006).

2. For example, in Vietnam, more than half of the first 60 patients with SARS were healthcare workers (Reilly et al. 2003). In Canada, 77% of probable SARS cases resulted from in-hospital exposure, and in Taiwan, almost 94% of SARS cases were transmitted within hospitals (Grow and Rubinson 2003).

a limited number of healthcare workers are available within the quarantined area). A pandemic may also necessitate the cancellation of many otherwise scheduled appointments and procedures, either because necessary materials are not available due to disrupted shipping lines or because the space needed to provide the non-emergency care is needed to treat the critical flu patients. And in light of these issues, healthcare workers may be called on to provide care outside of their normal course of practice or normal specializations. For example, various healthcare professionals who normally provide on going cancer care, or even preventative cancer screenings, may be needed to provide general medical care and treat the flu itself. And efforts to vaccinate the population to prevent the spread of the flu would require the input of a huge number of healthcare workers who are not normally engaged in mass vaccination programs. To give an analogy, the Centers for Disease Control and Prevention (CDC) (Atlanta, GA) estimates that, in the case of a small pox attack, a minimum of 510,000 healthcare workers would be required to staff mass vaccination clinics (CDC 2002). Another study estimates that, at 10 minutes per patient, 46 million person hours would be required (Meltzer 2001).<sup>3</sup> These numbers may not translate exactly to a flu vaccination campaign, but they nonetheless provide evidence that the demands would be staggering.

In summary, emerging threats of infectious diseases such as SARS, pandemic influenza, and Ebola show that the duty to treat (if there is one) on the part of healthcare workers could demand much more than that the healthcare workers continue work as normal—that is, much more than that they continue to see and treat the patients they would normally see and treat, regardless of the patient's disease status. Instead, the duty to treat could require dramatic changes in how, where, when, and to whom healthcare is provided, as well as dramatic changes in the corresponding risks that healthcare workers incur in the course of providing that care.

Thus the question here is whether and on what grounds healthcare workers have a duty to take on these challenges and incur the associated risks to themselves should an infectious disease epidemic or pandemic hit. For ease of discussion, our focus will be on an influenza pandemic, but the arguments are relevant to other infectious diseases and even some bio-terrorism events (Wynia and Gostin 2004). Also, for ease of discussion, we will use the general term *healthcare workers* to cover the range of persons needed to support healthcare and public health systems in times of an influenza epidemic/pandemic and distinguish between the various kinds of workers only when needed. Before we turn to the arguments supporting a duty to treat, it will be helpful to locate the nature of a duty to treat within moral theory.

#### WHAT IS THE NATURE OF THE DUTY TO TREAT: A BRIEF INTRODUCTION TO MORAL THEORY

Common morality holds that we all, in virtue of our shared humanity, have a moral duty to aid others in great need

3. Some argue that the CDC estimates are likely too low (Silverman and May 2003).

when we can do so at minimal risk to ourselves.<sup>4</sup> For example, we ought to throw a life preserver to a drowning swimmer, to administer the Heimlich maneuver (if we know it) to a choking restaurant patron, and to assist a toddler spotted wandering alone in a National Forest. Within moral theory, such duties are commonly known as general positive duties. They are positive in that they oblige us to *do* something to aid another. In contrast, negative duties, such as the duty not to kill, oblige us to *not do* something that will harm another.<sup>5</sup> And the positive duties are general in that they rest on no special relationship between the aider and the aidee other than that of common humanity. They fall on us generally.

That common morality includes these general positive duties to aid is evidenced by the moral outrage that occurs when people fail to fulfill them. The now famous case of Kitty Genovese (1964, Hollis, NY), in which 38 people heard or witnessed portions of her attack and ultimate murder in an apartment square but none notified the authorities until it was too late, provides one such example. Another, more recent, case is that of David Cash (1997, Las Vegas, NV) who did nothing to assist a little girl whom his friend assaulted and killed in the bathroom of a Las Vegas casino. After the murder was done, Cash resumed gambling with his pal. The outrage at these cases has renewed the efforts in many states to impose criminal penalties on those who demonstrate gross failures to aid, thereby giving legal recognition to the general moral duty. Such laws now exist, in various forms, in a handful of states in the US and in numerous European countries. For our purposes, it is important to note that nowhere do the laws oblige a mere bystander to take significant risks to aid another.<sup>6</sup> The duty is limited to minimal risk at best.

In contrast, the duty to treat with which we are concerned would be an example of a *special* positive duty. The hallmark of special positive duties is the existence of a special relationship between the aider and aidee that grounds the duty. The relationship is typically a role-related relationship such as that between lifeguard and swimmer or between custodial parent and child and it is typically accompanied by an overt act(s) that signifies the acceptance of

4. Some might object to the term "duty" (preferring, perhaps, some less militaristic term), but that need not concern us here. The general idea is of an act which, from a moral point of view, we *ought* to do and (in the absence of a justification or excuse) can be blamed not doing. In contrast, acts that go beyond our duty (often called "supererogatory acts") are ones we are praised for doing and are not blamed for not doing.

5. However, the difference between doing something and not doing something is not essentially tied to the difference between moving and not moving. The negative duty not to kill can require that one step on the brake in order to avoid running over another, and the positive duty to aid could require that one not move if, for example, one's body weight is providing crucial pressure to another's open wound (Malm 1989).

6. The laws are often called "bad samaritan" laws and should not be confused with good samaritan laws. The latter are very common and serve to protect people who non-negligently cause a harm in the course of providing aid from the risk of being sued (Malm 2000).

the duty. For example, the lifeguard signs a contract stating that she will look out for and attempt to rescue drowning swimmers in exchange for an hourly wage, or a parent takes the child home from the hospital and out of the range of others who could meet the vulnerable child's needs.

A second key feature of special positive duties is that they can obligate people to incur greater risks than those that are imposed by general positive duties. For example, an on-duty lifeguard could be obliged to venture into a coastal rip tide to rescue a swimmer, whereas a bystander on the beach would not have a parallel general positive duty to do so. But the fact that the lifeguard can be obligated to incur greater risks does not mean that she can be obligated to incur any and all degree of risk. Lifeguards are not obligated to enter the surf to try to rescue a swimmer from the mouth of a great white shark, for example. Similarly, paramedics are not obligated to enter a building on the verge of collapse to aid someone inside. They can even be obligated not to do so.<sup>7</sup> Sometimes this additional obligation is grounded in the presence of conflicting duties to others. That is, a paramedic who dies or is seriously injured while trying to aid others will not be available to continue to aid the many who may still be in need, and she may even divert resources to herself. Here a form of triage may be used to explain the limits on the duty to aid any given person. Other times the limits may be institutionally imposed as a way to both recognize the agent's right to care about her own welfare or other obligations and the problems of making such value judgments at the scene. Further discussion of this issue would take us too far afield. For our present purposes it is enough to note that: 1) special positive duties can oblige persons to take greater risks than would general positive duties (which typically cease to be duties when the degree of risk is more than minimal),<sup>8</sup> and 2) the upper limits of that risk cannot be specified in the abstract. Among other things, the limits depend on the source of the duty (e.g., to what, exactly, did the agent agree?) and on the presence of conflicting duties.

Given the previous discussion, we are now in a position to better assess whether healthcare workers, in virtue of their role as healthcare workers, have a special positive duty to treat that obliges them to take greater risks in their efforts to aid others than would be required of persons in general.

---

7. For example, emergency personnel

are clear that they are expected to take care of themselves first, their crew second, and the patient last. So while the routine performance of their job involves much more risk than most of us would ever consider having, they know their limits. In certain dangerous situations, paramedics wait for police or a Haz-Mat team to arrive before attempting any aid or rescue (Hawkins 2004, 2).

8. However, it can be argued that during times of social crisis, everyone's general positive duties increase. They do not, however, turn into special positive duties. The latter can still require even more than the general positive duties and they are owed to particular individuals, not to society at large.

## FIVE GROUNDS FOR A DUTY TO TREAT

Numerous grounds have been offered for the view that healthcare workers have a duty to treat. Those grounds include express consent, implied consent, special training, reciprocity, and professional oaths and codes. In this section, each ground and its supporting arguments will be discussed and then critically evaluated with an eye to determining whether it can ground the kind of duty that is needed to respond to an infectious disease pandemic.

### Consent

Virtually all proponents of a duty to treat would agree that the consent of the healthcare worker provides a strong ground—and likely the strongest ground—for asserting the existence of the duty. However, there is room for disagreement about the types of consent that matter (e.g., expressed or implied), about what counts as adequate signs of expressing consent, and about the conditions that need to be met for that consent to count as sufficiently informed and voluntary. Let us begin with a non-controversial case.

