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.
Ethics, Personal Responsibility and the Pandemic: A New Triage Paradigm

Kenneth V. Iserson

Department of Emergency Medicine, The University of Arizona, Tucson, Arizona
Reprint Address: Kenneth V. Iserson, MD, MBA, Department of Emergency Medicine, The University of Arizona, 4930 N. Calle Faja, Tucson, AZ 85718

Abstract — Background: How much of a role should personal responsibility play in triage criteria? Because voluntarily unvaccinated people are not fulfilling their societal obligations during a pandemic, the ethical principle of justice demands that they reap the egalitarian consequences. These consequences could include lower priority for care, an increasing number of employer and government mandates, and restrictions to entering many entertainment venues. Discussion: Voluntarily unvaccinated individuals increase the chance that the COVID-19 virus will mutate and spread, endangering the entire population, but especially those who cannot get vaccinated for medical reasons, children for whom vaccines have yet to be approved, and older adult and immunocompromised people for whom the vaccine is less effective. When voluntarily unvaccinated individuals seek medical treatment for COVID-19 (94% of patients with COVID-19 in U.S. intensive care units), they use resources needed for those with non–COVID-related illnesses. Conclusions: A method to balance resource allocation between those patients who refuse vaccination and patients who need the same health care resources is necessary. An ethical solution is to give those who are voluntarily unvaccinated a lower priority for admission and for the use of other health care resources. Current in-hospital triage models can easily be modified to accomplish this. This substantive change in practice may encourage more people to get vaccinated. © 2021 Published by Elsevier Inc.

Keywords—bioethics; triage; resource allocation; COVID-19; emergency department; social justice; vaccination

Introduction

Is it time to seriously consider including the criterion of personal responsibility to the triage process? This article focuses on an ongoing debate about whether patients’ responsibility for their illness should play a role in prioritizing health care resource allocation. The proposed paradigm that will be used to discuss this issue which involves establishing a clear link between a patient’s unhealthy issue which involves (in this case refusing preventive COVID-19 vaccination) and their illness. We then advance the argument, based on the ethical principal of egalitarian justice, that these patients should have lower priority for access to available health care resources when those resources are limited (1).

Modern philosophers regard justice as the most fundamental of societal virtues, with John Rawls describing it as “the first virtue of social institutions” (2). Its egalitarian application demands that all of society’s members share existing benefits and risks equally within their ability to do so. For the public, the benefits accrued from immunization include a diminished chance of generating and spreading new viral variants and an increased possibility that the pandemic will end. For an individual, benefits include a substantially decreased chance of needing hospitalization or dying from the disease. These benefits associated with COVID-19 vaccination contrast with the minor adverse effects of short-term arm discomfort, fever, and headache, and the uncommon risks, such as transient cardiac in-
flammation, allergic reactions, and, as with the Janssen vaccine, thrombosis with thrombocytopenia.

Should the health care community hold the voluntarily unvaccinated personally responsible for their choices in an environment of resource scarcity? Employers increasingly require their workers to be vaccinated to protect fellow employees and customers, some venues now restrict entry to those who show proof of vaccination, and health insurers are being urged to increase premiums for the unvaccinated to fairly balance the risk-to-benefit ratio. To introduce this level of accountability in the emergency department (ED), we should alter triage criteria to lower treatment priority for those patients who are voluntarily unvaccinated and not medically exempt. By widely publicizing this policy, its effect will be magnified.

The argument for considering personal responsibility holds not only for the COVID-19 pandemic, but also for other diseases and injuries that present in adults for which highly effective vaccines (e.g., yellow fever, tetanus, diphtheria, pertussis, varicella, and rubeola) usually prevent serious illness.

**Discussion**

Patients with new COVID-19 variants continue to overwhelm the health care system in many areas of the country. Due to the variants’ high contagiousness, the pandemic may not slow until 80–90% of the population have sufficient antibodies, a situation that will most likely be attained through widespread immunization. The Centers for Disease Control and Prevention (CDC) and multiple state health departments have reported that unvaccinated adults comprise 94% of those being hospitalized and up to 100% of those dying from COVID-19 (3–6).

