



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



The duty to treat in the context of an influenza pandemic

C.P. van der Weijden*, A.L. Bredenoord, J.J.M. van Delden

University Medical Center Utrecht, Julius Center for Health Sciences and Primary Care, Department of Medical Ethics, PO Box 85500, 3508 GA Utrecht, The Netherlands

ARTICLE INFO

Article history:

Received 24 February 2010
Received in revised form 8 May 2010
Accepted 24 May 2010
Available online 8 June 2010

Keywords:

Ethics
Influenza
Pandemic

ABSTRACT

The recent influenza pandemic proved that an influenza pandemic is no longer a future scenario. It may urge health care workers to undergo certain or even large risks. According to the WHO as well as commentators, a strong case can be made for adopting a duty to treat during a disease outbreak. Many current professional codes of ethics, however, fail to provide explicit guidance sufficient to set policy or assure the public in the event of an infectious disease outbreak. This paper aims to assess whether there is a duty to treat in the case of an influenza pandemic. As we conclude that there are valid reasons that support the duty to treat in this specific context, we will subsequently explore its scope and limits.

© 2010 Elsevier Ltd. All rights reserved.

“National, regional, and local responses to epidemics, terrorist attacks, and other disasters require extensive involvement of physicians. Because of their commitment to care for the sick and injured, individual physicians have an obligation to provide urgent medical care during disasters. This ethical obligation holds even in the face of greater than usual risks to their own safety, health or life. The physician workforce, however, is not an unlimited resource; therefore, when participating in disaster responses, physicians should balance immediate benefits to individual patients with ability to care for patients in the future.” The American Medical Association (AMA) [1].

“If people already suffered from New Influenza A, or do not belong to the group who receives the annual influenza vaccination and are not pregnant, the Board of Directors counts on their complete availability.”

Letter to her employees concerning the New Influenza A outbreak, a Dutch University Hospital (July, 2009).

1. Introduction

The recent influenza A (H1N1) pandemic proved that an influenza pandemic is no longer a future scenario, but actual and realistic. Furthermore, an event like this is also likely, if not certain, to occur again in the future. Unlike influenza epidemics, a pandemic occurs far less frequently. Influenza epidemics occur annually, during the winter period, caused by genetically drifting strains of influenza. Major changes of the virus, a so-called antigenic shift, may lead to new strains to which no immunity exists

in the population and can hereby cause a pandemic. Three major pandemics occurred in the 20th century: the 1918–1919 ‘Spanish flu’, the 1957–1958 ‘Asian flu’, and the 1968–1969 ‘Hong Kong flu’. Although the recent situation eventually showed a relatively mild course of disease, a future pandemic might show a worse situation than the one we have seen now.

As the above citations show, it is in principle expected from health care workers that they continue to work and provide care in the case of an influenza pandemic. A pandemic may urge health care workers to undergo certain or even large risks that others are not exposed to. That these risks are not fictional is shown by prior experiences with severe acute respiratory syndrome (SARS), where 30% of the cases were among healthcare workers [2]. According to the World Health Organization (WHO) as well as commentators, a strong case can be made for adopting a duty to treat during a disease outbreak [3,4]. This so-called duty to treat contagious patients when this poses risks of infection, and perhaps death, to the health-care worker him-/herself has been hotly debated over time, but particularly in the context of HIV/AIDS. 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 [5–8]. The recent and emerging threats of other serious infectious diseases, such as severe acute respiratory syndrome (SARS), drug-resistant tuberculosis, Ebola, and pandemic influenza, show this context to be too narrow [9]. Moreover, many current professional codes of ethics fail to provide explicit guidance sufficient to set policy or assure the public in the event of an infectious disease outbreak [4]. Up to what extent can we expect doctors to undergo risks in order to protect others, merely because they happen to be employed in health care? Does something like a duty to treat indeed exist in the context of an influenza pandemic and if so, what should we consider reasonable risks?

* Corresponding author. Tel.: +31 30 6700540; fax: +31 88 7568099.
E-mail address: cpvanderweijden@live.nl (C.P. van der Weijden).

