



# A Clinician's Obligation to be Vaccinated: Four Arguments that Establish a Duty for Healthcare Professionals to be Vaccinated Against COVID-19

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**Abstract** This paper defends four lines of argument that establish an ethical obligation for clinicians to be vaccinated against COVID-19. They are:

- (1) The obligation to protect patients against COVID-19 spread;
- (2) The obligation to maintain professional competence and remain available for patients;
- (3) Clinicians' role and place in society in relation to COVID-19;
- (4) The obligation to encourage societal vaccination uptake.

These arguments stand up well against potential objections and provide a compelling case to consider acceptance of COVID-19 vaccination a duty for all clinicians. This duty brings with it the implication that vaccine refusal amounts to a dereliction of the professional's ethical obligations, which means such clinicians should be subject to disciplinary action. Furthermore, this duty provides grounding for mandatory vaccination policies for clinicians.

**Keywords** Vaccination · COVID-19 vaccine · Professional ethics · Mandatory vaccination · Obligations of clinicians

In this article I present four lines of argument that establish a duty for healthcare professionals to be vaccinated against COVID-19. Together, these arguments are powerful and persuasive reasons to consider being vaccinated against COVID-19 akin to other ethical obligations that healthcare professionals have towards patients, society, and their profession. The implications of this are substantial; for if these arguments are correct, healthcare professionals who remain unvaccinated by choice would be guilty of nothing less than dereliction of duty, a violation of their ethical obligations towards their patients, their profession, and their society.

These arguments apply to all qualified professionals who care for patients, including doctors, nurses, physical therapists, social workers, and the like. I will use the word "clinician" as a catch-all to refer to all professionals so included. The arguments draw on the ethical obligations of professional clinicians, widely recognized ethical obligations of clinicians, and therefore establish ethical professional obligations for those engaged in clinical practice.

The importance of these arguments is considerable, given the resistance towards COVID-19 vaccination

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among a minority of clinicians. Consider, a systematic review of studies conducted around the world showed that on average only 63.5 per cent of clinicians state their acceptance of COVID-19 vaccination (Galanis et al. 2021). In the United States, studies conducted in July and September of 2021 demonstrated that at that time around 27–30 per cent of healthcare workers remained unvaccinated and 15 per cent were vaccine resistant (Lazer et al. 2021; Reses et al. 2021). A study done in Australia in early 2021 demonstrated that 78 per cent of healthcare workers overall intended to get vaccinated, while only 58 per cent of personal support workers and 66 per cent of residential home workers (for the aged and persons with disabilities) intended to get vaccinated (Victoria State Government, Murdoch Children’s Research Institute 2021). A study done in France in 2021 demonstrated that 73.1 per cent of healthcare workers were in favour of vaccination, 23.1 per cent were vaccine hesitant, and 3.9 per cent were opposed to vaccination (Paris et al. 2021). From these data we can infer that there is a significant minority group of clinicians who intend to remain unvaccinated even though the vaccine is available to them and recommended for them, which underlines the importance of the arguments presented here.

I will proceed as follows. First, I will provide a brief review of ethically relevant empirical facts surrounding COVID-19 and COVID-19 vaccines. Next, I will present the four arguments one after the other. I will defend the basic premises of each argument and also consider and rebut some potential objections. Lastly, I will consider a set of implications of these arguments. I write from the United States and will therefore mostly use data and statistics from the United States to illustrate the premises of the argument. On some occasions I will use data and references from around the world; COVID-19 is a pandemic and is a world-wide problem. Overall these arguments should hold for all jurisdictions that recognize beneficence-based obligations of clinicians to patients and where COVID-19 has the potential to cause significant morbidity and mortality to patients and clinicians. This would arguably include most jurisdictions in the world but would certainly apply to English-speaking and Western countries.

## A Brief Empirical Overview of COVID-19 and COVID-19 Vaccines

In order to facilitate ethical reflection, the large body of COVID-19 literature must be summarized in a set of ethically relevant empirical statements. I do so here. These statements form the empirical basis for the ethical arguments and policy considerations further down.

- (1) *COVID-19 is a dangerous, highly infectious disease.*

COVID-19 is highly infectious. This can be seen from the reproductive number ( $R_0$ ), which estimates how many secondary cases arise from each individual case and is a measure of how infectious a disease is (Delamater et al. 2019). The original strain of COVID-19 had an  $R_0$  of 2.79, and the most recently dominant strain (Delta) has an estimated  $R_0$  of 5.08 (range of 3.2 to 8) (Liu and Rocklöv 2021; Sanche et al. 2020). Based on these numbers, COVID-19 is much more infectious than seasonal influenza ( $R_0$  0.9–2.1) or pandemic influenza ( $R_0$  of 1.7 in 2009, 2.0 in 1918) (Chowell, Miller, and Viboud 2008; Petersen et al. 2020). The Delta variant is as transmissible as highly infectious diseases like smallpox, which has  $R_0$  of 3.5–6 (Gani and Leach 2001).