Of the patients with COVID-19 in intensive care units (ICUs) in mid-2021, only 6% were vaccinated, but almost all of them had comorbidities and immunosuppression (6). Given the disproportionate amount of health care resources being used on voluntarily unvaccinated patients, as well as the rise of COVID-19 variants within the U.S. population, it may be time to alter triage criteria to hold these patients more accountable.

Because reasonable objections have been raised regarding holding patients responsible for their voluntary actions, to consider a change in the current triage paradigm we must answer the following five questions: 1) Are unvaccinated adult patients with severe COVID culpable for their condition? 2) Is it practical to triage such patients for a lower priority for resources? 3) Can this new triage criterion be used for other illnesses and injuries? 4) Is this action consistent with physician professionalism? 5) What should we expect from adding this triage criterion? (1).

**Should Unvaccinated Adult Patients with Severe COVID-19 Be Held Morally and Practically Culpable for Their Condition?**

Recent statistics have shown that unvaccinated individuals are more likely to experience poorer outcomes and require hospital admission and significant medical resources if they become ill with COVID-19. Regardless of their choices, this group of patients expects the same level of treatment as any other group. Such individuals, however, risk not only their own lives and health, but also the health of those who cannot be vaccinated, specifically, young children, those with severe allergic reactions to vaccine components, or those who cannot mount an effective immune response (Table 1) (7).

Based on the ethical principle of distributive justice, all triage policies must include the factors to use when allocating resources (8). In emergency medicine (EM), at least since the Emergency Medicine Treatment and Active Labor Act (EMTALA) banned financial criteria, triage criteria have been based on patients’ histories and physiological data (9). Not even the preservation of life, although highly valued, is an absolute value. If the required treatment would expend too many of the resources needed to treat other patients, it may be omitted. This action is fair if it conforms to accepted procedures and standards or principles of justice (10).

Egalitarianism adds another consideration in allocating resources. It asks whether a patient’s illness or injury is due to unavoidable circumstances (“brute luck”) or to choices they made (“option luck”) (11). Brute luck is a circumstance that tends to advantage or disadvantage people through no fault of their own. Those circumstances that tend to advantage people, through factors that are beyond their control, include innate talent and skills, exceptional mental or physical prowess, physical appearance, and social connections. Brute bad luck that tends to disadvantage people includes disabilities, such as blindness, deafness, and cerebral palsy; mental or socialization disorders; sexual orientation; and perceived racial group (12). Equitable treatment of patients requires that brute luck should neither advantage nor disadvantage people in receiving their “just desserts.”

Option luck, however, in which people’s circumstances directly flow from their choices and actions, is a relevant factor on which to base distributive justice policy and decisions about resource distribution. That is the situation for most unvaccinated patients who present with severe COVID-19. To treat them differently is not punitive (retributive justice), but rather is consistent with egalitarian resource distribution. Thus, distributive justice and egalitarian principles suggest that we should implement a new triage category to provide equitable benefits in the form of priority for health care resources to those who have par-
pated in the vaccination process, disadvantaging those who have not.

*Is There a Practical Method with Which to Implement an Additional Triage Level in Situations with Resource Limitations and Clear Evidence of Patient Responsibility for Their Disease State?*

In the pre-pandemic ED setting, it was not immediately clear that a patient’s voluntary behavior was the proximate cause of his or her illness or injuries requiring hospitalization. Personal responsibility for nearly all illnesses and injuries are uncertain and usually multifactorial, as with cardiovascular events due to genetics, diet, or infection; motor vehicle crashes due to mechanical issues, weather, or other drivers; and suicide attempts related to depression.