As the current flu pandemic shows the topicality of these questions, this paper aims to assess whether there is a duty to treat in the case of an influenza pandemic, and if so, how this duty should take shape in this specific context. Clarity on this subject in codes of ethics would prevent confusion and uncertainty among doctors concerning their rights and responsibilities. We will first clarify what we mean with a duty to treat. Then we review the arguments that have been put forward as possible grounds for the duty to treat. We discuss five arguments as proposed in the literature and add three potential arguments to this. As we conclude that there are valid reasons that support the view that such a duty exists, we will subsequently explore the scope and limits of the duty to treat in the case of an influenza pandemic. Although the duty to treat for health care workers may include a large range of professionals, we will in this paper restrict ourselves to (all) medical doctors. Whether and to what extent the duty to treat would also apply to other professionals, such as nurses, is a question for further debate.

2. Explicating the duty to treat

The duty to treat, being the moral duty to provide treatment, in the context of a pandemic would imply that doctors continue providing treatment irrespective of patients being infectious or not. If so, this would mean that a doctor can be obligated to undergo greater risk than a random bystander. If there were a duty to treat in the event of an influenza pandemic, this could for example require medical doctors to work longer hours, to execute tasks beyond their ordinary responsibilities, and/or to expose themselves to risk of infection – and perhaps death – while providing care to patients [10]. That taking these risks is not an obvious and undisputed fact was shown by a recent survey, that pointed out that nearly 25% of doctors did not consider that they had a duty to work where doing so would pose risk to themselves or their family [11].

Several classifications exist for explaining what entails a moral duty or a moral obligation. There is a continuum running from a very strict duty through weaker duties to supererogatory acts, i.e. ideals beyond the obligatory, a fulfilment of which can be perceived as praiseworthy or even heroic. In this paper, we refer to an absolute moral duty when a duty cannot be legitimately overruled by other moral considerations and to a *prima facie* moral duty when the duty must be fulfilled unless it conflicts, on a particular occasion, with an equal or stronger duty [12]. We now take a closer look to determine how the duty to treat, if there is any, should be grounded, how to interpret it, and if there would be limits to this duty.

3. Underpinning the duty to treat: valid grounds?

3.1. Explicit consent

A first possible ground for the duty to treat is explicit consent by physicians [9]. This implies that a physician gives explicit consent, for example by signing an employment contract, to assist in times of crisis. It would be difficult to maintain that an explicit consent made by physicians to do all the necessary acts as required in the case of an influenza pandemic would not have moral force. The difficulty, however, with grounding a duty to treat in an explicit consent particularly lies in the unspecified nature of such a consent: an explicit consent will hardly ever be sufficiently specified to coerce physicians to act in certain ways. Employment contracts for example seldom explicate all rights and duties of the employee in detail. So, even if there would be explicit consent to assist in times of crises, then this will probably still ask for a further filling in and interpretation for specific situations. In a crisis situation, one might be called upon to perform tasks that are not described in the contract, or that are described only vaguely. Should we, then,

consider this to be explicit consent? An option may be to describe the physicians' obligations in more detail, but it is highly questionable whether this is feasible, for it would require an extensive list of rights and duties, specified for many imaginary situations. One could in addition also question whether formulating a detailed list of obligations would be desirable, as this may deter professionals (and there is already a shortage) and, more importantly, it expresses distrust rather than trust.

In sum, although an explicit consent has some moral force it would at least require detailed filling in before it becomes a valid ground for a duty to treat. We therefore do not consider explicit consent to be a sufficient ground for a duty to treat.

3.2. Implied consent

The second possible ground for a duty to treat is found in implied consent [9].

Infectious diseases are not something new and never faced before. One could therefore argue that these kinds of events have always been part of the professional risks of medical doctors. So by accepting a job in healthcare they at the same time consent, not in an explicit but in an implied way, to a duty to treat in such a circumstance. By stating implied consent as a basis for a duty to treat, it is thus stated that treating infectious diseases is an essential part of the job as a medical doctor.

The main reason for doubting the validity of this ground is that healthcare has evolved significantly from the past. There are many specialties. To treat serious infectious diseases is no longer an essential part of the job for many specialists. Due to the specialisation as we now know it, some doctors might have not realised that treating infectious disease could form a part of their job. Specialists in those fields might therefore state that they never consented to doing so when accepting their job.

Considering the above, implied consent should not be perceived as a valid ground for a duty to treat.

3.3. Oaths and codes

Thirdly, professional oaths and codes are called for to form a basis for the duty to treat.