COVID-19 is deadly. It has significant potential to cause serious complications, resulting in hospitalizations and death (Hassan et al. 2020; Siordia 2020). At the time of writing, there have been over 750,000 deaths in the United States since February 2020 directly attributed to COVID-19 (CDC 2021a). There have been over 3.28 million hospitalizations in the United States related to COVID-19 between August 1, 2020 and November 7, 2021 (CDC 2021b). In the United States, there are over 90 million adults who have factors that place them in a high-risk category for serious illness or death with COVID-19, which reflects the serious morbidity and mortality that would result if the disease were allowed to wash over the U.S. population unmitigated (Koma et al. 2020). The disease is worse in those who are of advanced age, but serious complications and death can occur in any age group (Delahoy et al. 2021; Liu et al. 2020) Furthermore, there is increasing data that COVID-19 can cause a host of debilitating long-

term complications (Aiyegbusi et al. 2021; Taquet et al. 2021.)<sup>1</sup>

<sup>1</sup> A note about the Omicron strain: During the initial writing of the article, Delta was the dominant strain and much data was available on Delta and prior variants and vaccine effectiveness related to Delta other strains of COVID-19. During the process of peer review, the Omicron variant was identified and spread rapidly to become the dominant strain. For example, on January 10, the rate of Omicron as a percentage of all COVID sequences was 88 per cent in the United States, 90 per cent in Australia, 28 per cent in New Zealand, 45 per cent in Russia, 69 per cent in France, and 95 per cent in the United Kingdom (Our World in Data 2022).

Omicron is relatively new and not as fully understood as other strains, and the studies that will bring fuller understanding are still underway (CDC 2021e; WHO 2022a, b). The arguments I develop in this article should hold for any serious infectious disease that can cause significant mortality and morbidity, that can spread from clinicians to patients, and for which we have an effective and safe vaccine. The preliminary data and studies that are available seem to indicate that this is the case with the Omicron variant. Consider the following:

- Omicron is not trivial; it is still deadly and a significant driver of serious disease and hospitalization. The death rate appears to be lower than Delta, but infectivity and transmission exponentially higher and it is still of significant concern to vulnerable individuals, making it a truly concerning variant that can cause severe disease on a large scale (BMJ 2021a, 2021b; Jassat et al. 2021; Oxford Analytica 2021; Roy 2022; WHO 2022a). We've seen significant death tolls and hospitalizations during the Omicron-dominant phase of the pandemic (Baker and Beheraj 2022; Mills 2022; WHO 2022b).
- Vaccines, with boosters in particular, are effective in decreasing risk of severe disease and risk of transmission, even if the rate of breakthrough infections appear to be higher with Omicron. One study in South Africa showed that the Pfizer vaccine is 70 per cent effective against hospitalization related to Omicron (Collie et al. 2021). Studies in the United Kingdom showed that three shots of mRNA vaccine is 37 per cent effective against symptomatic disease, and 88 per cent effective against hospitalization (U.K. Health Security Agency 2021). In fact, the higher severity with Delta than with Omicron can be partly explained by existing immunity induced by prior infection or vaccination; this just underlines the degree to which vaccination is important to decrease serious illness (BMJ 2021a, 2021b; Jassat et al. 2021; U.K. Health Security Agency 2021).
- While Omicron is dominant, other strains are also still spreading. In fact, other strains are still causing a large number of deaths even while Omicron is dominant (Lovell 2022).

Ultimately, this means that the premises for the arguments that I present here still appear to be true and that these arguments still hold in the time of the dominant Omicron strain. On one hand, because other strains are still circulating and can potentially cause disease; and on the other, because even though Omicron appears less deadly, it still can cause significant hospitalization and death outside of the context of vaccination.

- (2) *COVID-19 vaccination limits COVID-19 spread and impact; and the risk of serious adverse events from COVID-19 vaccines are very low, significantly lower than the risks related to COVID-19 disease.*

There are a number of COVID-19 vaccines available; in this article I will focus specifically on data related to the mRNA vaccine that has received full approval for use in the United States (FDA 2021). There is now an overwhelming evidence base that reflects the effectiveness and safety of the COVID-19 vaccine. This includes many well-done randomized controlled trials, which is the gold standard in therapeutic trials and in establishing effectiveness (McDonald et al. 2021.; Polack et al. 2020; Thomas et al. 2021). It also includes a large body of observational studies and population data, all confirming the same conclusions (Haas et al. 2021; Hall et al. 2021; Klein et al. 2021; Self et al. 2021). Consider the article by Krause et al. (2021), which provides an analysis of over ninety studies of vaccine effectiveness and safety. These studies include many millions of participants and many, many millions of vaccine doses. And from the various studies, the following conclusions can be drawn with great certainty.<sup>2</sup>

- Vaccination decreases risk of asymptomatic infection >60 per cent to 95 per cent (probably around 90 per cent) (Benenson et al. 2021; Haas et al. 2021; Hall et al. 2021; Krause et al. 2021; McDonald et al. 2021; Polack et al. 2020; Thomas et al. 2021).
- Vaccination decreases risk of symptomatic infection >80 per cent to 95 per cent (probably around 90 per cent) (Benenson et al. 2021; Haas et al. 2021; Hall et al. 2021; Krause et al. 2021; McDonald et al. 2021; Polack et al. 2020; Thomas et al. 2021).
- Vaccination decreases risk of severe disease/hospitalization >90 per cent (around 93 to 96 per cent) (Benenson et al. 2021; Haas et al. 2021; Krause et al. 2021; McDonald et al. 2021; Polack et al. 2020; Thomas et al. 2021; Self et al. 2021).