No one would seriously deny that if a duty to treat ever exists, it exists under the following conditions: A physician with specialized training in infectious disease signs a contract for a job at a public hospital that states, among other non-conflicting points, that the job includes the duty to develop and participate in a system of treatment for persons who come to the emergency room with signs of infectious disease and for persons potentially exposed to infectious disease by others in the emergency room. The contract includes appropriate financial compensation for the job, as well as 1) extra compensation should the job necessitate extended hours or even quarantine, and 2) access to support services (such as someone to arrange funded day care for the physician's children) should the duties of the job conflict with other personal obligations in critical ways. In this case the physician's consent is expressed (as opposed to implied) and it is, by all accounts, sufficiently voluntary and informed. The physician's training, after all, makes her especially able to understand the risks. Moreover, policies are in place to limit the conflict between the physician's professional duty to treat and the other duties and rights in her life. Let us consider this a paradigm case of a duty to treat and for later reference, refer to it as a case of *contract-based consent*, because the duty was specified in and consented to via the job contract.<sup>9</sup>

Although these previously listed conditions provide a clear case of a duty to treat, they are rarely fulfilled in our current healthcare system. Many healthcare workers accepted their jobs when the risks of serious, infectious diseases were not a front-page worry and were not routinely specified in

---

9. A parallel argument could be made for private practice physicians based on the on-going fiduciary-like relationship developed over time. But here it seems that the duty to treat would be limited to a duty to continue to provide care in the capacity already established (and not in the extended ways articulated above) and a violation of the duty would constitute abandonment.

job descriptions and contracts. Indeed, bioethics in the 1970s and 1980s seemed devoid of worry about untreatable infectious disease (Francis et al. 2005). Moreover, an adequate response to an influenza pandemic could require people to perform tasks not listed in their job descriptions. School nurses, for example, may be called on to administer vaccinations to the community at large, and specialists of many sorts may be needed to take on the job of general practitioners. Thus, although contract-based consent to the duty to treat seems paradigmatically clear, it currently exists in relatively few actual cases and currently would cover only a small percentage of the healthcare and public health workers needed to respond to an infectious disease pandemic.

### Implied Consent

Proponents of a duty to treat may respond to the previous discussion point by arguing that consent need not always be directly expressed. It can sometimes be implied, as when one refrains from speaking after the chairperson says "Anyone object to moving the meeting up an hour next week?" Here the failure to object counts as consenting to the time change—it is a case of implied consent (also called *tacit consent*). With respect to the present topic, numerous proponents of a duty to treat have argued that persons who have accepted a job in healthcare have tacitly consented to the duty to treat even at a significant risk to themselves. In general, the argument is that the risks of infectious diseases and other harms have always been a part of treating the sick, and that, as a result, the risks are so obvious that they do not need to be explicitly stated nor explicitly accepted. For example, Dwyer (2003) writes "(I)ike firefighters and police officers, health care workers implicitly agree to accept a reasonable level of risk when they enter their profession" (142). Similarly, Fleck (2003) argues:

Risk is part of the profession of medicine, as it is part of the work of the police, firefighter or soldiers. No one has any moral obligation to enter any of those social roles. If, however, they chose to enter public safety roles, then society has the legitimate moral expectation that they will accept the risk attached to those roles... The same is certainly true in medicine (3).

In short, this defense of the duty to treat claims that when a person accepts a job as a healthcare provider, that person implicitly consents to the risks associated with treating infectious diseases—just as a firefighter consents to the risks associated with fighting fires when she accepts that job.

Although implied consent may be able to establish a duty to treat in more actual cases than contract-based consent, it is still unable to establish a duty to treat for healthcare workers in general. There are four reasons for this. First, the argument as stated is too broad. The mere fact that X exists or is common in the course of Y, does not by itself entail that one implicitly *consents* to X when one pursues Y. If it did, then women entering the corporate world could not legitimately complain about sexual discrimination in that world because of its long history, and women in general could not complain about the risk of being raped while walking

home alone at night because that risk has long been present too. Instead, for this argument to be plausible, we need to be able to argue that X is somehow a *legitimate*, integral or important part of Y, and not simply that it is currently a common part of Y (McGregor 2005). For the present topic, it seems that this burden can adequately be met because treating the sick is clearly a legitimate aspect of healthcare. But that brings us to the second problem, which is also with scope.

Unlike firefighting, the field of healthcare has developed so many specialties that it is no longer reasonable to view the risks of treating serious infectious disease as an essential part of the job. Perhaps it started out that way, and may still be that way in some aspects of healthcare, but not in others. A physician or nurse who pursued a career in ophthalmology, cosmetic surgery, or dermatology, as well as in many sub-areas of other fields such as radiology, orthopedics, and anesthesiology can reasonably maintain that they did not consent to the risks of *treating* serious infectious diseases when they consented to their job (other than the background risk of exposure).<sup>10</sup> The risks of treating infectious diseases are simply not obvious in or central to some fields in the way that the risk of fighting fires is obvious in and central to the field of firefighting. Some professionals may even have selected their specialization in part because of its low risk. This suggests that the analogy would have been more successful had it been between firefighters and infectious disease specialists or even between firefighters and emergency room workers, but not between firefighters and healthcare workers in general.

Third, and more theoretically, implied consent is not something that is given simply by failing to object. There are a number of background conditions that need to be met in order for one's non-objection (e.g., one's silence) to count as consenting. To see this, let us return to the office example. When the chairperson asks if there are any objections to moving the meeting up 1 hour, the worker's silence can count as consent only if 1) she knew of the proposal and the opportunity to dissent, 2) the means of signaling dissent were both known and reasonably performable, and 3) the time frame for expressing the dissent was reasonable and known. Thus a person's failure to respond would not count as consent were she asleep at the time of the announcement, were she told that the proper means for signaling dissent were to cut off her left hand, or were the timeframe allotted for expressing dissent a mere fraction of a second. These three conditions are needed to obviate epistemological worries about whether the silence was an actual *refraining*

---

10. Granted, ophthalmologists, radiologists, dermatologists, etc. know that they might *encounter* people with highly infectious diseases in the course of their jobs, just as bus drivers, school teachers, and supermarket workers know that they too might encounter people with highly infectious diseases. But consenting to that background risk of exposure is not the same thing consenting to *maintain* that exposure and begin treating the infectious disease itself, at a substantially increased risk of harm to oneself.

intended to convey consent or whether it was a mere non-doing (Simmons 1979; Malm 1996).

With respect to the duty to treat, it is not clear that a variety of healthcare workers even heard the question or, in other words, even knew that they were presumed to consent to the duty to treat (including its potential changes in working conditions, assignments, risks,) unless they signaled dissent. Alexander and Wynia (2003), for example, report that in a random survey of 1000 patient-care physicians selected from the from the American Medical Association (AMA) master file of all licensed physicians in the US, only slightly more than half of those responding believed that they had a duty to treat in the event of an outbreak of an unknown but potentially deadly illness (190).<sup>11</sup> Yet there is no clear evidence that these physicians went through a process of signaling dissent or even thought they needed to. Thus unless and until medical education and/or training makes it clear that one is presumed to consent to a general duty to treat unless one signals dissent, we cannot properly interpret the absence of overt dissent as evidence of implied consent.<sup>12</sup>

Further, were we to maintain that the *only* way to signal dissent is to decline to pursue the job entirely (which is another way of saying that a person should not enter the healthcare profession unless she is willing to accept the sort of duty to treat that would be needed to respond to a pandemic), then we would have to ask whether those means are unreasonably severe. Should it really be impossible to be a healthcare worker of *any* sort without agreeing to risk one's own welfare, and even one's family's welfare, to the harms of infectious disease? Answering "Yes, it is part of the job" simply begs the question by not explaining why we should define the jobs as *essentially* including that risk. Moreover, a "yes" answer would contribute to the current shortage of nurses and physicians by disqualifying people from the field—people who would be willing to continue to do the routine, low-risk work during times of a pandemic,

11. Interestingly, 79% said that physicians have a duty to treat patients with HIV (Alexander and Wynia 2003; 194).

12. Ruderman et al. offer a different take on the argument.

While it may be granted that the risk of contracting an infectious disease was likely not a concern for a generation of prospective health care workers, *any informed reading* of the medical literature in the last 20 years has shown that infectious diseases remain ubiquitous and problematic—notwithstanding overly-optimistic statements regarding the future throes of infectious diseases. It is therefore not unreasonable to argue the [health care professionals] *were aware* of the greater than average risks posed by their choice of profession (Emphasis added) (Ruderman et al. 2006, n.p.).

However, is it really fair to assume that the *range* of health care professionals needed to respond to a pandemic have actually *done* "an informed reading of the medical literature"? If not, then we cannot use the preceding point to argue that they were in fact *aware* of the greater than average risks. And if they were not aware, then they didn't consent, not even implicitly.

thereby giving those who are willing to accept the increased risk more time to do those jobs.

