Views & Comments

Ethical Reflection on the Emergency Engineering Management of COVID-19 Epidemic Prevention and Control

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1. Introduction

As a systematic and complex project, the prevention and control of coronavirus disease 2019 (COVID-19) is arduous work, with each component intertwined with others. Therefore, its management faces numerous challenges, especially in the emergency response phase. If we consider the fight against COVID-19 as a large-scale ethical practice [1], the stakeholders involved can be classified into various groups including local decision-makers, medical scientists, health workers, and the public, according to their respective roles. Different groups of stakeholders shoulder different social and professional responsibilities, and are entitled to power and interests accordingly. In the special situation of epidemic prevention and control, different stakeholders may bear ethical responsibilities that differ from those they bear under normal circumstances, and may face greater gains and losses and more difficult ethical choices than usual [2]. The initial effects of China's epidemic prevention and control cannot be achieved without the strong leadership of the Communist Party of China and the Chinese Government, and the strict implementation of various prevention and control measures. Therefore, in epidemic prevention and control work under China's national conditions, the government plays a central role and assumes a great responsibility, which differs from the equal and decentralized mode of interaction and subject relationship between different actors that are emphasized by the general analysis of ethical practices.

Based on China's national conditions, this article regards COVID-19 prevention and control work as an emergency engineering management system, takes local decision-makers (i.e., local government) as the core stakeholders, and focuses on the relationship between local decision-makers and the other two main stakeholders: namely, the public and medical workers. In the emergency management of public health events, the interaction of moral viewpoints between local decision-makers and the public is very important. If the ethical conflicts that may arise cannot be dealt with quickly and appropriately, social stability may be affected and social unrest may occur. Furthermore, medical workers play a key role in implementing government decisions and ensuring the smooth progress of epidemic prevention and control on the front lines. They combat diseases and encounter difficulties to protect the safety and health of every patient, while being exposed to greater risks and facing more competing ethical values than ordinary people. These ethical conflicts, if not resolved in a timely and proper manner, will affect the entire system of emergency management.

Considering the professional and ethical responsibilities of the main stakeholders, while correspondingly applying ethical principles and bottom-line principles under specific circumstances, this article analyzes how the stakeholders deal with their potentially conflicting roles and responsibilities in order to make ethical decisions [2]. To do so, we look at the early stage of the whole life-cycle of COVID-19 emergency management based on the precautionary principle [3].

2. Ethical analysis of the interaction between local decision-makers and the public

In the emergency management of public health events, the basic moral obligation of a local decision-maker is to maintain public safety, health, and welfare. The primary moral principle in the face of risks is the precautionary principle [3], according to which decision-makers are required to make scientific and rigorous judgments on risks and quick decisions to minimize them.

Local decision-makers (or managers) not only play the role of maintaining public management and social stability, but also have obligations to ensure economic and social development; as a result, they will inevitably face conflicting ethical choices due to their different roles and responsibilities. The first choice is to delay the notification of the situation and postpone quarantine measures, which may temporarily maintain social stability but may expose all uninformed people to dangers and threats to their safety and physical health. The second choice is to publicize the situation and implement the quarantine in a timely manner, which can arouse the vigilance of the whole society—especially the medical system—and help to bring the epidemic under control quickly; however, it may cause public panic affecting normal urban political, economic, cultural, and social activities. It may also cause the public to complain and question the government for "making a

mountain out of a molehill" if the consequences are not as serious as expected, thus destroying the public image of local decision-makers and affecting their political performances.

It is undeniable that, for local decision-makers, this decision is not only a test of their ability and level of management, but also a moral dilemma. Of course, decision-making has never been a simple matter. If local decision-makers fail to recognize the severity of the risk, actions in the early stage of the epidemic may be delayed, because the decision-makers must weigh the costs caused by the spreading epidemic against the economic and social costs brought by early warning.

3. Ethical analysis of the interaction between local decision-makers and health workers

In the face of high risks, a basic moral principle is the principle of equitable distribution of risks and benefits [3]. In fact, in the fight against the epidemic, health workers have become soldiers, combating diseases and facing difficulties to protect the safety and health of every patient, while they themselves are exposed to greater risks than ordinary people. Preferential policy for front-line health workers, which includes priority access to resources, temporary work subsidies, preferential nomination to professional title reviews, free physical examinations, preferential admission of their children to kindergartens and schools, and the identification of work-related injuries [4], is the embodiment of the ethical principle of equitable distribution of risks and benefits, as well as the ethical principle of equity. "Equity" does not mean "equality." On the contrary, it defines the degree of inequality—the most basic concept of which is that everyone receives their due rights and interests [2]. Some people may think that it is the duty of health workers to save lives and cure the injured; however, when this professional duty conflicts with health workers' own rights, such as personal safety, they face competing ethical values. The brave rescuers from across China who went in the teeth of danger to assist people in Wuhan prioritized their professional duty without hesitation. They are great, and this greatness can by no means be summarized by the single word "duty." Rather, it is a manifestation of the triumph of "altruism" over "egoism," as well as the rising ethical standards of health workers.