<sup>2</sup> The vaccine effectiveness for Omicron is still not fully understood and is still being studied—see footnote 1 on the Omicron variant. The vaccines still appear to be highly effective and to decrease serious illness and disease significantly, even though less effective than against prior strains.

- Vaccination decreases risk of COVID-19 death >90 per cent (Benenson et al. 2021; Haas et al. 2021; Krause et al. 2021; McDonald et al. 2021; Polack et al. 2020; Thomas et al. 2021; Self et al. 2021).
- Vaccination decreases risk of transmission significantly (Benenson et al. 2021; Shah et al. 2021; Thompson et al. 2021)
- Vaccination decreases risk of re-infection significantly (Bozio et al. 2021; Cavanaugh et al. 2021; Thomas et al. 2021)

With regards to adverse effects, the common adverse effects are mild and transient, such as having a sore arm for a day or two (Krause et al. 2021; McDonald et al. 2021; Polack et al. 2020; Thomas et al. 2021). Serious adverse effects are incredibly rare, and the only adverse effect that has been established for certain is the risk of anaphylaxis. This is a very small risk, around five cases per million doses (Klein et al. 2021). There have been no deaths linked to the mRNA vaccine at the time of writing. A possible link between myocarditis and the vaccine in younger males is still under investigation but has not been established reliably. It should be pointed out that this condition has good outcomes in the vaccinated, and the risk for myocarditis with COVID-19 infection is higher than the possible risk from the vaccine (CDC 2021c).

- (3) *Some in society cannot be protected by being vaccinated and depend on others being vaccinated to limit COVID-19 spread.*

There are those who cannot receive the vaccine for a variety of reasons. Some are allergic to vaccine components, and for some children the vaccine is not yet approved and available. Furthermore, there are persons who have lower protection from the vaccine, such as those with immune compromise. People who cannot be vaccinated themselves are dependent on high rates of vaccination uptake within the population in order to limit COVID-19 spread for protection against COVID-19 disease.

An important point here is that related to background risk of COVID-19 spread. Background risk, as I use it here, means the risk of contracting COVID-19 without vaccination and is dependent on such things as the rate of COVID-19 spread within the population, mitigation factors in place etc. Background risk is dependent on the level of COVID-19 spread in the population, and that

level of COVID-19 spread is significantly affected by vaccination uptake. With high vaccine uptake, COVID-19 spread is lower in the population and everyone's risk of COVID-19 illness declines. To illustrate, consider someone who is over eighty years old and at high risk of COVID-19 complications and death. Even if the vaccine decreases this risk by 90 per cent, the risk may still be substantial if the background risk is very high. It is therefore so that individual risk is on one hand determined by vaccination status but also by the background risk related to the level of COVID-19 spread within the population.

- (4) *Clinicians are so placed that they are at significant risk of contracting and spreading COVID-19.*

Clinicians work in settings where they are likely to be exposed to COVID-19. Clinicians also work with vulnerable patients, those who may be at high risk for adverse COVID-19 outcomes. One could therefore see that it is possible that clinicians can form a link between those who have COVID-19 and those who are at high risk from COVID-19. Given how they are situated, clinicians are at risk from COVID-19 themselves but also at risk of transmitting COVID-19 to vulnerable patients. These considerations are supported by empirical data. One study showed that clinicians are eleven times more likely to be infected with COVID-19 than the general population (Nguyen et al. 2020). Another study found that clinicians have an increased likelihood for long COVID-19 (Havervall et al. 2021). Another study showed that clinicians are seven times more likely to get severe COVID-19 (Mutambudzi et al. 2021). There is much evidence that shows that clinicians can easily get COVID-19 from infected patients and spread these to other clinicians and to other patients (Arons et al. 2020; Barry et al. 2021; Basso et al. 2020; Black et al. 2020; Gan, Lim, and Koh 2020; Gordon et al. 2021; Kim et al. 2020; McMichael et al. 2020; Rickeman et al. 2020; Wake et al. 2020)

Fortunately, there is good evidence that vaccination of clinicians decreases risk of disease, risk of severe disease, and risk of disease spread in clinicians. Apart from the large body of evidence related to the use of the vaccine in general, there are studies that specifically look at the effectiveness of vaccines in clinicians. Such studies have shown that in clinicians the mRNA vaccine significantly decreases the risk of symptomatic disease, COVID-19 complications, and COVID-19 transmission

to others (Benenson et al. 2021; Pilishvili et al. 2021; Shah et al. 2021; Thompson et al. 2021). In fact, the vaccine reduces the risk of illness among clinicians by 94 per cent, which demonstrates how highly protective it is to clinicians and to those who interact with clinicians.