The final problem is that even within the areas of medicine for which the risks of infectious diseases are standard, some healthcare workers are not as well prepared to understand the risks as others are. The training of the physician in our paradigmatic contract-based consent case helps ensure that she truly understands the risks of infectious diseases, the risks of quarantine, and the various means to help limit transmission. But as a given worker's training in a field is less specialized, she is less able to truly understand the risks and thus her consent is less than ideally informed. This is not to say that healthcare workers other than physicians and nurses can never consent to a duty to treat (or a duty to do their part in the system of treatment). Instead, it is only to say that we cannot *assume* that they have truly consented to the risks from the mere fact that the risks are standard within a particular field. And because adequate pandemic planning requires the contributions of all sorts of workers, we need to look elsewhere to ensure that laboratory technicians, front-desk workers and the like will do their jobs. That certainty cannot be based on this argument about implied consent and obvious field-based risks. In summary, implied consent is a weak basis for asserting a duty to treat on the part of healthcare workers in general. Some workers may satisfy the conditions, but we cannot *assume* that they do just from the fact that they are working in healthcare.

At this point, proponents of a duty to treat may object that it is a mistake to apply the duty to the range of workers needed to keep a healthcare system working. The duty is a duty of *professionals* in virtue of their position *as* professionals. The concept of a profession may be controversial at the edges, but there is general agreement that it includes specialized training, special rights or privileges, and extra autonomy or self-policing (Ozar 1995). Thus, while others may be said to do their jobs professionally, in the sense of doing their jobs in a responsible, dedicated, and competent manner, it is only members of a profession who have a moral *duty* to treat. Moreover, once we recognize that the duty is a duty of professionals *qua* professionals, three other grounds for defending the duty emerge.

### Special Training

One such defense attempts to ground the duty to treat in the special training that professionals receive. This training increases the general obligation to render aid to others in need because it "not only increases the value of the aid, it may also reduce the risk associated with providing it" (Huber and Wynia 2004, 9; Morin et al. 2006). In other words, given that healthcare professionals know how to aid others, they can provide that aid more efficiently, perhaps by doing more with fewer resources or doing more in less time, than nonprofessionals can. They will also know how to minimize the risks of transferring the disease to themselves and they are likely to have access to the necessary materials such as gloves, masks, and vaccines that will help limit

that transmission. Thus, it is argued that “the expert knowledge and ability of the [healthcare professional]... leads to a *higher burden* of responsibility to render aid” (emphasis added) (Clark 2005, 80).

However, when taken by itself, the special-training defense does not give rise to the sort of duty to treat that we are envisioning because it either justifies too much or too little. In one regard, if we understand the argument as asserting that the specialized training creates special *abilities* to aid (both in terms of knowing what to do and knowing how to do it without increasing the risk of harm to oneself), then it is the abilities that count and not the training. But if it is the mere abilities that count, then many more people can be said to have the duty to treat than proponents of the argument would seem to want. Retired physicians and those who have lost their medical license due to fraud or even past substance abuse would still likely retain the *ability* to treat flu victims and thus have a special duty to do so. And many other people may have gained the ability to treat (in the sense of knowledge) without ever having earned a medical degree or becoming a member of the profession. Further, if sheer atypical ability to do X gives one a special duty to do so when X is for the public good, then a great many of us will find ourselves *obliged* to set aside our own interests in service of that good and our consent will be irrelevant. The extraordinarily compassionate person could have a moral duty to become a hospice worker or special education teacher and be said to be acting immorally when she pursues her passion in art, for example. But this is not the kind of duty we think of when we envision healthcare professionals’ duty to treat. The latter is thought to have an element of personal choice in it—be it a matter personal commitment—as opposed to being a duty that fell on a person simply because of native or learned abilities.

In another regard, if the claim is that specialized training allows healthcare professionals to do more in the way of preventing harm to others without risking significant harm to themselves, then the argument does not justify *special* duties at all—duties that can require a person to incur *greater* risks than would be required of persons in general. Instead, the argument merely notes that people with different abilities can be expected to take different practical measures to fulfill their general positive duties to aid. For example, consider Bill, a 6-foot 5-inch non-swimmer and Betty, a 4-foot 8-inch non-swimmer. Bill might be obliged to wade into a 3-foot deep river to rescue a drowning child, whereas Betty would not be similarly obliged because, for Betty, the risk of being knocked to her knees by the struggling child—and thus the risk of drowning herself—would be more than minimal. But the difference in their abilities to aid does not by itself entail that Bill has a *special* duty to aid that Betty does not—a duty that would oblige him to incur *more* than minimal risk to himself.<sup>13</sup> Instead, they would each have a general positive duty to aid another when they can do so at minimal risk to

13. Clark makes a similar mistake when he argues that special abilities can increase the strength of the duty to aid. (“If I am trained in water safety and life saving, my *obligation* to assist a drowning

themselves, even though what counts as “minimally risky” for Bill might be highly risky for Betty. Her duty might be fulfilled by alerting another to the peril or to trying to toss a life preserver to the child. (And were she to attempt the rescue nonetheless, her act would be supererogatory.) Similarly, then, it does not follow from the mere fact that healthcare workers, due either to their training or access to protective measures, are *able* to do more to aid others without incurring significant risk to themselves than other people are able to do, that the healthcare workers thereby have a special duty to aid that can require them to incur an even greater risk than that. If they have such a duty, it is not grounded in their mere ability to do more. Indeed, were special abilities alone sufficient to create a duty to risk significant harm to oneself in order to aid others, then we would encounter all kinds of counterintuitive consequences, including a disincentive to develop special abilities.

### Reciprocity

However, if the special abilities are the result of special training that was subsidized by the public or even an employer, or if the special abilities give one a right to special benefits or privileges, then we have a more promising basis for defending a duty to treat. Let us call this the *reciprocity view*. (It has also been called a *social contract view*.) It asserts that many healthcare professionals had their field-specific training subsidized by the public. They may have gone to public universities or received scholarships tied to entering certain fields. The information and training they received may also have been subsidized by the public via, for example, the federal funding of research that is used in their training or in their own professional practices (Fleck 2003). Further, many healthcare workers, and especially physicians, receive many substantial benefits along with the right to practice medicine. Licensure helps guarantee exclusivity, reduced competition, and higher incomes. These in turn can foster social prestige and its numerous perks. Moreover, most healthcare professions are afforded the benefits of self-regulation and its corresponding increase in autonomy.<sup>14</sup> Finally, healthcare professionals are likely to have greater or more immediate access to medicines, protective measures, treatments and vaccines, which count as a benefit when compared with the access of non-healthcare workers, especially in times of fast-moving pandemics. The reciprocity view thus asserts that in exchange for all these benefits, healthcare workers have a duty to treat that can oblige them to incur a greater than normal risk to themselves. Clark adds that when individual healthcare workers refuse

victim is *greater* than the average bather on the beach” (Clark 2003, 80 emphasis added)). A difference in the actions required of two people isn’t the same thing as a difference in the strength of the duty requiring those actions.

14. However, an interesting consequence of licensure and oversight by state medical boards is that they undermine the “self-regulation” aspect of the profession. Even though medical boards are composed of physicians and nurses, they act under the authority of the state rather than of the profession as such.



to fulfill the duty, they are guilty of being “free-riders,” that is, of taking the benefits of being a member of a health-care profession without doing their fair share of the work (Clark 2005, 76). It could also be argued that they have consumed a scarce good by taking a place in a medical class that could have gone to someone willing to recognize a duty to treat.

Next to the expressed consent argument, the reciprocity view provides the second strongest basis for defending a duty to treat, at least for physicians. With respect to health-care professionals in general, it appears strongest for workers who have accepted or enjoyed more of the benefits, and weaker for workers who have accepted or enjoyed fewer. But there, in that argument’s variation or flexibility, lies its weaknesses as well. For given the huge differences in benefits, both between and within different categories of healthcare work (e.g. physician, nurse, radiological technician, physical therapist, public health worker), it will be difficult to determine who in fact has the duty and/or to what degree, and thus difficult to use the argument in theoretical or pragmatic ways.