In the case of COVID-19, determining patient responsibility may be much more straightforward, making an additional triage criterion possible (Table 2). The primary question for COVID-19 patients needing hospitalization is whether they have been vaccinated. The most rapid and accurate method of verifying vaccination status is through an accessible database. Regional-, state-, and pharmacy-specific databases are currently available to emergency physicians. For the foreseeable future, the best alternatives to a verified national database are CDC vaccination cards and cell phone photos of the CDC card or, to avoid counterfeit cards, verifiable online databases of immunized individuals or government-issued vaccination verifications (often online) (13).

As verifiable patient vaccine status becomes more readily available online, the protocol in Table 2 can be smoothly integrated into existing triage systems. In the ED, the protocol will help prioritize patients for admission and for critical care beds. In the ICU, it will help prioritize patients for the initial and continued use of scarce critical care resources. Does this leave health care personnel, particularly emergency and critical care physicians in the position of being judge and jury, with potentially limited or erroneous information? Yes, but that is little different than their usual role in disaster triage.

*Can This New Triage Criterion Be Universalized?*

Would the proposed triage policy be unique to COVID-19 or could it be applied to other self-inflicted diseases and injuries? The relationship of COVID-19 to vaccination makes it, if not unique, analogous to other severe infectious diseases, such as polio and yellow fever, where immunization results in near-complete immunity. Scientific evidence shows that not getting immunized against COVID-19 raises the risk for hospitalization by a factor of at least 20.

Applying this triage policy to other illnesses and injuries would require the following three prerequisites: 1) it must be certain that a patient’s action or failure to act caused their illness or injury; 2) the patients must have autonomously chosen to behave in the manner that caused their illness or injury; and 3) patient triage is needed due to limited resources, for example, of personnel, equipment, facilities, or time. In resource-limited situations, this would apply to adults with decision-making capacity who become ill or injured after shunning reasonable steps to avoid or minimize illness or injury. Such instances would include those refusing to be evacuated before a disaster, those refusing available inoculations when there is no medical contraindication for prevalent preventable diseases, patients after motor vehicle crashes who did not wear an available seatbelt, and patients from bicycle or motorcycle crashes who did not wear helmets.

Making this criterion universal would require a broad consensus that such patients are causing undue and unreasonable risk to the rest of the population. Three groups

| Table 1. Medical Contraindications to Administer COVID-19 Vaccines (6) |
| Contraindication |
| History of: a severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of the vaccine. A polysorbate allergy is not a contraindication, but the vaccines should be administered under the supervision of a health care professional experienced in the management of severe allergic reactions. |
| History of an immediate allergic reaction of any severity after a previous dose or a known (diagnosed) allergy to a component of the vaccine. |
| People with a contraindication to mRNA COVID-19 vaccines (including due to a known PEG allergy): Consideration may be given to vaccination with Janssen COVID-19 vaccine. |
| People with a contraindication to Janssen COVID-19 vaccine (including due to a known polysorbate allergy): Consideration may be given to mRNA COVID-19 vaccination. |

mRNA = messenger RNA; PEG = polyethylene glycol.
would be excluded from this criterion: children, pregnant women, and those adults who lack the capacity to make a reasonable autonomous decision.

Of note, this type of triage modification has been applied in other medical areas, the best known of which is organ transplantation. Those who consciously contributed to their disease, such as alcoholics and intravenous drug addicts, have been ranked lower as organ recipients until they prove themselves able to eliminate the offending agent from their lives. In the case of liver transplantation, a 6-month abstinence rule has been accepted worldwide (14).

An objection to an altered triage protocol is the nearly universal belief that health care professionals should treat patients based solely on medical need (15,16). Yet, except in emergencies covered by EMTALA, the current U.S. health care system already stratifies the care patients receive based on their ability to pay rather than on their medical needs. Although EM has a legacy of justice, especially for the poor and disadvantaged, the ethical principle of justice requires that the medical profession view the entire population as deserving equitable treatment (17). Admittedly, the profession has, at times, treated some groups unfairly, such as those from racial or ethnic minorities, those with mental illnesses or chronic pain, non-English speakers, and disabled patients. Such discrimination is particularly egregious because these patients’ conditions are due to factors beyond their control (i.e., brute luck). This is not the case for voluntarily unvaccinated adults, however, whose situation, in most cases, is a result of their conscious choices (i.e., option luck).