### Arguments That Establish an Ethical Obligation for Clinicians to be Vaccinated Against COVID-19

#### (1) *Protecting patients against COVID-19 spread*

Clinicians have obligations to act in the best interests of their patients (ACP 2019). These obligations can be grounded in a number of ways. One way is by reference to the fiduciary obligations resting on clinicians, a set of professional obligations that direct clinicians to place the interests, the well-being, of the patient as primary concern and to divest of self-interest (Lo 2013, 33–34). Another way is by reference to the principles of bioethics, whereby clinicians have obligations of beneficence and non-maleficence towards their patients (Bester 2020a; Lo 2013, 13014.) That is, clinicians are obligated to take actions that promote the well-being of their patients and are to refrain from actions that may result in a net harm to their patients. Both of these ways of grounding state that the welfare of the patient is a primary concern to the clinician and that the clinician has obligations to promote and protect the welfare of the patient.

COVID-19 vaccination has been shown to decrease the risk that clinicians would become ill with COVID-19 disease and the risk that clinicians would spread COVID-19 disease to others. Thus, vaccinated clinicians are significantly less likely to spread disease to patients. This is an important consideration in the clinical setting, given the way in which clinicians work. Clinicians are more likely to come into contact with COVID-19 disease than the general public, given the way they work and the fact that they take care of patients with COVID-19. Further, clinicians are more likely to come into contact with persons who are vulnerable to the effects of COVID-19. Thus, clinicians in many ways can form a bridge or link that spreads COVID-19 to vulnerable populations.

Because clinicians may spread COVID-19 to their patients and COVID-19 represents a significant risk to the health and well-being of patients, and given the fact

that clinicians are obligated to take actions that would protect the health and well-being of their patients, it follows that clinicians are obligated to be vaccinated in order to decrease the risk of spreading COVID-19 to their patients in order to protect the health and well-being of their patients.

The premises of the argument can be summarized as follows:

- (1) Clinicians can spread COVID-19 to their patients.
- (2) COVID-19 is a significant threat to the health and well-being of patients.
- (3) Clinicians can significantly decrease the risk of spreading COVID-19 to their patients by being vaccinated against COVID-19.
- (4) Clinicians are obligated to take actions that protect the health and well-being of their patients.
- (5) Conclusion: Clinicians are obligated to be vaccinated against COVID-19 to significantly decrease the risk of spreading COVID-19 to their patients, which protects the health and well-being of their patients.

A first objection may be to say that there are other ways to protect patients from COVID-19 transmission by clinicians, so that vaccination is not necessary. For example, clinicians may wear protective clothing or barriers when working with patients who have COVID-19 or are vulnerable to COVID-19, or clinicians may resort to socially distanced ways of providing care like online appointments. Or, screening may be instituted to exclude those clinicians who are infected with COVID-19 from in-person contact with patients. There is surely something to this. The risk of COVID-19 transmission would undoubtedly be reduced if these measures were instituted. But there would still be significant risk that remains. Consider, some patients with COVID-19 may not yet be formally diagnosed while seeking care, some may be in an asymptomatic period where they spread disease but are not yet clinically ill, making reliance on screening measures only unreliable. Clinicians may be asymptomatic and spread COVID-19 without realizing it, for example during the transmissible but asymptomatic window of the disease. Further, in some clinical settings it may be cost-prohibitive and not practicable given the way medicine is practiced to don a fresh set of Personal Protective Equipment for every clinical encounter, and it is unfeasible and undesirable to have every clinical interaction online. There are just



realities of the clinical environment and of clinical care that means that clinicians will from time-to-time be in frequent direct contact with many different people for varying degrees of time to provide hands-on clinical care. Further, while consistent masking alone does decrease the risk of spreading COVID-19 (somewhere in the region of 9–11 per cent overall according to Abaluck et al. 2021), there is still significant residual risk to patients with masking alone.

A second objection may be related to the nature of the fourth premise. We may all agree that clinicians should take actions that protect the well-being of their patients, but this statement should surely be qualified. There are limits to what may reasonably be expected from clinicians based on potential benefit to patients. One such limit may be that actions taken by the clinician must be within the scope of actions we normally would expect from clinicians, things that we would expect clinicians to be reasonably able to do. We cannot stipulate a duty on clinicians to start building houses for their homeless patients, for example, even if this may protect and promote the well-being of their homeless patients, for the simple reason that housebuilding falls outside of the scope of actions we would expect from a clinician. Further, any obligation to act to serve patients can be limited by the harm that may be caused to clinicians. While we may expect clinicians to take certain risks in the performance of their duties, such as caring for the sick who are still infectious, there must be limits placed that protect clinicians from severely harmful things. This is also in the interests of patients—if clinicians suffer harm, they can no longer care for patients. Here we may instructively think of the rule of rescue (McKie and Richardson 2003). If we see someone in mortal peril, say, drowning in the sea, and we have the ability to save their lives, the rule of rescue stipulates a duty to save life. But imagine we cannot swim and we have no way of safely reaching the drowning person. In such a case, wading into the ocean will merely result in multiple fatalities instead of one, and the rule of rescue does not apply in the same way. Thus, there may be certain interventions with high levels of harm to the clinician where it cannot be stipulated as a duty for the clinician to accept these interventions. When it comes to COVID-19 vaccines, neither of these objections are relevant. Adoption of infection control measures are part of what is expected of clinicians in the course of their work, including things

like hand-washing, masking, protective clothing, and vaccines. Specifically, there are a variety of required vaccines that healthcare workers must take to work in clinical settings, and convincing ethical arguments that support including being vaccinated as part of a clinician's duty (AMA 2017, chapter 8.7; Galanakis et al. 2013; Rea and Upshur 2001; Tilburt et al. 2008; van Delden et al. 2008). Further, COVID-19 vaccines are not harmful but are a net benefit to the clinician. It protects the clinician from disease and from the serious consequences of COVID-19 to which clinicians have a higher risk than the general population. Far from COVID-19 vaccines being a situation where risks to clinicians must be balanced against benefit to patients, we see a situation where vaccinating the clinician benefits both the patient and the clinician. In fact, the risk of harm to the clinician is significantly higher if the clinician were to remain unvaccinated than if the clinician were vaccinated. Upon consideration, the objection fails.

