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Pandemics

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Abstract

This entry reviews bioethical principles relevant to responding to pandemic threats in general and pandemic influenza in particular. Selected issues are examined to draw out some of the advantages and limitations of various principles or competing bioethical frameworks. The entry considers both examples of issues impinging on civil rights, such as respect for bodily integrity (vaccination) or liberty (quarantine), as well as illustrative examples of issues that raise issues of distributional justice (regional inequalities, priorities for vaccination) or the realization of socioeconomic rights (the right to health). Consideration is given to debates about the responsibilities owed by and to essential service workers (health-care or emergency workers) and the issue of protection of vulnerable individuals or groups. The entry concludes by identifying the ongoing challenges posed by globalization.

Keywords

Health and human rights; Infectious diseases; Influenza; Public health; Quarantine

Introduction

Infectious disease pandemics pose special ethical challenges, as illustrated by influenza pandemics. While other pandemic threats such as Ebola or HIV/AIDS may be characterized by higher rates of mortality, be of longer duration, generate higher levels of public fear, or make greater demands on medical and other resources, pandemic influenza is emblematic of the main ethical challenges. These challenges include: striking a balance between individual and collective rights and interests, achieving distributional justice, balancing principles of utility and equity, ensuring protection of vulnerable individuals and groups in society, and the need to exercise public health powers with respect for human rights.

The International Health Regulations (IHR) set out countries' obligations in relation to control of infectious diseases. While international sanitary conferences and conventions date back to the 1800s, the International Sanitary Regulations were first adopted by the World Health Assembly in 1951, renamed as the International Health Regulations in 1969, and revised in 2005, with the revised IHR taking effect in 2007 (World Health Organization 2011, p. 6). The revised IHR set out a broader and more flexible list of diseases and public health events of which countries are obliged to notify the World Health Organization (WHO) than earlier versions of the IHR (Gostin 2014).

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History and Development

Documentation of influenza pandemics dates back to the sixteenth century, with an average of three pandemics per century since then (World Health Organization 2007). There were three influenza pandemics during the twentieth century. The first, known as the "Spanish flu" pandemic, started in 1918. It is estimated that 20–50 million people worldwide died during this pandemic. The influenza pandemics in 1957–1958 and in 1968–1969 were milder and each caused an estimated one to four million deaths (World Health Organization 2011, p. 14). In 2009 the World Health Organization declared an influenza pandemic from the A/H1N1 virus (World Health Organization 2011).

Conceptual Clarification/Definition

A pandemic is defined as the dissemination of a new infective disease to which immunity has not been developed in a widespread manner across a significant part of the world, encompassing a large region, or several countries. Although often assumed to be associated with high mortality as was the case with the 1918 influenza pandemic, pandemics can be milder events, as demonstrated by subsequent influenza pandemics.

No one pandemic is similar to another, though particular diseases may generate common features. Thus, an influenza pandemic is characterized by: (i) a change in the influenza subtype; (ii) higher mortality rates among younger groups, rather than the elderly traditionally at risk from seasonal influenza; (iii) several waves of the pandemic; (iv) increased transmissibility compared to seasonal influenza; and (v) geographic variation in the impact of the pandemic (Miller et al. 2009). In 1999 the WHO developed a set of "phase alert levels" to assist in clarifying its advice to countries about planning for a pandemic, with the WHO advice updated a number of times since then (World Health Organization 2011).

Bioethical principles have evolved over time, beginning with the enunciation in the US Belmont Report in 1978 of principles of autonomy (respect for persons), beneficence, and justice, popularized by the work of Beauchamp and Childress and later supplemented by a fourth principle of non-maleficence. These principles are relevant to ethical considerations relating to pandemics. Alternative bioethical frameworks, developed to meet criticism of an unduly individualistic focus, place weight on principles of solidarity, communitarian considerations, and interpersonal reciprocity and seek to better accommodate globalization.

Ethical Issues in Pandemic Management

Pandemics by definition are a global health phenomenon, calling for wider global bioethical frames which accommodate values such as community consent and engagement, international travel and trade, and global communitarianism, beyond the classical bioethical values such as respect for individual autonomy or informed consent to treatment so characteristic of earlier medical or health-care ethics (Ten Have 2011). While various ethical values and frameworks will provide a useful lens for evaluating and balancing differing interests that may arise in planning for and responding to pandemics, their application will necessarily be informed by local factors (World Health Organization 2007). Cultural, religious, political, and economic factors may also be relevant to pandemic planning and responses to pandemics.