In more detail, some categories of healthcare work enjoy far more benefits than others. No one would deny, for example, that being a physician generally carries more prestige than being a school nurse. Nor would anyone deny that the benefits of licensure differ between physicians and nurses and between nurses and paramedics. And some categories of healthcare and public health work lack significant benefits of licensure altogether. Further, within particular categories of healthcare, there can be vast differences in the amount of benefit individual workers receive. Many physicians licensed in the US received their medical training in another country, thus minimizing the claim that US taxpayers funded their education. Of those who were educated in the US, some had their educations directly subsidized by the public by attending a public university, receiving a publicly funded scholarship, or even by having their own research projects (which may have gained them a more prestigious job or even a patent) funded by a federal grant, while others did not. And after medical practice starts, some physicians and other healthcare workers are employed by public hospitals, clinics and universities, thus making their salaries paid by the public, while others are in private practice. In addition, those who have been in practice for a longer period of time have gained more benefits than those who are just starting out. Similar concerns arise within other categories of healthcare. For example, the incomes and benefits of nurses vary widely among the various types of nursing (consider, for example, the differences between being a home-healthcare nurse, a school nurse, a cruise-ship nurse, and an advance practice nurse), and public health workers may have knowledge about important preventive measures but still have no privileged access (compared with physicians) to those measures when they are in short supply. As we consider other categories of healthcare workers and individuals within the categories, the differences only multiply.

Thus, the reciprocity argument may be useful in stimulating and organizing a given individual’s own thoughts about the duty to treat (as she will best know the benefits she has received), but it gives no clear guidance as to who, in fact, has the duty. Certainly the acceptance of one single benefit will not generate a duty to significantly risk one’s own welfare in an effort to aid another. After all, almost all of us have accepted some benefit from society and we do not think that that creates a special duty. (If it did, the presence of the special duty would not distinguish healthcare workers from the rest of us.) But, in another regard, the argument cannot require that a person receive all the listed benefits in order to have a duty to treat because then almost no one would have the duty. Further, were we to try to resolve this problem by viewing the duty as a matter of degree, then we would have to explain what that really means within healthcare practice. Would nurses, with their weaker duties, be allowed to go home earlier than physicians? Would they get to say “no” to some patients that physicians were required to treat? With respect to pandemic planning, viewing the duty as a matter of degree among the workers seems untenable.

However, the preceding problems can be at least partially avoided, and the argument strengthened, by interpreting the reciprocity defense as employing a threshold conception of benefits, as opposed to one that is a matter of degrees. For example, the notion of being a legal adult is a threshold concept. One either sufficiently fulfills the conditions (e.g., being age 18 years and not declared incompetent) or one does not. But after one meets the threshold there is no further concern about degrees. A 34-year-old adult is no more a legal adult than is a 24-year-old. In contrast, maturity and intelligence are not threshold concepts; one can be more or less mature, or more or less intelligent, than another. With respect to the duty to treat, this modified version of the reciprocity defense holds that once one has received a sufficient amount of the benefits associated with being a healthcare professional, one has a duty to treat. But among the professionals who have the duty, those who have enjoyed more benefits have no greater duty than those who have enjoyed just enough. Further, if we assess the benefits in terms of categories of healthcare workers (e.g., physicians at public hospitals and universities, physicians in private practice, nurses at public institutions, nurses with specialized training, public health workers employed by the government, for example) instead of in terms of what individual healthcare workers receive, then we have a more manageable way to start to determine where to draw the line and also a more manageable way to make that line clear to others. That is, as reciprocal expectations are explained within professional education, professional codes, and even job contracts, we get a basis for the duty to treat that incorporates some of the elements of expressed and implied consent, as well as a rationale for the expectation of the duty.

Still, although the previous modified reciprocity defense will be easier to use, it is not without its difficulties. For

one thing, we still face the difficult task of determining the level of benefits that is enough to generate a duty to treat. Perhaps we could agree that physicians employed by the public have a duty to treat, and many would argue that the benefits of licensure are enough to place a reciprocal duty on private practice physicians as well. (After all, one often overlooked effect of licensure and self-regulation is that society has effectively precluded others from developing the ability to treat in times of a pandemic. Thus we have no alternative to expecting physicians to provide care.<sup>15</sup>) But as we extend the duty to other groups, problems of comparative justice re-emerge. For example, if a pandemic develops, physicians, nurses and other first-responders are likely to be exposed to similar risks. Nurses may even incur the greatest risks, given their extended contact with patients. Yet there is something unsettling about using the reciprocity defense to say that they have the same duty to treat as physicians, when, as a group, they have enjoyed far fewer benefits. Similarly, there is something unsettling about expecting individual healthcare workers who have not yet gained significant benefits from their positions, to nevertheless risk significant harm to themselves simply because they are members of a group that, on average, has gained significant benefits. Doing so seems to be an inverse form of the free rider problem that was mentioned earlier. That is, while the free rider is someone who takes benefits without doing her fair share for the production of the benefits, the modified version of the reciprocity defense imposes risks on a person who has not gained her fair share of the benefits that provide the justification for imposing those risks.

In summary, if we want to use the reciprocity defense, we must either tolerate these injustices or recognize that different groups and different individuals will have significantly different degrees of the duty to treat (whatever that means), and many needed healthcare professionals will have no duty at all. Neither option seems ideal in terms of pandemic planning.

### Oaths and Codes

One last defense of the duty to treat relies not on the benefits that healthcare professionals receive but on the oaths they take or the codes of ethics to which they submit when they enter a profession. For example, the AMA's "social contract with humanity", which was adopted in 2001 and is in the form of an oath, states, among other things, "We, the members of the world community of physicians, solemnly

---

15. Of course, this doesn't answer the question of whether the duty is a duty of each physician individually or of the profession. For example, Tomlinson argues that the duty does not fall on every physician:

"The problem with that view is that the terms of the contract do not require each and every professional be ready to provide care to any patient who might come before them. Medicine's end of the bargain is kept so long as there are enough physicians willing to provide care so that the needs of SARS patients are met" (Tomlinson 2003, 5).

commit ourselves to... apply our knowledge and skills when needed, though doing so may put us at risk" (AMA 2001, 1). According to at least some proponents of this defense, reciting the oath is a speech-act akin to promising. As such, it is similar to expressing consent, making this defense of the duty to treat seem at least as strong as contract-based consent. Some argue that it is even stronger (Clark 2005).<sup>16</sup>

However, oaths and expressed consent differ in a few important ways. First, the recipient of an oath (i.e., the entity to whom the duty is owed) tends to be humanity in general, whereas the recipient of expressed consent tends either to be the employer who issued the contract and/or the patients with whom the fiduciary-type relationship has been established. Second, oaths taken at one's entry into a profession may be both less specific and viewed as far more symbolic than the details spelled out in a job description or established in professional-patient relationship. (Indeed, the lack of specificity in the AMA's social contract with humanity is touted as a virtue on the grounds that any greater specificity would compromise the "universal application" of the oath (AMA 2001).<sup>17</sup> Some may view these differences as making an oath-based duty preferable to contract-based consent, at least insofar as the former sounds more noble or more like an altruistic commitment than the latter. But in times when the commitment can require significant sacrifice, society might actually prefer, on pragmatic grounds, the contract-based consent which can better specify the expectations and limits of the duty. In other words, nobility may be wonderful, but it is not clear that we want to rely on a vague virtue when planning for a pandemic.

Another problem with trying to ground the duty to treat in the oaths that professionals take is that oath for a particular group may change and it simply is not clear that a change voted on by a subgroup of members, or by representatives of a profession, bind the individual members of the societies, especially when the members joined the societies and took their oaths before the changes were made. In fact, were it true that the "moral force" of the oath is activated by its articulation (AMA 2001; Clark 2005), then it seems clear that the changes do *not* bind retroactively. Further, if we think that the content of an oath is itself grounded in good reason (i.e., is justifiable) then it may be misleading to say that Smith has a duty to do X because she took an oath to do X. It may be more accurate to say that Smith took an oath to do X because she recognizes, on other grounds, that she

---

16. Clark maintains that promising is stronger than consenting because promising "includes a second order consent to the moral rightness of the agreement, not only to its acceptability" (Clark 2005, 74). Others support an oath-based defense without putting explicit weight on the notion of promising. See, for example, Hughs and Marcozzi 2005.

17. The Declaration of Professional Responsibility states that the duties the Oath "imposes transcend physician roles and specialties, professional associations, geographic boundaries, and political divides. In this regard the Declaration differs from codes of ethics to be used in the adjudication of legal and ethical issues. . . ." (AMA 2001, 1).

that has a duty to do X. Finally, as a basis for establishing a broad-based duty to treat, professional oaths suffer due to their lack of uniformity across the various disciplines.