As the number of unvaccinated patients with serious forms of COVID-19 rises, these patients unfairly limit resources for non–COVID-19 patients, both by occupying inpatient beds and by causing vaccinated patients to delay necessary medical care. Even the number of serious non–COVID-19 patients coming to EDs has decreased (18). There also is the concern that adding this triage factor would diminish physicians’ professional standing and patient trust. Yet implementing this triage criterion would be a forceful proactive statement from physicians—and, ideally, their professional organizations—to promote public health and justice. Unlike physicians who refuse to see voluntarily unvaccinated patients, this triage modification does not deny treatment to anyone, it only changes their treatment priority (19).

If we accept that it is feasible to add a triage criterion to treat the entire adult population fairly when they seek medical treatment, what might it accomplish? This new triage criterion is in the same “stick” category that has

Table 2. How Might a COVID-19 Enhanced Triage Method Work?

| Proposed COVID-19 Enhanced Triage Steps |
|----------------------------------------|
| 1. Patient arrives in ED and goes through normal triage process. |
| 2. COVID-19 diagnosis established. |
| 3. COVID-19 vaccination status confirmed. |
| 4. Adult patient has not been vaccinated (at least one shot of mRNA; two mRNA doses or one Johnson & Johnson [Janssen] trumps a single mRNA shot) and has no medical contraindications to COVID vaccination (see Table 1). |
| 5. Based on local criteria, the patient’s acuity requires admission or, if already an inpatient, requires upgrade to ICU or more intense treatment. |
| 6. Limited bed (or nurse or physician-staffing), ventilator, and ECMO availability |
| 7. Multiple patients require the similar resource level. Because objective prognostic evaluation scores for ill and injured patients have not been shown to be comparable, resource use would be a reasonable surrogate marker. |
| 8. Voluntarily unvaccinated patients receive the lowest priority for admission or upgraded in-hospital treatment. The unvaccinated group will have the lowest priority for admission, ventilator use, ECMO, and other scarce treatments when there are not enough for all patients. |

ECMO = extracorporeal membrane oxygenation; ED = emergency department; ICU = intensive care unit; mRNA = messenger RNA.
incentivized many otherwise reluctant people to be vaccinated. Beyond the marked upsurge in cases, hospitalizations, and deaths, these sticks include the ever-increasing employer mandates, denial of access to restaurants and entertainment venues, and international entry restrictions.

These differ from the “carrot” motivators, such as gift cards and lottery tickets, which have failed to affect vaccination rates consistently. That may be, in part, to “latent inhibition,” in which recipients have become desensitized to a message due to, in this case, the barrage of medico-scientific information (20). Adopting the new triage criterion sends a strong, easily understood message and directly threatens noncompliers’ comfort levels and expectations. This should, even in the absence of widespread adoption, increase the vaccine acceptance rate of some parts of the population.

Those implementing this protocol can expect to be the recipients of anger, threats, and lawsuits. Despite such attacks, some hospital systems will likely implement this new triage protocol and will thus be able to demonstrate its effectiveness; likewise, some courts can be expected to agree that this triage protocol concretely illustrates community members’ obligations to one another.

Although some physicians and other health care professionals will also object, using arguments based on their professional role as a patient advocate, they must understand that this role is always balanced with their obligation to preserve the public’s health. During the ongoing pandemic, that may mean prioritizing the most at-risk patients when resources are limited.

Conclusions

An ethical and egalitarian method to balance resource allocation among those patients with COVID-19 who have refused vaccination and other patients with breakthrough infections after vaccination is to give the former lower priority for admission and resources in times of scarcity. Adding this criterion to the triage protocol would acknowledge that, by not getting vaccinated, patients have voluntarily chosen to risk contracting severe COVID-19 and to possibly incubate dangerous viral variants, thus spreading the disease. Current in-hospital triage models can easily be modified to accomplish this paradigm shift. As described, this is an ethical change in practice that may encourage more people to get vaccinated.