The Joint Centre for Bioethics Pandemic Influenza Working Group at the University of Toronto has outlined ten substantive and five procedural values to guide decision-making during an influenza pandemic. The ten substantive values are:

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- Individual liberty including the need to ensure that restrictions are proportionate, necessary, relevant, equitable, and the least restrictive
- Protecting the public from harm
- Proportionality (i.e., employing responses that are proportionate to the risks)
- Consideration of individual privacy and protection of public health
- The duty of health professionals to provide care during a pandemic
- Reciprocity and the ethical requirement to support those who bear a disproportionate burden in relation to measures undertaken to protect the broader community
- Equity in access to health care and health services
- Trust and the importance of transparency in maintaining trust
- Solidarity within and between countries
- Stewardship by those with governance and decision-making responsibilities (Joint Centre for Bioethics Pandemic Influenza Working Group 2005)

The five procedural values outlined by the Joint Centre for Bioethics Working Group are that decisions be:

- Reasonable
- Open and transparent
- Inclusive
- Responsive
- Accountable (Joint Centre for Bioethics Pandemic Influenza Working Group 2005)

This statement of substantive and procedural values is a helpful elaboration of the ethical values relevant to planning for and responding to pandemics.

Pandemics and Individual Autonomy

Autonomy is a core principle in contemporary bioethics. Within the context of public health including pandemics, individual autonomy must be balanced against the interests of the broader community. Feminist scholars have critiqued individualistic understandings of autonomy, positing instead the theory of relational autonomy which expressly conceptualizes an individual's autonomy in terms of the relationships between individuals. Theories of relational autonomy thus seek to move beyond individualism toward a greater recognition of the interconnected nature of human society. Conceptualizing autonomy in relational terms may be relevant to infectious diseases in which an individual may both be infected with an infectious disease and may spread the disease to others. That is, when the individual may be both "victim and vector" (Battin et al. 2009). Societies grounded in strong communal values of collective decision-making (as in Asia and Africa) and/or sharing of goods (as also in indigenous communities) require a different approach to implementation of policies such as quarantine of individuals, restriction on the numbers of caregivers, or infection control measures. These communal values or social capital can be both a boon (enhancing the practical capacity to provide care as well as resonating with the so-called ethic of care) and being potentially a bane in pandemic management (in risking exacerbation of stigma of sufferers and presenting a challenge to social distancing measures).

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Recognition of the relevance of human rights to health has also been an important factor in contemporary understandings of pandemics. There has been an increasing recognition of the relevance of human rights to health, including in the context of infectious diseases (Gostin 2014). International human rights law dates back to the period following the World War II and the adoption by the United Nations General Assembly of the *Universal Declaration of Human Rights* (Gostin 2014). Human rights relating to health are now articulated in a number of international declarations and conventions (Gostin 2014). The importance of a human rights approach to health was articulated in response to HIV/AIDS and it was argued that respect for human rights could support human health (Gostin 2014). In contemporary public health ethics and law there is recognition of the importance of implementing public health measures with respect for human rights. For example, the revised International Health Regulations (2005) require in Article 3(1) that they be implemented by member states in accordance with respect for "dignity, human rights and fundamental freedoms of persons."

At times, restrictions on the movement of individuals may be necessary to limit the spread of disease. The theories of autonomy outlined above and the conceptualization of health in terms of human rights have relevance to the limits on the movement of individuals in response to a pandemic. Quarantine and isolation have traditionally been used to control the spread of infectious diseases. Quarantine involves restrictions on the movement of an individual or individuals who, although currently healthy, have been exposed to an infectious disease. Isolation refers to restrictions on the movement of an individual who is infected with an infectious disease (Nuffield Council on Bioethics 2007). "Social distancing" measures, such as closure of schools, may also be used to limit the spread of infectious diseases and are seen as less restrictive of individual liberty than quarantine or isolation (Nuffield Council on Bioethics 2007). Quarantine and isolation were used by some countries in response to severe acute respiratory syndrome (SARS) in 2003 (Gostin 2014; Nuffield Council on Bioethics 2007).