Professional codes share some similarities with professional oaths, yet seem to offer a more promising basis for establishing a duty to treat insofar as their room for specificity and frequency of revision would allow for more practical guidance and less symbolism. In particular, a number of proponents of a duty to treat cite the AMA principles of medical ethics in support of their view. That set of principles, initially called a *code*, was first promulgated in 1847 and was the first widely accepted code of ethics for physicians (Huber and Wynia 2004). It also defined a physician's duties as matters of a profession, as opposed to matters of good character, religion, or charity:

[T]he AMA Code was revolutionary because it succeeded where others had failed: in setting profession-wide, explicit standards for ethical behavior. As Baker and colleagues note, "medicine's moral mandate, the duty of caring for the sick - which had been vested in the character and honor of the individual practitioner from the time of the Hippocratic Oath through the teachings of Bard, Gregory, and Rush - was now, for the first time ever, to be a collective rather than an individual responsibility" (Baker et al. 1999). Hence, the advent of the AMA's Code - among its many effects - served formally to enshrine the potential for professional obligations, distinct from matters of personal choice, charity, or religion (Huber and Wynia 2004, 6).

Thus physicians *qua professionals* have a duty to treat the sick even at increased risk to themselves. Further, the original version of the code expressly stated as much:

The 1847 AMA Code was organized by relationships: physician-patient, physician-physician, and physician-public. Each relationship was addressed as generating both duties and reciprocal rights. The third section, addressing physician-public relations, espoused a new obligation, not found in earlier English codes:

When pestilence prevails, it is [physicians'] duty to face the danger, and to continue their labors for the alleviation of suffering, even at the jeopardy of their own lives. (Huber and Wynia 2004, 6).

The Code has undergone numerous revisions over the years, including a major revision in 1957 in which its "cumbersome 48 sections and 5000 words" were simplified to an "organizational structure of 10 basic principles of only 500 words followed by Reports and Opinions offering interpretations of the Principles" (Huber and Wynia 2004, 7). With that revision, the above stark language was dropped in favor of a provision endorsing physicians' autonomy:

A physician may choose whom he will serve. In an emergency, however, he should render service to the best of his ability. Having undertaken the care of a patient, he may not neglect him; and unless he has been discharged he may discontinue his service only after giving adequate notice. (Huber and Wynia 2004, 7)

Huber and Wynia, among others, attribute this particular change to the fact that organized medicine was feeling "challenged by the potential power of health insurers and government" (Huber and Wynia 2004, 7). They maintain further that in 1977, when the references to the duty to treat in times of epidemics were "quietly withdrawn" from the interpretive Reports and Opinions, it was because such concerns were thought to be "historical anachronisms"—a belief that seemed plausible under the then popular view that we had "closed the book" on infectious diseases" (Huber and Wynia 2004, 7). However, they also argue that conditions now exist which support a code-based recognition of the duty to treat and they call for a corresponding revision of the Code to assert as much. Others support that revision as well (Battin and Francis 2007).

Clark makes the stronger claim that a revision is not necessary because a duty to treat in times of epidemics can be derived from the following two principles currently in the code:

VI. A physician shall, in the provision of appropriate patient care, except in emergencies, be free to choose whom to serve, with whom to associate, and the environment in which to provide medical care.

VIII: A physician shall, while caring for a patient, regard responsibility to the patient as paramount (Clark 2005).

Clark uses principle VI to argue that because an infectious disease epidemic would count as an emergency, physicians would not be free to choose whom to treat, and he uses principle VIII to argue that the treatment must be given even at an increased risk to oneself. Thus he maintains that the AMA's principles *currently* contain a code-based duty to treat for physicians. Others may argue that a revision is not necessary by relying on recent code opinions in addition to the code itself, including the 2004 opinion on physicians' responsibilities, which stated that, during disasters, physicians have a duty to provide urgent medical care, and it grounded this duty in the physician's commitment to care for the sick and injured (AMA 2004).

However, like the other arguments, this defense of the duty to treat is problematic. One obvious concern is that only about 25% of US physicians are members of the AMA and thus thought to submit voluntarily to the code (or code plus opinions) (Clark 2005). And even among members of that group, it is not clear how many regard the code as truly action guiding as opposed to merely symbolic. Thus even if the code, or the code plus opinions contains a clear statement of a duty to treat, only a minority of physicians in the US would be subject to this code-based defense of that duty.

One might object that the Code was written for all physicians, not just members of the AMA. But that point will not help the argument here. Consider an analogy. Suppose that Smith and Jones write a code of conduct for all the people living in their apartment building. It might even be a very reasonable code, one that makes life good for them and their neighbors. But unless there is some additional feature (such as the other people's concurrent consent or a provision in

the lease) that explains why the other people are obligated to honor the code that Smith and Jones wrote, other people will not have a moral *duty* to honor it. The mere fact that Smith and Jones wrote it for them just is not enough to make them obligated.

Proponents of a code-based defense of the duty to treat might try to further object that US physicians *are* so obligated because US physicians can lose their licenses for *gross* violations of the code. But this response is insufficient in two ways. First, from a practical standpoint, when the implications of a code are unclear or otherwise open to debate (as has already been established to be the case with respect to the “ill-defined” notion of “emergencies”), it is highly unlikely that a physician adopting a minority view would be found to be in *gross* violation. Second, from a theoretical standpoint, the response fails to distinguish between being pragmatically obliged to do X and being morally obliged to do X. If a gunman says to Smith “give me your wallet or I’ll shoot you,” we might say that Smith ought to give the gunman her wallet, that is, that she is pragmatically obliged to do so. But that does not entail that she is morally obliged to give him her wallet—that she has a moral duty to do so. The threat of a negative consequence does not itself establish a moral duty. Instead, such a duty would arise only if (among other conditions) the person receiving the threat were *legitimately* subject to the authority of the entity giving it. With respect to the duty to treat, that legitimacy might come from consent, reciprocity, or something else, but it will not come from the mere threat of a negative consequence. In short, then, physicians who are not members of the AMA may claim that they are neither pragmatically nor theoretically subject to a *code-based* defense of the duty to treat (although they may be subject to the duty on other grounds).

Further, even for AMA physicians, there is ample room for interpretation and disagreement as to whether, or at what point, a code-based duty to treat comes into force. (This problem will likely affect many other codes as well.) The “except in emergencies clause” of principle VI is clearly meant to cover what we might call “acute” emergencies. For example, suppose that a physician is the sole passenger in a taxicab that, after hitting a patch of winter ice, slides off the road in a deserted location and crashes into a tree. The physician is not hurt, but notices that the driver appears to have a severed artery in her arm. In this case, the harm threatening the driver is severe, immediate attention is needed to successfully limit that harm, the physician is able to provide that attention, and there is not time to arrange for someone else to provide it. Surely, if principle VI rules out anything, it rules out the freedom of the physician to say to the driver “Sorry, but I’m not taking new patients this month. You’ll have to apply your own tourniquet. Best wishes.” But what about pandemics? Would they too generate an emergency-based defense of the duty to treat? The answer is: “It depends”.

In more detail, the task for proponents of this defense of the duty to treat is to clarify the notion of “emergency” within principle VI in a way that would include acute emergencies on the one hand and infectious disease epidemics on

the other, while still allowing for an endorsement of physician autonomy in between (for that was the point of principle VI). But this task is much more difficult than it might first appear. Consider, for example, that for any single person, exposure to the flu does not create an acute emergency, at least not in the way that a severed artery does. The success of any treatment does not rest on the extreme immediacy of application. Instead, the sense of emergency seems to come as much or more from the number of people infected, and from the fear of spreading it to others, as from the urgent need for treatment for any given individual. But those points are difficult to capture in a way that still retains the sense of physician autonomy that principle VI was supposed to protect.

For example, it will not do to say that an emergency exists any time there are a significant number of people needing medical care. Such a claim is chronically true, yet the notion of “emergency” in principle VI is clearly meant to be the exception rather than the rule. Nor would it do to claim that an emergency exists any time there are many people needing medical care *and many more* will need it if the spread of the disease is not checked. That claim would be true for many transmittable diseases, such as the common cold and common flu viruses, but we do not think of them as generating “emergencies”. Further, it would not even be enough to add that the transmittable disease threatens *serious* harm or death. That is true of HIV, but, again, we do not routinely speak of it as generating an emergency. Finally, we will not even have a successful account if we stipulate that the relevant sense of emergency exists only when the transmittable disease threatens serious harm or death to many people *and* there is something physicians can do to significantly halt the transmission. (This condition tries to parallel the sense of urgency that is present in acute cases.) For in the case of influenza, infected persons are likely to have already contributed to the spread of the virus before they present with symptoms, and they will need to be cared for well after their contagious period passes.<sup>18</sup>

We are not claiming that an influenza pandemic can never reasonably be said to generate an emergency. We readily admit that it can. Instead, the point here is about the aim and interpretation of principle VI and the difficulty of defining the notion of “emergency” in a way that would include the non-controversial acute emergencies (e.g., the severed artery case) on the one hand, and serious pandemics on the other, without *also* including the whole range (or even just an implausibly large part of the range) of healthcare situations lying in between. This is a problem because if the account includes the whole (or almost the whole) range of situations in between, then we would almost always be in a state of emergency and physicians would virtually never be free to decide whom to treat, where to treat them, how many hours to work, what subspecialty to pursue, etc.. And thus, if the account includes (almost) the whole range of situations in between, then the “except in emergencies” clause