One can interpret taking an oath as a form of expressing consent. However, an oath is mostly directed at humanity and not at a certain person or group [9]. It is not directed towards the employer with whom the doctor has a contract or the patient with whom a relationship is or will be established. It may be given form in phrases using terms like 'the patient', but that is not a patient with whom a relationship is already established, making it less specific. Oaths could perhaps better be viewed as symbolic. If an oath will change over time, this does not automatically imply that it binds members who took their oath before this change. An oath would rather address noble motives than binding doctors to a duty. But violating one's oath is often seen as immoral. This points out that while the content of an oath is often general, it is found to be of importance to the people taking the oath.

Codes are often written by professional associations, such as the AMA mentioned above. In a code, a certain profession expresses her principles, norms and the desired behaviour towards each other and towards the outside world. By no means would we trivialize the importance of oaths and codes, but they are of subordinate interest in this context. One could see oaths and codes as articulations of norms and duties; they are an expression (or codification) of moral thinking. Only after professionals have reached consensus on their shared norms and responsibilities, they can codify these in oaths and codes. Moral duties thus rather form the basis for oaths and codes in stead of oaths and codes being the grounds for a duty to treat.

3.4. Special training

A fourth ground may be found in medical training [9]. Based upon their training, physicians have acquired certain abilities. This places them in a position in which they can offer better care than non-trained people can. They know how to provide treatment and will do it in a more efficient way, and they often have knowledge that others are missing. Their training might also reduce the risk that comes with providing this care. Therefore doctors could be morally obliged to provide care in a situation where only they are qualified to offer the appropriate care and others are not able to do so. It could be argued that the greater the need, the greater the physicians' responsibility to act [13].

In the present time there are various specialties, which implies a diversity in special training. However, when trained as a dermatologist a doctor still has, despite his specialisation, the basic abilities to provide medical care to people and has the same basic training as an infectious disease specialist.

Different levels of training might lead to various levels of a duty to treat. If one has received more (specific) training, one would have a stronger obligation to provide care. Also within professional units the training might differ widely. But this might not form a problem when one states a general duty to care. Each individual should provide care at least at a minimal risk to himself. If someone is able to do more without incurring a higher risk to significant harm, he might be obliged to do so. In this context this follows from the mere fact that they have a special training. So this obligation is based on special abilities that others bare. One can also argue that responsibility increases as the probability that someone else can serve decreases [14]. If others are not able to render aid, an individual or a limited group might form a last resort.

Medical training will provide a duty based upon gained capabilities. This is based on the capability to contribute to the care of others. So in their special training we find our first valid ground for a duty to treat for medical doctors.

3.5. Reciprocity

The fifth possible ground contends that one is granted the chance to become a doctor by the public and gains benefits or privileges from acquired abilities and thus should repay for this in some way. All medical doctors have received their training partly or completely subsidized by public resources – the exact arrangement varies between countries and professions. Arguably, subsidized training and education creates a reciprocal obligation for physicians to serve the community with the very skills imparted by this education [15]. This social contract, or reciprocity as it is often called, would imply doctors to provide care to repay for received benefits. This grounds differs from the above (special training), because it does not focus on the abilities gained by the training, but on how it is facilitated to gain these abilities, benefits and privileges. To examine the validity of this ground, we must first examine whether doctors indeed are privileged and if so, in what ways.

In many countries the state precludes other than licensed doctors from providing healthcare. Licensure helps guarantee exclusivity, reduced competition, and higher incomes [9]. Medical doctors have a greater or more immediate access to healthcare, medicines and protection than others. This could be perceived a benefit. One might state that the prestige that comes with being a doctor could also be seen as something to which reciprocity could be applied. It could be seen as a benefit to gain prestige by occupation and one could say that *noblesse oblige*. Like this one can be defend that a doctor should provide care based on his social position.

In addition, it could be argued that medical doctors have consumed a scarce good by taking a place in a medical class that could

have gone to someone willing to accept a duty to treat. This is the case when someone would refuse to fulfil his duty to treat. He will have been granted the benefits that comes with the job, but is not willing to do his share where it comes repaying these benefits. When considering this argument in defence of a duty to treat one will face some problems. For example, how do we measure the variation in benefits received between various occupations and specialties? Also, if stating that having received benefits by occupation, there is a difference in amount of benefit received over time. A starting doctor will have received less benefits yet than an experienced doctor. Inversely, the experienced doctor might have already repaid some of the received benefits.