(2) *Clinicians' obligations to maintain professional competence and functionality*

Clinicians have obligations to maintain the knowledge, skill, and functioning necessary to meet their professional obligations (AMA 2017, chapter 8.13). These obligations have a number of facets. One aspect is that clinicians must make sure that their knowledge and skill to practice are maintained through continuing professional development. Another aspect is being functionally able to serve patients. For example, if a clinician becomes aware of an impairment that would interfere with caring for patients, the clinician must take steps to protect the interests of patients and seek help to address the impairment. The clinician who becomes dependent on alcohol, for example, must change practice in a way that protects patients while seeking help for the alcohol disorder. For this reason, medical licencing organizations have official resources available to help clinicians in this endeavour, to assist clinicians in modifying practice while help is being sought. The goal ultimately is to ensure that the interests of patients are protected and that the clinician can return to a mode of practice that promotes and protects the well-being of patients.

An increasingly recognized aspect of these obligations is the obligation of self-care. Loosely stated, one cannot care for others if one is not okay oneself, and one therefore must attend to one's health. This would be an obligation towards patients to engage in the kind of self-care that ensures that clinicians remain so situated that they can meet their obligations of care. These obligations can be grounded in a variety of ways. One is to appeal to professional obligations. Indeed, the obligation to attend to one's health is present in professional codes such as the AMA Code of Ethics (AMA 2017, Chapter 9.3.1) and the ACP Ethics Manual (ACP 2019, S9). Another would be to appeal to well-known principles such as beneficence and non-maleficence, and obligations to maintain professional aptitude and clinician health would then be grounded by the ways in which it provides benefit and prevents harm to patients (Lo 2013, 248-250).

Being vaccinated against COVID-19 protects the clinician against becoming ill with COVID-19. Given that clinicians are at higher risk of becoming ill with COVID-19 and at higher risk of severe COVID-19 than the general public, it is clear that vaccination is important. It is obviously in the interest of the clinician to avoid getting ill with COVID-19, but for the purposes of this argument, it is also in the interests of patients that their clinicians are protected against COVID-19.

The premises of the argument can be summarized as follows:

- (1) Clinicians are obligated to take steps that protect their health against avoidable threats in order to maintain the functioning and professional competence necessary to care for their patients.
- (2) COVID-19 is a significant threat to the health of clinicians.
- (3) Being vaccinated against COVID-19 significantly decreases the risk of COVID-19 infection and COVID-19 complications, thereby protecting the health of clinicians against the threat of COVID-19.
- (4) Conclusion: Clinicians are obligated to be vaccinated against COVID-19 to protect their health against COVID-19 so that clinicians may maintain the functioning necessary to care for their patients.

If someone wanted to reject the conclusion of the argument, they would most likely object to premise 1. I

could imagine some may appeal to autonomy, saying that clinicians have the right to make their own decisions about their health and to determine for themselves what is good for themselves. Indeed, this is probably one of the bigger areas of objection to the idea of vaccine mandates—that the individual can decide for herself what she will accept with regards to medical care or intrusions on her body. Such appeals to autonomy as these appear quite implausible and unpersuasive. First, we must recognize that there are role-specific obligations resting on clinicians that may limit their autonomy. Because of obligations to patients, clinicians must sometimes accept things that serve the good of patients whether clinicians approve of it in their personal capacity or not. A clinician may not want to wash their hands between each clinical appointment; doing so is cumbersome and is hard on the skin. Yet, the clinician has obligations to do so in order to protect the health of the patient. By way of example, consider soldiers in the military, where role-specific obligations may limit their individual autonomy. The soldier must obey orders, even one with which he disagrees, unless such orders are unlawful. But secondly, and even more importantly, premise 1 is not stating that clinicians do anything that they would not ordinarily do or that would go against their own interests. The premise merely states that clinicians should take care of their own well-being; and this is something that people, if left to themselves, are very interested in doing. Clinicians, in particular, are working in the field of healthcare because being healthy is an important value to which they subscribe. Even the most cynical of clinicians, those who are only in it to earn a living or to further their own welfare, are interested in preserving their own well-being—because what else does it mean to work hard at a job you don't really want to do in order to make a decent living but that you are interested in preserving and advancing your own welfare? Thus, we cannot seriously imagine anyone objecting to premise 1 on the grounds that clinicians should really be free to harm themselves all they wish and neglect their own well-being all they wish on the grounds of autonomy. Lastly, the obligation for clinicians to tend to their own welfare are well-recognized components within codes of professional ethics.