---

18. However, this condition would help defend a more limited duty to participate in a mass vaccination program.

would not be identifying an exception but instead the rule, and principle VI would not fulfill its intended purpose of codifying a general recognition of physician autonomy.<sup>19</sup>

At this point it might be objected that we do not need a clear definition of “emergency” because we have the simple option of stipulating, in an *ad hoc* sort of way, that principle VI covers individual acute emergencies on the one hand, any situation in which the healthcare system is somehow “overwhelmed” on the other, and nothing in between. (The system’s being “overwhelmed” is meant to provide a parallel to the fact that in acute emergencies there is not time to find anyone else to provide the aid.) But this option is also flawed in a number of ways. First, it does not fully resolve the initial problem of interpretation. That is, even physicians who consider themselves bound by the AMA code of ethics may still have substantial disagreements, or personal uncertainty about when the duty comes into force. Is it enough that one’s local hospital is overwhelmed, or must all the hospitals in the city be overwhelmed, the county, the state, or the region? And at what point is a physician from one community, whose system is not overwhelmed, code-obligated to either travel to another community whose system is overwhelmed or to take on the local duties of a colleague so that that colleague may travel to aid the other community? Just when *does* the duty come into force?

Obviously, there are some situations that would qualify as “being overwhelmed” or a “disaster” or a “crisis” regardless of how we define the edges of the terms. One can know that 11:00 PM is night even if one cannot explain exactly when day switches to night. Thus the present problem is not claiming that we can never know that we are in such a state, nor that code-bound physicians do not have a duty to treat in such situations, but only the proposed *ad hoc* methodology still leaves significant problems of interpretation and application.

However, even if we grant that code-bound physicians have a duty to treat when the system is incontrovertibly overwhelmed, that kind of duty is not what we are looking for when we are worried about pandemic planning. For given that one of the main aims of pandemic planning in particular, and beneficence-respecting social policy in general, is to help *prevent* the system from becoming overwhelmed, a duty to treat that would come into force only *after* the system is incontrovertibly overwhelmed would be of limited use. The duty may still exist, as would a general positive duty on the part of all citizens to aid in times of crisis,<sup>9</sup> but an emergency-generated duty just is not sufficient when we are trying to *prevent* the system from becoming overwhelmed. Further, and morally more important, were we to ignore the need for crisis prevention (and no claim is being made that such prevention is always successful) but instead wait until

a crisis actually hits and *then* rely on emergency-generated duties to treat to address it, then we, as a society, would be shirking our own general positive duties to look out for welfare of our members and instead unjustly burdening our physicians. Reid (2005) makes this crucial point in a slightly different context when she says:

We must not expect individual moral heroism to do work that is best spread around: the obligation is on all of us to create and sustain a healthcare system that does not leave the provision of our care dependent upon extreme actions of self-sacrifice by a limited group (359).

In short, it is wrong to wait until the system is overwhelmed and then rely on emergency-generated duties to treat to address the problem. We need duties that we can count on before the system is overwhelmed and ones that distribute the burden (e.g., via contract and compensation) among us all.

One last objection asserts that we could avoid the previous problems by agreeing to stipulate that a duty to treat comes into force whenever the system has the *potential* to become overwhelmed (as opposed to actually being overwhelmed). But this alternative merely returns us to the problems previously discussed. For if society is in a state of emergency whenever the system has the potential to become overwhelmed, then it is currently always in a state of emergency and will remain so for the foreseeable future. The Institute of Medicine (Washington DC), for example, reports that the US emergency department system is, on a *daily* basis, at capacity (Institute of Medicine 2006), and near countless persons in the US and abroad are not receiving adequate healthcare. Thus, if the mere *potential* for a system to become overwhelmed is enough to activate the sort of emergency-generated duty to treat that is implied by principle VI, then we are constantly in a state of emergency and the emergencies referred to in principle VI are again not an exception but instead the rule.

The preceding discussion focused on efforts to establish a duty to treat for US physicians from the AMA’s code of ethics. Other problems with a code-based defense of the duty to treat are more general. For example, were the duty to treat something that is part of the very nature of professions and merely made explicit in codes, then we could expect to find some uniformity among the codes of various professions, or at least among subgroups of those professions. But the lack of such uniformity is striking. A review of

61 professional codes revealed that 29 had no mention of a duty to [treat], 23 had broad statements (such as the Declaration of Geneva: A physician shall give emergency care as a humanitarian duty unless he is assured that others are willing and able to give such care), and 8 had what could be construed as specific direction to members” (Upshur 2006, 6).

In other words, more than 85% offered no clear guidance on the duty to treat. This casts doubt on the idea that the duty is part of the very nature of the professions. Further, it is particularly interesting to note that the Canadian Medical

19. Some proponents of the duty to treat for physicians argue that the problems lie not with clarifying the notion of emergency within Principle VI in a way that retains a strong sense of physician autonomy but instead with the inclusion of Principle VI within the code at all, as it provides a way for physicians to escape their moral duties (Rhodes 2006).

Association (Ottawa, Ontario, Canada) code of ethics, which was revised in 2004—after the SARS outbreak in Toronto, Canada—is silent on the issue, although it used to include a clear statement of the duty to treat.<sup>20</sup>

Similarly, the position statement of the ANA on risk versus responsibility states that nurses have a duty to treat when four conditions are met. The most noteworthy condition, for our purposes, states “The benefit the client will gain outweighs any harm the nurse might incur and does not present more than an acceptable risk to the nurse” (ANA 1994, 1). Thus nurses may decide for themselves when and whether they are willing to incur the increased risk. Other codes seem more aspirational than instructive. The “Principles of Ethical Practice of Public Health,” for example, focuses on what public health organizations should strive to do, but does not set a guideline below which a public health professional could be said to be violating a duty (American Public Health Association [APHA] 2002). In short, current codes of ethics do not assert a clear duty to treat for the range of professionals that would be needed to respond to a pandemic. Further, the lack of a shared vision among the codes weakens the view that the duty to treat is duty of professionals by virtue of their status as professionals.

In summary, efforts to ground a professional’s duty to treat on a code of ethics are fraught with problems. The relevant codes of ethics often do not clearly assert a duty to treat, and even when they do, their scope of application and their correct interpretation is open to significant dispute. Of course, such problems could, at least in theory, be remedied in the future. For example, we might adjust current codes to make them more explicit, and we might refine the relevant notion of “emergency” (or a related term for other codes) in a way that would allow physicians, other healthcare workers, and pandemic planners to know just when the duty to treat arises. But until that happens, we cannot rely on current codes or oaths to establish a duty to treat for the range of healthcare workers that would be needed were a serious pandemic to take hold. Some healthcare workers might have an oath or code-based duty to treat, but too many others would not.

## CONCLUSION

None of the five common arguments for the duty to treat that were covered in this discussion provides a convincing basis for asserting that healthcare workers (or even just healthcare professionals) have a duty to treat simply by virtue of being healthcare workers/professionals. That, of course, does not *prove* that an adequate defense could not be developed in the future. Perhaps the relevant codes of ethics could be changed to more clearly articulate the duty and define when it arises, its scope, and its expectations (though that would not solve all the problems). Perhaps the argument from reciprocity could be better developed and explicitly incorporated into

---

20. The 1922 CMA code includes the same strong “when pestilence prevails...” language as the AMA’s earlier code. But that language “conspicuously disappears” in the revision released in 1926 (Ruderman 2005; n.p.).

the rules of licensure that govern the various categories of healthcare professionals (although that too would not solve all the problems). Or perhaps a combination of the arguments just covered could be developed to provide a convincing case where the arguments taken individually could not.

Still, although it may be *possible* to develop a strategy that would impose a duty to treat on the part of all healthcare workers, society should not rush to do without first ‘looking both ways’ for unintended or unwanted consequences that might accompany the benefits. For example, although a strategy that would impose a duty to treat on the part of all healthcare workers would have the benefit of addressing some of the practical problems of pandemic planning, it might nonetheless cause greater problems overall by exacerbating a personnel shortage. In particular, the US is already experiencing a nursing shortage, which has been attributed to the fact that working conditions for nurses are becoming less and less attractive (Bingham 2002; Hart 2003). Further, nursing has traditionally been an occupation featuring women, who have been described in the literature as being particularly vulnerable to interruptive family demands (Staines and Pleck 1986). This vulnerability will conflict with a duty to treat, especially when, as is likely in times of pandemics, the duty entails extended hours and separation from family during the crisis. This problem is particularly acute for single parents, whose obligations to their children may not pose an obstacle to entering a health profession in normal times, but might preclude such a career if it were necessarily thought to entail a duty to treat in times of pandemics and in spite of familial obligations and needs. Thus, explicitly requiring (e.g., via codes and licensure), or implicitly assuming (e.g., via implied consent), that entering a healthcare profession necessarily entails a duty to treat would likely provide even further disincentive to enter the profession. And because personnel needs during a pandemic will require nurses more than any other profession (as it is nurses who provide the daily, hour-by-hour care), exacerbating the personnel shortage by creating further disincentives to enter this profession would be counterproductive. Similar problems could be raised about any healthcare field, and especially about fields that lack significant compensation or other significant prerequisites.