When looking at the reciprocity argument in its entirety, we would argue that it provides a basis for the duty to care up to some extent. Medical doctors will receive or have already received benefits based on their occupation, but it is difficult to define what should be compensated and how this should be done. After all, not all benefits need necessarily be exchanged.

3.6. Public health impact

One should also consider the public health impact in this particular scenario, making this our sixth ground [16]. By treating an individual, a doctor may indirectly lower the risk to the entire population as well. With the scenario of an influenza pandemic, a doctor will not only face the responsibilities towards a single patient, but also to the public. When more people will become ill, it will pose greater pressure on the healthcare system. This puts a greater obligation on those who are able to minimize the impact.

A grand scale pandemic does not only entail medical consequences. Society could be at risk. An influenza pandemic is not likely to only cause sickness and death – which in itself are worse enough – but also secondary consequences such as work absenteeism. Imagine half of the working population becoming sick and not being able to work. This would lead to a huge economic and social disruption. As a consequence, a doctor might not only be obliged to provide care based upon the disease at its own but also by its consequences to the population. Although it would not be right to hold doctors accountable for the functioning of society, as this is a population wide obligation, physicians should still do their part by providing care.

In the case of a pandemic, the argument of the public health impact forms a basis for the duty to treat.

3.7. Public trust

A seventh possible ground for the duty to treat during an influenza pandemic is formed by the public expectations that physicians will indeed provide care. When there is a fire outbreak, the people expect, or perhaps better, they *trust* firemen to do their job, which is to extinguish the fire. When there has been a car accident, the people trust the police and the ambulance personnel to do their job, which is to provide assistance. Similarly, if there is an influenza outbreak, the people trust medical doctors to do their job, which is to provide care and to treat the sick.

To trust somebody is to say that we think he will be trustworthy in a specific context [17]. Thus, to trust the medical profession is to say that we think they will be trustworthy during an influenza pandemic. If professionals 'at daggers drawn' refrain from doing their job, public trust in the medical profession will erode. The maintenance of public trust is necessary for human cooperation and therefore the maintenance of trust in the medical profession is in the end essential to maintain our health care system as we know it [17]. As we should trust our medical doctors to assist us even when this is not without risks, public trust forms an additional ground for a duty to treat during an influenza pandemic.

Table 1
Various grounds for a duty to treat are discussed in this paper.

Grounds	Valid ground?
Explicit consent—containing that a medical doctor consented in an explicit way, for example by means of a contract	Not sufficient
Implied consent—by accepting a job as a medical doctor one implicitly consents to the risk of treating infectious diseases, assuming it is part of the job as a medical doctor	No
Oaths and codes—taking an oath or belonging to a group represented in a code would generate duties	No
Special training—based upon their training medical doctors have gained abilities that place them in a position in which they can provide better care than no trained people can	Yes
Reciprocity—one is granted the chance to become a doctor and gains benefits or privileges from acquired abilities and thus should repay for this in some way	Yes
Public health impact—a doctor might not only be obliged to provide care based upon a disease but also by its consequences to the entire population	Yes
Public trust—the maintenance of public trust is necessary for human cooperation and essential to maintain our health care system as we know it	Yes
Solidarity towards colleagues—assuming doctors have a collective responsibility to treat, one could consider the duty professionals have to one another	Yes

3.8. Solidarity towards colleagues

Above we have discussed various reasons why medical doctors should have a collective duty to treat. If we assume they indeed have this collective responsibility, besides duties towards individual patients and the community we can also consider the duty professionals have to one another. How should work and risk be distributed amongst various professionals? It would be too easy to say those who are most willing to do so go first. When one doctor refuses to provide care the workload of his colleagues increases as well as the risk incurred by them [18]. This could lead to a moral obligation towards colleagues. Risk exposure might ideally be controlled by distributing it in such a way that those most prepared for risks would face the highest burden of risk exposure [14]. Certain trained professionals can handle more with a lower relative risk as professionals that lack that specific training. They know how to cope with certain risks due to their training. These specialists could thereby prevent risk to colleagues. Even further, one could state that they are morally obliged to do so. It is yet debatable which specialists should be considered to form this frontline. If a professional will let another professional form a frontline without any contribution on his behalf he could be considered to be a free rider.

This obligation towards colleagues is actually a form of solidarity, being the final ground. Some professionals might form a frontline to protect other less trained professionals by themselves based on their attitude to what is right. Obviously there is need for solidarity during an influenza pandemic. Solidarity will lead to a better functioning of healthcare in such an event and would protect the institutional capacity to provide care.