(3) *Clinicians' role and place in society obligates being vaccinated*

COVID-19 represents a serious threat to the well-being of society's members. This is clear when one considers the complications of COVID-19: deaths, hospitalizations, and potential long-term sequelae. But there are also other impacts to the well-being of society's members; the pandemic has negatively affected economic activity, social activity, meaningful interpersonal relationships, education, and entertainment—various things that supply people's basic needs as well as things that make life worth living. Ultimately, the pandemic has had seriously negative implications for the well-being of people.

Clinicians have an important role in responding to the pandemic, in treating the sick and preventing infection. Clinicians are the sharp edge of society's response to the pandemic through the role they play in protecting the health and well-being of society's members against the deleterious effects of the pandemic. The death toll and complications caused by COVID-19 is high; without effective treatment and mitigation provided by clinicians, the mortality and morbidity would be appreciably higher. Further, without adequate treatment, the social and other societal effects of the pandemic would be worse, in that increased mortality and morbidity must result in increased impact on meaningful relationships, education, entertainment, and the social fabric of society. We must therefore recognize that clinicians are essential to society during the pandemic, and the role that clinicians play in mitigating the pandemic is vital in protecting the well-being of society's members.

Given the impact of the pandemic on the well-being of society's members, society has both an interest and an obligation related to mitigating the effects of the pandemic; doing so is imperative to the good society. Those who play important roles in mitigating the pandemic are therefore essential to society, fulfilling roles of utmost importance to the good society. That clinicians fulfil such an essential role is clear. And what is next is that it is essential that clinicians be protected against the risk of COVID-19 while performing their duties. Seeing that the work of clinicians is essential, and the fact that clinicians are at high risk of COVID-19 disease, there must be measures in place to protect clinicians so that they may continue to fulfil their role. COVID-19 vaccines are effective and safe and provide significant

protection to clinicians against COVID-19 so that clinicians may fulfil their societal role effectively. It therefore follows that clinicians must be vaccinated against COVID-19, a role-specific obligation that is part of the role clinicians play in mitigating the COVID-19 pandemic.

This argument can be summarized as follows.

- (1) Clinicians play an important role in society's response to the COVID-19 pandemic.
- (2) Those who play an important role in society's response to COVID-19 must accept measures that protect them against COVID-19 infection and COVID-19 complications so that they may continue to fulfil their important societal role.
- (3) Being vaccinated against COVID-19 provides protection against COVID-19 infection and COVID-19 complications.
- (4) Conclusion: Clinicians must be vaccinated against COVID-19 to protect them against COVID-19 infection and COVID-19 complications so that they may continue to fulfil their important role in society's response to the pandemic.

There are at least two ways to justify the idea that clinicians may have role-specific obligations related to their societal role to mitigate the impact of the pandemic on society's members.

First, the idea of the social contract and the professional obligations of clinicians to society (ACP 2019; AMA 2017, Chapters 8.3, 8.4). There is a long-standing view of the medical professions as being obligated to benefit patients and society by virtue of the social contract between the profession and society; society gives the profession some measure of autonomy to set standards and to self-regulate and in return expects benefit to the health of patients and of the public (BMJ 2002; Collier 2012; Cruess and Cruess 2008). Those who participate in medical practice, therefore, occupy a social role created by the social contract and have role-specific obligations to benefit the health of their patients and the public.

Second, one could consider how a just society's justice obligations are distributed to those who stand in specific roles to fulfil these obligations. A just society is obligated to protect the well-being of its people, and this includes responding to threats to the well-being of society's members. As I've argued elsewhere, this idea can be grounded by appeal to any number of theories of



justice (Bester 2020b). One is by appeal to a Well-being theory of justice, such as Powers and Faden's (2006) or by reference to a Capability theory of justice, such as Nussbaum and Sen's (Nussbaum 2011; Sen 1985).<sup>3</sup> Given the impact of the COVID-19 pandemic on the well-being of its citizens, the just society is therefore obligated to respond to the pandemic, to mitigate its impact where possible. The obligations of the just society rest on those individuals and institutions that are placed in roles and positions to meet these obligations (as I've argued elsewhere, see Bester 2020b). Clinicians, by virtue of their professional role, are so placed that they can significantly mitigate the impact of the pandemic and therefore are so placed that they can discharge aspects of society's justice obligations related to the pandemic. This places clinicians in a specific role regarding society and the pandemic and confers on clinicians role-specific obligations related to the pandemic. Once we've justified the moral importance of the role, and the fact that society's obligations confer obligations on persons in these roles, it is straightforward to see that these obligations include the obligation to keep oneself safe in the pandemic in order to be in a position to play the necessary role.

This specific argument has two implications. Clinicians have the obligation to be vaccinated; but also, clinicians must be prioritized for vaccination when vaccine resources are scarce. If we think it is important that we have a well-functioning clinician workforce in a just society that can respond to threats to the well-being of society's members, we must recognize the need to protect the health and well-being of those clinicians. Clinicians are then obligated by their role to take up such measures (or relinquish the role) and by their role are to be prioritized for these measures. In a sense, this is to maintain the sharp edge of society's response to the

pandemic aimed at protecting the well-being of its citizens.