A number of ethical values may be relevant to public health measures that are restrictive of individual liberty. For example, the principle of reciprocity may require that individuals who are placed in isolation or quarantine are provided with appropriate supports, such as food supplies (Joint Centre for Bioethics Pandemic Influenza Working Group 2005). In addition, public communication of information about a pandemic raises delicate issues around respect for the right to know, the maintenance of public trust and cooperation, and the risk of public panic and disorder in the event that public information is too scant. Countries have been shown to differ in the weight given to individual as against collective or communal interests in the management of pandemics, as illustrated by the use of quarantine in the SARS crisis in 2003 (Jacobs 2007).

Respecting Human Rights

Human rights include both socioeconomic or "positive" rights (such as the right to health) and civil rights ("negative" protections, such as freedom from arbitrary restrictions on liberty). The International Health Regulations (2005) include both as an obligation for countries to develop the capacity to detect and respond to public health emergencies (a form of the positive human right to health) and require that the IHR (2005) are implemented in accordance with respect for human rights (a negative right). Many negative human rights are implicated by public health measures apart from liberty of movement impacted by quarantine or travel restrictions. Among the other rights engaged are those of privacy (impacted by surveillance and data collection measures associated with early warning and detection) and due process (such as a fair hearing and independent review).

Thus, the 2007 WHO guidance was shaped by existing human rights principles such as the nonbinding Siracusa Principles developed by nongovernment organizations and adopted by the UN Economic and

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Social Committee in 1984 (World Health Organization 2007), which guide the exercise of powers such as managing threats to public health and delivering appropriate health care to those affected. The Siracusa Principles insist that the exercise of powers be grounded in the law, demonstrably necessary, proportional, and not excessive (World Health Organization 2007).

More problematic is the tension between the civil rights enshrined in such documents and the utility principle (greatest good to the greatest number) which is central to public health interventions and realization of socioeconomic rights, such as that to health, the Millennium Development Goals, and the post-Millennium goals. This tension is highly contested and its balance point is not settled (London et al. 2014), not least because the utility principle is so fuzzy. For instance, in managing an influenza pandemic, it leaves open whether the good being targeted is a reduction in the attack rate (related to who is most liable to become infected and transmit the virus), reduction in morbidity (targeting those groups most likely to be badly hit by the virus), minimizing deaths (such as among the young or indigenous peoples), reducing impacts on social functioning (concentrating on those with a defined status such as that of essential workers or public sector leaders), or simply maximizing years of healthy life (favoring younger people or those with healthy lifestyles).

Ethical Obligations of and to Health-Care and Essential Service Workers

There has been debate over the obligations of health-care workers to work during a pandemic. Key issues here are whether working during a pandemic will expose the health-care workers to increased risk and the obligations owed by the society to health-care workers (such as priority vaccination or provision of protective equipment).

The obligations of health-care workers to work during a pandemic may be seen as arising from moral obligations, from professional obligations, from contractual obligations such as employment contracts, and/or from other legal obligations (World Health Organization 2007). Malm et al. summarize the grounds that have been suggested for the duty of health-care workers to provide treatment in a pandemic: expressed consent such as when an infectious disease specialist accepts employment to treat individuals with infectious diseases, implied consent arising from being a health-care worker which may involve treating individuals with infectious diseases, a duty arising from the special training of health-care workers, reciprocity if the health-care worker has benefited from publicly funded education or training, and professional oaths and codes (Malm et al. 2008). However, it has been argued that none of these grounds provides a strong basis for a duty to treat (Malm et al. 2008). It has been suggested that a duty of reciprocity is owed to health-care workers by governments and employers to ensure that the risks faced by health-care workers during a pandemic are minimized through measures such as access to personal protective equipment and possible priority access to medicine and health care to treat influenza (World Health Organization 2007).

Priority vaccination of health-care or emergency essential service workers poses both an issue about the ethical basis for favoring one group over another (weighing the greater good of a functioning health system against the elevated risk of death or morbidity of groups more vulnerable to infection who miss out or experience delay) and issues of whether vaccination should be compulsory and whether it should extend to close contacts of such workers (weighing possible increases to herd immunity against the infringements of bodily integrity and competing uses for scarce vaccines).

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Ethical Responsibilities to the Vulnerable

In pandemics the patient occupies both the space as "victim" entitled to care and compassion and as a "vector" (or carrier) (Battin et al. 2009). Because the science of disease spread (and achievement of control) is reducible to sophisticated mathematical risk modeling as the basis for prioritizing certain groups for vaccination or other interventions and because preservation of social functioning will isolate other groups such as essential service or health-care workers as a priority, such utilitarian values will loom large when making any triage decisions about allocation of such potentially lifesaving resources.