For an outline of the various grounds discussed above, we refer to Table 1.

4. Reasonable limits

Having discussed the grounds for a duty to treat, we conclude that there is a valid basis for a duty to treat in case of an influenza pandemic. What, then, are the appropriate scope and limits of this duty to treat?

Medical doctors, although they belong to their own professional community and adhere to its set of rules, are also part of the broader

community and therefore subject to the same rights and duties as other members [19]. These professional and personal obligations do have some overlap but are still separate though. Professional obligations give doctors rights that people without medical training do not possess, such as opening someone's abdomen to remove an appendix. However, it does not absolve them of responsibilities they have based upon their membership of the broader community.

In times of crisis, the duties deriving from doctors' multiple roles may come into conflict. Besides the duty to treat as a doctor he can also have duties as a spouse, parent, child etc.

To fulfil these duties a doctor must treat his patients and at the same time protect himself from infection. When one faces multiple duties or obligations it is comprehensible that at some times these might collide. The limits of the duty to treat are thus also defined by the strengths of competing rights and duties [19]. An absolute interpretation of the duty to treat fails to consider these different, conflicting responsibilities. Because one duty could overrule another, this will not inherently mean that the other duty is no longer there. One can see the duty to treat as a *prima facie* duty, being an obligation that can be overruled by other, at that moment more pressing, obligations.

However, to accept a duty to treat does not automatically mean that medical doctors should incur *any* degree of risk. This would require further debate regarding what threshold for risks faced by providing care should still be considered reasonable. For example, the risk of certain death is of a whole other degree than the risk of being sick for a week. The possible risks can vary from a mild course, causing sickness periods comparable to seasonal influenza, up to a grand scale pandemic with many people hospitalized or even dying, as was the case with SARS. What, then, are reasonable limits to the duty to treat?

The discussion regarding the duty to treat can be situated in the so-called 'demandingness debate', contending that some demands are too costly and therefore become unreasonable. On the other hand, if a demand is of very little cost to oneself it can be reasoned that one ought to do it. When the public risk becomes significantly higher than the personal risk, one could argue that doctors' obligation to provide care increases as well. Also when the pool of available rescuers shrinks (especially where state regulations preclude unlicensed individuals from developing special abilities to rescue), potential rescuers may find themselves obliged to subvert their own interests for the public good [20]. For example mandatory influenza vaccination policies in nursing homes can be defended based on a duty not to harm others and comes with a low burden [21]. When infecting someone else could have been prevented, but it is not, this can be regarded as harming that person [8]. Similarly, physicians have some role-related obligations towards their patients in the case of an influenza pandemic.

When an influenza pandemic strikes at full scale it is of utmost importance to keep the healthcare system functioning. Doctors are not an inexhaustible resource. One should consider the future benefits of a healthy doctor. The policy document by the AMA mentioned earlier also states that physicians should balance immediate benefits to individual patients with ability to care for patients in the future [1]. It is needed to evaluate up to what account providing care to infected people leads to increased risk. When the threat is or, more importantly, is perceived as limited a discussion as handled in this article will probably not arise. Physicians are used to exposure to disease and will probably act not that different from daily practice. When, however, a situation is (perceived as) highly threatening or dangerous this might not be the case. Arguments that support a duty to treat will gain strength as will the personal reasons not to treat. It might lead up to a situation where solidarity is at stake. With this last consideration in mind, stating the limits considering a duty to treat should be done with actual information at the time of a pandemic.

5. Conclusion

Influenza pandemics will provide a surge in healthcare demand. It may pose risk to doctors providing this care in the form of the possibility to become infected. In previous occasions, such as the SARS epidemic of 2003, it was argued that healthcare workers have a duty to treat. In this paper various grounds regarding such a duty to treat in the context of an influenza pandemic have been set forth. Based on the grounds discussed in this paper we conclude that one can speak of a duty to treat. This duty to treat should rather be perceived as a prima facie moral duty than an absolute one. In the case of a pandemic medical doctors are needed; relying on benevolence solely might prove to be sufficient, but we cannot hope for that. Doctors should at least have a duty to treat as long as providing medical care will not lead to greater harm than not acting. At least doctors should have a duty to justify themselves when refusing a duty to treat.