#### (4) *Encouraging societal vaccination uptake*

This argument is based on the idea that the actions of clinicians may encourage or hinder the uptake of vaccination among the public.

A high vaccination rate is important in a number of ways. First, it directly protects those persons who are vaccinated against COVID-19. Second, it decreases the risk of COVID-19 spread and consequently everyone's COVID-19 risk. The more people are vaccinated, the more we hinder the spread of COVID-19 and the more the background risk from COVID-19 is reduced. This is an important point for vaccinated and unvaccinated people. Even vaccinated people benefit if the background spread of COVID-19 is low. If vaccination decreases risk of disease by 90 per cent, it means that 10 per cent risk of disease remains. If the communal spread of COVID-19 is large, then the background risk of COVID-19 is large. If background risk is large, the risk to vaccinated individuals are higher than if background risk is smaller; 10 per cent of a large number may still be a large number. It is therefore simply stated that high vaccination rates are important to everyone, vaccinated and unvaccinated alike; higher vaccination rates work towards protecting the health of individuals and the public.

The example set by clinicians may play an important role in vaccination uptake. There is evidence that clinicians can play an important role in encouraging vaccination uptake within the population. For example, physician recommendation increases vaccination acceptance by patients; parents who have a trusting relationship with a clinician can resist anti-vaccine messaging and are more likely to accept vaccines; and primary care providers are known to play a pivotal role in paediatric vaccine uptake (Chervenak, McCullough, and Brent 2016; Gargano et al. 2013; Leask et al. 2006; Simone, Carrillo-Santistevé, and Lopalco 2012). This gives us an idea of the important role that clinicians may play in building trust in the COVID-19 vaccination effort. Reflection on this idea bears this out. Imagine a large number of physicians decline the vaccine. What sort of message does this send to the public? Surely the general public must conclude that there is something wrong with the vaccine if those who apparently know best about such matters decline to receive it. Imagine, in turn, that

<sup>3</sup> Elsewhere I've argued that society's justice obligations to mitigate the pandemic can also be grounded in other theories of justice (Bester 2020b). This includes Rawlsian, utilitarian, and libertarian theories of justice. I will not fully restate the argument here but merely note that it seems a defensible idea on any theory of justice that a just society has obligations to mitigate the impact of the pandemic. Even a libertarian society, where the case is the hardest to make, has the obligation to set up rules, institutions, and a social fabric that sets up the conditions necessary for liberty, where liberty can thrive and must act against anything that may set back individual liberty. Since pandemic-related harms may set back liberty significantly, and specific individual choices related to the pandemic may lead to harm to others, society must set rules in place to protect individuals from liberty-limiting harms and from harms from the free choices of others.

clinicians overwhelmingly line up to be vaccinated. Such an example sends a powerful message to reassure the public, to instill confidence—if clinicians are willing to be vaccinated themselves, it must be that they think the vaccine important and safe. It is not hard to see that vaccine refusal by clinicians may place a damper on vaccination uptake, while vaccine acceptance sets a powerful example that encourages vaccine uptake.

Clinicians have obligations to benefit the health of patients and of the public (ACP 2019; AMA 2017, chapter 8.3, 8.11). Or, if one wanted to state this more in line with non-maleficence, clinicians must refrain from doing things that harm the health of patients and the public. Since the example of clinicians may encourage or discourage vaccination, depending on their actions, the obligation is thereby created for clinicians to be vaccinated.

This argument can be summarized in premise form in two ways; one is negative and one is positive. I state it here in the positive, which depends on the idea that clinicians must do things to advance the health of patients and the public:

- (1) High COVID-19 vaccination rates advance the health interests of patients and of the public.
- (2) Clinicians can help encourage high COVID-19 vaccination rates by setting an example that increases public trust in vaccinations through being vaccinated themselves.
- (3) Clinicians must do things that advance the health interests of their patients and of the public.
- (4) Conclusion: Clinicians must encourage high COVID-19 vaccination rates by setting an example through being vaccinated themselves.

Denial of the premise 3 would require a wholesale rejection of the foundations of medical ethics, while premise 1 rests on empirical evidence. Thus, the objector would likely seek to refute premise 2—that the example of clinicians may play a role in encouraging or discouraging vaccination rates. This would be a hard case to make, given the evidence we have that clinicians play an important role in vaccination uptake and given the reflection that the actions of clinicians must inevitably communicate a message that influences public trust in the vaccines.

This argument is surprisingly powerful. Because it depends on the example set by clinicians, and because this example is so powerful, this argument is less

susceptible to objections raised against other arguments. For example, even if someone were to argue that they could use PPE to protect patients and therefore are not persuaded by argument 1 (which I think is not a successful objection, but let's imagine someone arguing this way), the objection would not do anything to set aside argument 4. The example set by the vaccine-refusing clinician would exercise a chilling effect on vaccine uptake, setting back the health-interests of patients and the public.

### Some Further Potential Objections

- (1) *I've had COVID-19 before, so I don't need to be vaccinated*

Some may object by saying that they've had COVID-19 before and are therefore protected against COVID-19, so that the arguments I've presented do not apply. We must first acknowledge that if we grant this objection, it would only apply to those who have had COVID-19 before, reliably diagnosed.