However, the greater scientific good of most rapidly bringing a pandemic outbreak under control, or the public interest in maintaining functioning society, conflicts with ethical principles of equity of treatment ("treating like cases alike") or priority based on need (treating the most severely ill) or vulnerability (e.g., indigenous or other populations at greater risk of infection or mortality). While such dilemmas are perhaps avoidable for say the homeless in resource-rich countries, the dilemma is a serious one in resource-poor countries.

The socioeconomic determinants of health, such as income, class, gender, religion, culture, and geographic location, have been shown to contribute significantly to outcomes in managing pandemics (Kumar and Quinn 2012). Such factors are however poorly addressed in most pandemic management plans, with an analysis of national pandemic plans revealing that scientific, political, and legal discourses play a stronger role in the plans than social, cultural, and ethical discourses (Garoon and Duggan 2008). Neglect of such issues risks contravening ethical principles of prioritizing care of the most vulnerable or of distributional equity.

Distributive Justice and Health Disparities

Economic and infrastructure difficulties facing developing countries pose issues of distributive justice in nations accessing antivirals and vaccines or in distributing them equitably to all members of the population or all geographic regions (Duque et al. 2014). Such issues of distribution of scarce resources, prioritization of certain groups (such as health-care or emergency workers), and transparency of communication to the public (how much information is shared about levels of risk) are crucial ethical conundrums (Bhatia 2013).

Limited health infrastructure, inability to afford to stockpile medications as a precaution, or logistical and geographic barriers to mobilizing a public health response all serve to heighten the triage dilemmas associated with deciding which groups are to receive priority of access to vaccination or other health services in the event of a pandemic.

Poverty and disadvantage magnify the already well-documented socioeconomic disparities in susceptibility to infection, and poor housing, sanitation, or the economic and social demands of maintaining basic sustenance may render it very difficult to implement public health measures. Global initiatives toward funding and distributing essential drugs and medical supplies (such as protective equipment), targeted capacity-building of health infrastructure (laboratories, surveillance capacity), and international aid and WHO cooperation during emergencies provide some limited expression of a global bioethical response, but the ethical challenges continue to be intimidatingly grave.

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Global Bioethics and Pandemics

Pandemics present two interesting challenges for standard bioethical frameworks. The first is for bioethics to give greater attention to infectious diseases and other issues that affect the global community. It has been argued, for example, that infectious diseases traditionally have not been adequately addressed in the bioethics literature (Battin et al. 2009). In recent years, however, within bioethical scholarship greater attention has been paid to ethical issues related to infectious diseases.

The second challenge relates to the role of ethics in pandemic planning, whether ethics is "global" and the degree to which ethics is embedded in factors such as culture and religion. These debates are likely to be relevant to any discussion of the application of ethical principles in a pandemic. In an increasingly globalized world, pandemic responses need to respect values such as the communal equality-oriented value systems of the African *ubuntu* by not placing undue weight on individual autonomy and be mindful for members of Jainist, Buddhist, and Hindu communities of Asian *ahimsa* principles of compassion toward and doing no harm to any living being when addressing measures such as mass culling of poultry to halt spread of avian flu or in animal testing of new vaccines. Similar issues arise for host countries in respect to immigrant populations or cultural minorities.

Conclusion

Bioethical principles pertinent to management of pandemic threats are both contested and in flux. Early bioethical frameworks emphasizing autonomy and realization of individual civil rights are challenged as failing adequately to address communal values of solidarity, the relational nature of social interactions, or global socioeconomic inequality and poverty.

Issues such as realization of the socioeconomic right to health, pursuit of distributional justice, and operationalization of a global bioethics able to engage with differences in regional capacity, governance systems, and competing pressures such as international trade and commerce remain lively domains for scholarly discourse and international debate.

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Cross-References

- ▶ AIDS
- ▶ Autonomy
- ▶ Bioethics: Founders
- ▶ Bioethics: Global
- ▶ Care Ethic
- ▶ Communitarian Bioethics
- ▶ Epidemics
- ▶ Ethics
- ▶ Feminist Ethics

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- ▶ Solidarity
- ▶ Triage
- ▶ Utilitarianism
- ▶ Vaccination
- ▶ Vulnerability
- ▶ WHO

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