Justice stresses the reciprocity of rights and responsibilities, and the proportionate distribution of risks and benefits. Health workers bear the responsibility of saving lives and healing the wounded, and thus face greater risks than ordinary people. Therefore, local decision-makers should establish corresponding benefit compensation mechanisms for health workers. The World Health Organization (WHO) mentioned in its *Guidance for Managing Ethical Issues in Infectious Disease Outbreaks* [5] that frontline workers should be ensured "priority access to health care," that "assistance should be provided to families of frontline workers," and that "death benefits should be provided to family members of frontline workers who die in the line of duty" [5]. This is not only a reflection of the principle of justice, but also a way of expressing our awe and respect for heroes.

4. The special role of ethics in emergency engineering management

Although human society takes public safety, health, and welfare as its supreme goal and has gradually formed with a generally accepted basis of ethical codes and moral standards, during the abnormal ethical practice of the emergency engineering management of COVID-19 prevention and control in China, ethics play a special role of great significance. Fairness and justice are the fundamental ethical principles. However, in the abnormal situation of an emergency, the balance of fairness and justice will be broken under the influence of urgent issues, and common ethical codes will be insufficient to meet the situation's requirements. In order to achieve a new balance, it is necessary to realize fairness and justice in an emergency state through the redistribution of responsibilities, rights, and/or interests among different stakeholders.

For example, restrictions on the public's freedom of movement, including isolation or the mandatory closing of shops, seems to be a deprivation of the legitimate rights of the public under normal conditions, but is actually a safeguard of public safety and health. Health workers in an emergency situation face higher risks than normal, so decision-makers should compensate them with fair distribution of risks and benefits through prioritized resource allocation and preferential policies.

In an emergency, all stakeholders are confronted with more intense conflicts of interest and dilemmas of choices than they encounter under normal circumstances, and ethics play a particularly critical role. The ethics of emergency engineering management take the public's safety, health, and welfare as the supreme goal; this can be achieved by adjusting the ethical rules among responsibilities, rights, and interests to reach a new balance of fairness and justice.

5. Discussion

Reflecting on the moral behaviors of different groups of stakeholders in COVID-19 prevention and control emergency management systems, as well as the ethical dilemmas and moral choices they encounter, presents various types of complex ethical issues. These include privacy protection and information disclosure, freedom of movement and home-based quarantine, enormous risks, and fairness and justice. In the face of the COVID-19 epidemic, each of us is responsible not only for ourselves but also for others. But how should we be responsible, and what responsibilities should we take on? The answers of various groups as shown through their behavior have fully exposed the true nature of human beings, whether good or bad, noble or despicable.

In the perspective of Asian culture and history, the government has greater authority than in the West. As the core of epidemic prevention and control work, local decision-makers are granted greater power and therefore bear greater responsibilities. People have higher expectations for local decision-makers, put more trust in them, and are therefore more willing to cooperate with the government in implementing its decisions. In this sense, the ethical choice of the government is not to pursue absolute equality, but to aim for a balance of power and responsibility, which is also a manifestation of justice.

Therefore, for China's local decision-makers, putting people first and ensuring the public's safety, health, and welfare are part of the desired state of beneficence; and information transparency, smooth communication, and fair decision-making with a scientific and rigorous attitude are fundamental to realizing this beneficence, rationally distributing risks, and ensuring long-term benefits. At present, the coronavirus is sweeping the United States. Due to the lack of scientific and objective risk assessment, the consequences of the spread of the virus are underestimated, resulting in delayed response and missed opportunities for epidemic prevention and control [6]. More importantly, decision-makers are making unwise choices between beneficence and benefits, as they abandon beneficence toward the public's health and safety in favor of the benefits of political and economic priorities.

6. Conclusion

Within the dynamic situation of the emergency engineering management of COVID-19 epidemic prevention and control, this article focuses on local decision-makers and discusses the moral dilemmas and ethical choices they face in their interaction with health workers and the public. This work points out that it is only when all stakeholders coordinate and cooperate in accordance with ethical standards and institutional guidelines, perform their own duties, and form a collaborative emergency governance system [7] that we can ensure that solutions to ethical dilemmas can be found through institutional arrangements, and realize mutually beneficial cooperation among all stakeholders.

Reflecting on the ethical practice of emergency engineering management, which has not yet ended, we recognize inadequate nurturing of an ethical culture, while simultaneously seeing many noble thoughts and behaviors that have established high moral standards for us. Although different ethical positions will produce different demands of moral values and there is no uniform and universally applicable ethical code [2], each disaster is an opportunity that grants us deeper reflection on the basic issues of human ethics, allowing the ethical norms of society to be continuously revised, supplemented, and promoted.

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