However, we do not need to grant the objection. Post-infection immunity appears inferior to vaccine immunity or to the combination of post-infection and vaccine immunity. One study has shown only 72 per cent protection against COVID-19 with prior infection, compared to >90 per cent protection with vaccination and prior infection combined (Thomas et al. 2021). Another study has shown that the risk of reinfection is significantly higher in those who had infection and remain unvaccinated (Cavanaugh et al. 2021), while another shows that vaccine immunity is more protective against infection than post-infective immunity (Bozio et al. 2021). There are therefore various indications that the best protection is afforded by being vaccinated post infection. Thus, those who have had COVID-19 may increase the protection afforded to themselves and their patients through vaccination. Consequently, the CDC strongly recommends vaccination for those who have had COVID-19 infection before (CDC 2021d). For these reasons, the premises that ground arguments 1-3 remain unaffected by this objection. Lastly, the objection does nothing to argument 4. Argument 4 remains untouched and still creates the obligation to be vaccinated against COVID-19.

(2) *We don't know the long-term outcomes of the vaccine*

Those who want to provide a reason for objecting to vaccination may point out that the vaccine has been created relatively recently and that we do not yet have long-term data on safety or effectiveness. The idea would be that we should be skeptical of vaccines until we have long-term data showing safety and effectiveness.

We do not have to grant this objection either. While neither the long-term risks of COVID-19 infection or the vaccine are fully known, we know enough to state with great certainty that the long-term risks of COVID-19 infection are much worse than the long-term risks of the vaccine. At this point it is clear that COVID-19 may have terrible complications that may cause long-term illness, and that long COVID-19 is emerging as a significant problem. These are serious concerns that may cause illness for a long time. There may be other long-term implications of COVID-19 that we cannot even imagine now, like with measles disease that can cause neurological deterioration some years after initial infection. With the vaccine, there are no similar concerns that can even be imagined based on current knowledge. Vaccines are not a new concept; they have been around for over a hundred years. We have data on prior vaccines, and we know how vaccines work. There is no reason to think that the COVID-19 vaccines will behave any differently than the many vaccines we have available to us. Furthermore, we actually have some emerging longer-term data now. COVID-19 vaccines have now been around for over a year, whether in testing or in being administered to the public, and thus far the data have continually demonstrated safety and effectiveness.

### Implications

These arguments are based on ethical and professional obligations of clinicians, and each independently establish a professional ethical obligation to be vaccinated. These arguments create ethical obligations, which are moral obligations supported by well-reasoned justifications, based on the ethical commitments central to clinicians' profession. These could be considered professional ethical obligations, creating moral obligations that must be discharged by all those within a

professional clinical role, as part of the ethical commitments of the professional role. It is significant that there are four arguments that ground the same conclusion; even one good argument would be sufficient, and here we find four arguments that form a network of support for a clinician's duty to be vaccinated. These conclusions are also in keeping with work done by other authors that establish ethical obligations for clinicians to be vaccinated against other transmissible diseases (Galanakis et al. 2013; Rea and Upshur 2001; Tilburt et al. 2008; van Delden et al. 2008).

I should be clear that the analysis I provide here is about professional obligations of clinicians, and that it establishes a professional obligation for clinicians to be vaccinated as part of their professional duties. The obligation to be vaccinated must be discharged as an ethical duty, except if there are compelling reasons such as medical contra-indication to set the obligation aside. This paper is not primarily about censure for clinicians who refuse or about vaccine mandates. It is also not a legal analysis or an analysis of a regulatory policy in a specific jurisdiction. However, given that being vaccinated rises to the level of professional obligation, the question obviously arises: what should the profession and society do if a clinician refuses to be vaccinated?

The first avenue of response to this question, I would suggest, is to think about the role of self-regulation in the clinical professions. Because it is a professional duty to be vaccinated, remaining unvaccinated intentionally (apart from medical reasons to do so) represents a dereliction of duty, a violation of professional ethics. Remaining intentionally unvaccinated wrongs the clinician's patients, the public, and the profession. This is a serious matter; vaccine refusal by clinicians should be viewed as any other violation of a clinician's professional and ethical obligations. Medicine is a self-regulating profession, and here is a need for the profession to regulate itself. COVID-19 vaccine refusal could therefore potentially be seen as grounds for disciplinary action as is the case with all actions that violate professional ethics (AMA 2017, chapter 9.4.3).

Furthermore, these considerations may provide justification for the use of COVID-19 vaccine mandates for healthcare workers, as had been established for other vaccines, if a significant number of clinicians refuse vaccination. Such mandates typically stipulate being

vaccinated as a condition for employment; the penalty for vaccine refusal is loss or restriction of employment until the clinician complies with the requirement to be vaccinated. Such vaccine mandates have been shown to increase vaccination uptake among clinicians. It would of course be ideal if clinicians recognized their duty to be vaccinated and accepted vaccination on these grounds. Since it is an ethical duty to be vaccinated, and there are clinicians who refuse vaccination, and mandates have been shown to work, there are good grounds for instituting vaccination mandates for clinicians.

It is the duty of all clinicians to be vaccinated against COVID-19; this much is certain. And it is furthermore the duty of the profession to regulate and respond to instances of vaccine refusal on the part of clinicians.

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