Responsibilities that arise out of competing duties might be compensated. Care for children for example could temporarily be taken care of by others who are not needed for delivering medical care. Financial compensation could be an option. Granting doctors working under these circumstances the certainty to direct access to healthcare when needed would alleviate the fear of getting sick. By compensating these responsibilities competing duties could be overruled. Filling in how to do so is beyond the scope of this paper; this would be an interesting task for policy makers and hospital managers. Finally, the healthcare system is not just formed by doctors, but also by many supporting forces. Healthcare will not function when only licensed doctors are obliged to work and others will not show up for work. One should also consider their duty to work in the situation of an influenza pandemic.

References

- [1] American Medical Association (AMA). Physician obligation in disaster preparedness and response [Internet]. Chicago: American Medical Association; 2004. Available from: <http://www.ama-assn.org/ama1/pub/upload/mm/code-medical-ethics/9067a.pdf> [cited 2010 Feb 22].
- [2] World Health Organization (WHO). Consensus document on the epidemiology of severe acute respiratory syndrome (SARS) [Internet]. Washington: World Health Organization; 2003. Available from: <http://www.who.int/csr/sars/en/WHOconsensus.pdf> [cited 2010 Feb 22].
- [3] World Health Organization. Ethical considerations in developing a public health response to pandemic influenza (WHO/CDS/EPR/GIP/2007.2). Geneva: World Health Organization; 2007. Available from: http://www.who.int/csr/resources/publications/WHO_CDS_EPR_GIP_2007_2c.pdf [cited 2010 Feb 22].
- [4] Ruderman C, Tracy CS, Bensimon CM, Bernstein M, Hawryluck L, Shaul RZ, et al. On pandemics and the duty to care: whose duty? who cares? *BMC Med Ethics* 2006, doi:10.1186/1472-6939-7-5. First published April 20.
- [5] Arras JD. The fragile web of responsibility: AIDS and the duty to treat. *Hast Cent Rep* 1988;18(Suppl. 2):10–20.
- [6] Emanuel EJ. Do physicians have an obligation to treat patients with AIDS? *N Engl J Med* 1988;318(25):1686–90.
- [7] Daniels N. Duty to treat or right to refuse? *Hast Cent Rep* 1991;21(2):36–46.
- [8] Harris J, Holm S. Is there a moral obligation not to infect others? *BMJ* 1995;311(7014):1215–7.
- [9] Malm H, May T, Francis LP, Omer SB, Salmon DA, Hood R. Ethics, pandemics, and the duty to treat. *Am J Bioeth* 2008;8(8):4–19.
- [10] Selgelid MJ, Chen YC. Specifying the duty to treat. *Am J Bioeth* 2008;8(8):26–7.
- [11] Damery S, Draper H, Wilson S, Greenfield S, Ives J, Parry J, et al. Healthcare workers' perceptions of the duty to work during an influenza pandemic. *J Med Ethics* 2010;36(1):12–8.
- [12] Beauchamp TL, Childress JF. Principles of biomedical ethics. 6th ed. New York: Oxford University Press; 2009.
- [13] Clark CC. In harm's way: AMA physicians and the duty to treat. *J Med Philos* 2005;30(1):65–87.
- [14] Anantham D, McHugh W, O'Neill S, Forrow L. Clinical review: influenza pandemic—physicians and their obligations. *Crit Care* 2008;12(13):217, doi:10.1186/cc6918. First published June 24, 2008.
- [15] Mareiniss DP. Healthcare professionals and the reciprocal duty to treat during a pandemic disaster. *Am J Bioeth* 2008;8(8):39–41.
- [16] Kirkwood K. Public health and duties to the population during a pandemic. *Am J Bioeth* 2008;8(8):35–6.
- [17] Hardin R. Trust. Cambridge and Malden: Polity Press; 2006.
- [18] Klopfenstein ML. Pandemic influenza and the duty to treat: the importance of solidarity and loyalty. *Am J Bioeth* 2008;8(8):41–3.
- [19] Sokol DK. Virulent epidemics and scope of healthcare workers' duty of care. *Emerg Infect Dis* 2006;12(8):1238–41.
- [20] Sawicki NN. Without consent: moral imperatives, special abilities, and the duty to treat. *Am J Bioeth* 2008;8(8):33–5.
- [21] van Delden JJM, Ashcroft R, Dawson A, Marckmann G, Upshur R, Verweij MF. The ethics of mandatory vaccination against influenza for health care workers. *Vaccine* 2008;26(44):5562–6.