Thus, rather than trying to create arguments or conditions that entail that *all* healthcare workers have a duty to treat, a wiser approach may be to broaden the use of expressed consent (of which contract-based consent is one type) so that many more necessary workers acknowledge the duty to treat during a pandemic or other societal medical emergency as an explicit, voluntarily accepted, and often compensated responsibility. Obviously, this is not a novel idea. Historically, and with respect to physicians, Fox (1988) explains that:

traditionally epidemics have not been met with the expectation that all doctors serve equally, but with the financing of cadres of ‘plague doctors’ or with the exploitation of existing pools of military medical personnel (in the flu epidemic after the first world war) who are habituated to following orders and accepting risk.

Other scholars, writing about more current times, argue for the development of a sort of contract-based consent by arguing for the creation or expansion of various types of healthcare reserve corps, and limited steps have been taken in this regard (Marna et al. 2005; Sario 2006; May and Aulisio 2006; Alexander and Lantos 2006). Such corps may include public or private individuals, compensated or volunteer, with different individuals trained in the various aspects of infection control procedures and patient-care tasks related specifically to infectious disease. The corps might even parallel the National Guard with volunteers being compensated for their training and readiness independently of whether a serious pandemic, or other wide-spread emergency, arises.<sup>21</sup>

Such efforts can occur at the national, state or local levels. To give just a few examples, the US Public Health Service (Rockville, MD) includes the Commissioned Corps, which is an all-officer branch of the military that may be called on for public health emergencies. It is not difficult to imagine this corps being expanded, or parallel ones developed at the state level, to cover other needed healthcare workers. Similarly, the Medical Reserve Corps (Rockville, MD), which is sponsored by the Office of the US Surgeon General, includes both volunteer healthcare professionals (employed or retired) and lay persons, and it develops specific strategies that local medical reserve corps units can act on should a pandemic arise (Office of the Surgeon General 2006).

The Florida Department of Health (Tallahassee, FL) specifies that all employees, as a condition of employment, may be required to work before, during and/or beyond normal work hours or days in the event of an emergency and notes that this work may occur at special shelters and include responses to disasters, either man-made or natural. The city of Galveston, TX, has a hurricane preparedness plan that could serve as a model for pandemic plans in a variety of cities. It involves some workers explicitly committing to report to work if a hurricane hits, being compensated for doing so, and requires them to have pre-arranged back-up measures to take care of other duties, such as child care and pet care, so that they may be counted on to report to work immediately when the need arises. At a more local level, job descriptions could better specify just what is expected of particular workers (e.g., that school nurses may be expected to assist in community vaccination programs, should the need arise) and what will be offered in return (e.g., necessary training, access to protective and preventive measures, extra compensation, assistance with personal obligations that likely would be neglected). Recent research even suggests that the more that healthcare workers feel prepared to respond, the more willing they are to actually respond (Alexander and Wynia 2003).

Obviously, numerous challenges confront this approach to helping address staffing problems in pandemic planning.

21. Designating the workers as agents of the state, would, in at least some jurisdictions, give the workers a layer of insulation against lawsuits relating to the aid and thus remove at least one disincentive to providing that aid.

These challenges will be both theoretical (e.g., at what point is the risk to the healthcare worker great enough to override a duty to treat) and operational (e.g., how can neighboring states share the consented workers when the need arises). But we think that numerous challenges will confront any approach and they are likely to be *more* difficult when the approach relies on a vague moral duty whose source (e.g., implied consent, professional codes) is controversial and whose scope, content and strength are so difficult to assess. Further, we are *not* claiming that efforts to expand the scope of contract-based (or expressed) consent are mutually exclusive or otherwise inconsistent with efforts to expand the applicability of the other arguments for the duty to treat. Indeed, the efforts may even be complementary. For example, efforts to clearly articulate a reciprocity-based duty to treat and incorporate it into the rules of licensure would help allow the act of obtaining a license to count as an act of consent. Similarly, efforts to better educate potential healthcare workers about the risks of treating infectious diseases, perhaps as a means to help fulfill the conditions of implied consent, would also foster (though not be sufficient for) expressed consent, because a person can only truly consent if she understands that to which she is thought to be consenting.<sup>22</sup> Still, it is important to recognize that the other methods, though not inconsistent with efforts to expand the scope of contract based consent, cannot supplant it either. There are many types of workers who are necessary to a functioning healthcare system and who simply could not be brought under the arguments for codes, oaths, or reciprocity, because their jobs are not governed by such prescriptions (for example, the food service workers, laundry personnel, drivers, front desk clerks,). For them, expressed consent is the only realistic option (although even it has its challenges).<sup>23</sup>

Finally, we are not at all claiming that expanding the use of contract-based consent would *guarantee* that an adequate work force would be available should a serious pandemic take hold. To the contrary, we think that no approach could make such a guarantee. First, the US healthcare system is already stretched so thin that even if every healthcare worker consented to a duty to treat we still could not provide an adequate response to a serious pandemic while continuing to provide routine medical services. But the approach advocated here would make progress. Second, efforts to establish that all (or most) healthcare workers have a duty to treat, are not the same thing as efforts to establish that all (or most) healthcare workers will actually act on that duty. Some may

22. In other words, merely mouthing "I agree", or, were we talking about implied consent, merely not speaking up, would not count as true consent (expressed or implied) unless the person were actually informed about or truly understood, that to which she is thought to be consenting (though that is not the only necessary condition).

23. For example, in the background literature on consent there is dispute about the extent to which employment contracts can serve as genuine consent to risks when persons come from circumstances of serious economic or other disadvantage that may present them with limited choices.

not, and pandemic planners need to take that into account. Still, it is not unreasonable to think that healthcare workers who have directly consented to a duty to treat, and even accepted compensation for doing so, will be more likely to actually act on that duty, than persons who are merely assumed to have the duty because, for example, they accepted a job in healthcare or the code of their society (vaguely) says that they do.

To conclude, pandemic planning, in particular, and disaster planning in general, has recently received quite a bit of attention. Deservedly so. But much of that attention has focused on the needs of first responders, the allocation of scarce resources (e.g., vaccines and ventilators), and the movement of needed equipment. Less attention has been paid to addressing the kinds of staffing needs that would be generated by an ongoing, multiple wave disaster of the sort that a serious infectious disease pandemic would create. Thus we maintain that along with addressing the other aspects of disaster planning, society should also direct significant attention to bringing more necessary healthcare workers under the umbrella of contract-based consent. ■