References

1. Sharkey K, Gillam L. Should patients with self-inflicted illness receive lower priority in access to healthcare resources? mapping out the debate. J Med Ethics 2010;36:661–5.
2. Rawls J. A Theory of Justice. Harvard University Press; 1999. p. 3.
3. Fully vaccinated adults 65 and older are 94% less likely to be hospitalized with COVID-19. Centers for Disease Control and Prevention 2021. Accessed August 2Available at: https://www.cdc.gov/media/releases/2021/p0428-vaccinated-adults-less-hospitalized.html.
4. New data reveals COVID-19 impact on unvaccinated. Washington State Department of Health. Accessed August 2, 2021. Available at: www.doh.wa.gov/Newsroom/Articles/ID/2879/ New-data-reveals-COVID-19-impact-on-unvaccinated.
5. Summers G, DHEC: 94% of new COVID cases among unvaccinated. Lancaster News; 2021 Published July 10Accessed August 2, 2021. Available at: https://www.thelancasternews.com/content/ dhec-94-new-covid-cases-among-unvaccinated.
6. Abdelmalek M, Mitropoulos A, Baumgat E. Vast majority of ICU patients with COVID-19 are vaccinated. ABC News survey finds: hospitals report few fully vaccinated people are sick with COVID-19 in the ICU. ABC News; 2021 Published July 29Accessed August 15, 2021. Available at: https://abcnews.go.com/US/ vast-majority-icu-patients-covid-19-unvaccinated-abc/story?id= 79128401.
7. Beauchamp TL, Childress JF. Justice. Principles of Biomedical Ethics 2019;267–326.
8. Moskop JC, Iserson KV. Triage in medicine, part II: underlying values and principles. Ann Emerg Med 2007;49:282–7.
9. EMTALA fact sheet. American College of Emergency Physicians. Accessed December 8, 2021. Available at: https://www.acep.org/ life-as-a-physician/ethics-legal/emtala/emtala-fact-sheet/
10. Dworkin R. Equality, luck and hierarchy. Philos Public Aff 2003;31:190–8.
11. Daniels N. Justice, health, and healthcare. Am J Bioethics 2001;1(2):2–16.
12. Velzco C, Fowler GA. You’re going to be asked to prove your vaccination status: here’s how to do it 2021. Published July 31Accessed August 1, 2021. Available at: www.washingtonpost.com/ technology/2021/07/31/covid-vaccine-card-phone/.
13. Interim clinical considerations for use of COVID-19 vaccines currently authorized in the United States. Centers for Disease Control and Prevention. Accessed August 1, 2021. Available at: www. cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc. gov%2FVaccines%2FCovid-1%2Finfo-by-product%2Fclinical-considerations.html#Contraindications
14. Prime N. The framing of the six-month abstinence rule in liver transplantation: an example of linguistically mediated patterns of interpretation used to limit indication area. Ethik Med 2020;32:239–53.
15. Buyx AM. Personal responsibility for health as a rationing criterion: why we don’t like it and why maybe we should. J Med Ethics 2008;34:871e8.
16. Martin MW. Responsibility for health and blaming victims. J Med Humanit 2001;22:95.e114.
17. Zink B. Social justice, egalitarianism, and the history of emergency medicine. AMA J Ethics 2010;12:492–4.
18. Baugh JJ, White BA, McEvoy D, et al. The cases not seen: patterns of emergency department visits and procedures in the era of COVID-19. Am J Emerg Med 2021;46:476–81.
19. Teagarden JR, Caplan AL. If Covid vaccine refusers are turned away at hospitals and doctor offices, is that ethical?. NBC News; 2021 Published August 24 Accessed August 25, 2021 www. nbccnews.com/think/opinion/if-covid-vaccine-refusers-are-turnedaway-hospitals-doctor-offices-dnca1277475.
20. Heimlich JE, Ardoin NM. Understanding behavior to understand behavior change: a literature review. Environ Educ Res 2008;14:215–37.