## REFERENCES

- Alexander, G. C., and Wynia, M. K. 2003. Ready and willing? Physicians' sense of preparedness for bioterrorism. *Health Affairs* 22: 189–197.
- Alexander, G. C., and Lantos, J. D. 2006. Commentary: Physicians as public servants in the setting of bioterrorism. *Cambridge Quarterly of Healthcare Ethics* 15: 422–423.
- American College of Physicians (ACP). *American College of Physicians Ethics Manual*, 4th ed. 2002. Philadelphia, PA: ACP. Current version Available at: <http://www.acponline.org/ethics/ethicman.html> (accessed February 18, 2006).
- American Medical Association (AMA). 2001. *Declaration of professional responsibility: Medicine's social contract with humanity*. Chicago, IL: AMA. Available at: <http://www.ama-assn.org/ama/pub/category/7491.html> (accessed February 18, 2006).
- AMA. 2004. *Physician obligation in disaster preparedness and response*. Chicago, IL: AMA. Available at: [http://www.ama-assn.org/apps/pf\\_new/pf\\_online?f\\_n=browse&doc=policyfiles/HnE/E-9.067.HTM](http://www.ama-assn.org/apps/pf_new/pf_online?f_n=browse&doc=policyfiles/HnE/E-9.067.HTM) (accessed August 1, 2007).
- American Nurses Association (ANA). 1994. *Ethics and human rights position statements: Risk versus responsibility in providing nursing care*, effective date: December 8, 1994, status: revised position statement, originated by ANA Committee on Ethics, 1986. Silver Spring, MD. Available at: <http://www.nursingworld.org> (accessed March 12, 2006).
- American Public Health Association (APHA). 2002. *Principles of the ethical practice of public health*, version 2.2. Available at: <http://www.apha.org> (accessed March 10, 2006).
- Arras, J. D. 1988. The fragile web of responsibility: AIDS and the duty to treat. *The Hastings Center Report* April/May: 10–20.
- Baker, R., Caplan, A., Emanuel, L., and Latham, S. 1999. *The American Medical Ethics Revolution*. Baltimore, MD: Johns Hopkins University Press.
- Balicer, R. D., Omer, S., Barnett, D., and Everly Jr., G. 2006. Local public health workers' perceptions toward responding to an influenza pandemic. *BMC Public Health*. Apr 18(6): 99.
- Battin, M., Francis, L., Jacobsen, J., and Smith, C. 2007. *The patient as victim and vector*. New York, NY, Oxford Press.
- Bingham, R. 2002. Leaving nursing. *Health Affairs* 21(1): 211–217.
- Bragdon, 1998. *Bragdon v. Abbott*, 524 U.S. 624.
- Clark, C. 2005. In harm's way: AMA physicians and the duty to treat. *Journal of Medicine and Philosophy*. 30(1): 65–87.
- Centers for Disease Control and Prevention (CDC). 2002. *Smallpox response plan and guidelines*, Version 3.0, annex 3. September 23. Atlanta, GA: CDC.
- Daniels, N. 1991. Duty to treat or right to refuse? *Hastings Center Report* 21(2): 36–46.
- Dwyer, J. 2003. SARS as an ethical test. *Eubios Journal of Asian and International Bioethics* 13: 142–143.
- Emanuel, E. J. 1988. Do physicians have an obligation to treat patients with AIDS? *New England Journal of Medicine* 318(25): 1686–1690.
- Emanuel, E. J. 2003. The lessons of SARS. *Annals of Internal Medicine* 139(7): 589–591.
- Fleck, L. M. 2003. Are there moral obligations to treat SARS patients? *Medical Humanities Report* 25(1): 3–4.
- Fox, D. M. 1988. The politics of physicians' responsibility in epidemics: a note on history. *Hastings Center Report* 18(S): 5–9.
- Francis, L., Battin, M., Jacobson, J., Smith, C., and Botkin, J. 2005. How infectious disease got left out—and what this omission might have meant for bioethics. *Bioethics* 19(4): 287–322.
- Grow, R., and Rubinson, L., 2003. The challenge of hospital infection control during a response to bioterrorist attack. *Biosecurity and Bioterrorism* 1:215–220.
- Harris, J., and Holm, S. 1995. Is there a moral obligation not to infect others? *British Medical Journal* 311(7014): 1215–1217.
- Hart, P. D., and Research Associates. 2003. *Patient-to-nurse staffing ratios: Perspectives from hospital nurses, conducted on behalf of AFT Healthcare*. Available at: [www.aft.org/pubs-reports/healthcare/HartStaffingReport2003.pdf](http://www.aft.org/pubs-reports/healthcare/HartStaffingReport2003.pdf)
- Hawkins, B. 2004. *Medical Ethics in Utah* 15(6): 2.
- Huber, S. J., and Wynia, M. K. 2004. When pestilence prevails... physician responsibilities in epidemics. *American Journal of Bioethics* 4(1): 5–11.
- Hughes M. T., and Marcozzi, D. 2005. Duty to treat vs personal safety. *Virtual Mentor* Available at: <http://www.virtualmentor.ama-assn.org> (accessed June 10, 2006).
- Institute of Medicine. 2006. *Hospital-based emergency care: At the breaking point. Future of emergency care*. Washington, DC: National Academies Press. Available at: <http://books.nap.edu/openbook.php?isbn=0309101735> (accessed August 1, 2007)



- Malm, H., 1996. The ontological status of consent and its implications for the law on rape. *Legal Theory* 2: 147–164.
- Malm, H., 1989. Killing, letting die and simple conflicts. *Philosophy & Public Affairs* 18(3): 238–258.
- Malm, M. 2000. Bad samaritan laws: Harm, help, or hype. *Law and Philosophy* 19(6): 707–750.
- Marna, L.T., Hoard, L., and Tosatto, R. 2005. Medical reserve corps: Strengthening public health and improving preparedness. *Disaster Management and Response* 3(2): 48–52.
- May T., and Aulisio, M. P. 2006. Access to hospitals in the wake of terrorism. *Disaster Management and Response* 4(3): 67–71.
- McGregor, J. 2005. *Is it Rape? On acquaintance rape and taking women's consent seriously*. Aldershot, Hampshire, England ; Burlington, VT: Ashgate.
- Meltzer M., Damon, I., LeDuc, J., and Millar, J. 2001. Modeling potential responses to smallpox as a bioterrorist weapon. *Emerging Infectious Diseases* 7(6): 959–969.
- Morin K., Higginson, D., Goldrich, M., for the Council of Ethical and Judicial Affairs of the American Medical Association, 2006. Physician obligation in disaster preparedness. *Cambridge Quarterly of Healthcare Ethics* 15: 417–531.
- Office of U.S. Surgeon General. 2006. *Pandemic flu planning guides for MRC units*. Available at: [www.medicalreservecorps.gov](http://www.medicalreservecorps.gov) (accessed June 15, 2006)
- Ozar, D. 1995. Profession and professional ethics. In *Encyclopedia of Bioethics*, revised ed., ed., W. T Reich. New York, NY: Simon & Schuster Macmillan; 2103–2112.
- Reid, L., 2005. Diminishing returns? Risk and the duty to care in the SARS epidemic. *Bioethics* 19(4): 348–361.
- Reilly, B., Herp, M., Sermand, D., and Dentico, N. 2003. Sars and Carlo Urbani. *New England Journal of Medicine* 348:1951–52.
- Rhodes, R. 2006. Commentary: The professional obligation of physicians in times of hazard and need. *Cambridge Quarterly of Healthcare Ethics* 15:424–28.
- Ruderman, C., Tracy, C. S., Bensimon, C. M., et al. 2006. On pandemics and the duty to care: Whose duty? Who cares? *BMC Medical Ethics* 7(5). Available at: <http://www.biomedcentral.com/1472-6939/7/5> (accessed June 15, 2006).
- Sariego, J. 2006. CCATT: A military model for civilian disaster management. *Disaster Management and Response* 4(4): 114–117.
- Silverman R., and May, T. 2003. Terror and triage: Prioritizing access to mass smallpox vaccination. *Creighton Law Review*, 36(3): 359–374.
- Simmons, A. J. 1979. *Moral Principles and Political Obligations*. Princeton, NJ: Princeton University Press, 76–81.
- Sobieraj, J. A., Reyes, J., Dunem, K. N., et al. 2007. Modeling hospital response to mild and severe influenza pandemic scenarios under normal and expanded capacities. *Military Medicine* 172(5): 486–90.
- Staines, G. L., and Pleck, J. H. 1986. Work schedule flexibility and family life. *Journal of Occupational Behavior* 7: 147–153.
- Tomlinson, T. 2003. Caring for high-risk patients: A duty or a virtue? *Medical Humanities Report* 25(1): 5–6.
- University of Toronto Joint Centre for Bioethics Pandemic Influenza Working Group. 2005. *Stand on guard for thee: Ethical considerations in preparedness planning for pandemic influenza*. Available at: <http://www.utoronto.ca/jcb/home/documents/pandemic.pdf> (accessed January 15, 2006).
- Upshur, R., Bakdash, T., Tsa, D., Johnson, J., and Maybud, S. 2006. The role and obligations of healthcare workers during a pandemic influenza outbreak. WHO working draft. Available at: [www.keele.ac.uk/depts/pk/news/BeijingSatelliteConference/InfluenzaPandemic-ProfessionalObligations-draftpaper-Ross-Upshur.pdf](http://www.keele.ac.uk/depts/pk/news/BeijingSatelliteConference/InfluenzaPandemic-ProfessionalObligations-draftpaper-Ross-Upshur.pdf) (accessed August 8, 2006).
- World Health Organization (WHO). 2003. Consensus document on the epidemiology of severe acute respiratory syndrome (SARS). Available at: <http://www.who.int/csr/sars/en/WHOconsensus.pdf> (accessed June 15, 2006).
- Wynia, M. K, and Gostin, L. O. 2004. Ethical challenges in preparing for bioterrorism: barriers within the health care system. *American Journal of Public Health* 94: 1096–102.
- Zhang, X, Meltzer, M. I., and Wortley, P. M. 2006. Flusurge—a tool to estimate demand for hospital services during the next pandemic influenza. *Medical Decision Making* 26(6): 617–23.