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Introduction

In 1974, an experiment conducted by the American Public Health Service was ended after a whistle-blower revealed what was widely considered as unethical conduct. The experiment, named after the local collaborator, the Tuskegee Institute, withheld known cures from low-income, illiterate black men infected with syphilis. Following this and other instances of unethical medical experimentation, the federal government issued the Belmont Report, providing ethical guidelines for the conduct of research on human subjects (The Belmont Report, 1979).

The Belmont Report served as a starting point for ethics in the era of twentieth-century medical technologies. Some of those technologies, such as vaccines to prevent infections and antibiotics to prevent their transmission, are used in public health. But public health differs from clinical health care in a number of significant ways. In medicine, it is the interaction between the care provider and the patient that leads to the most ethical issues. In this interaction, medical ethics seeks to protect the autonomy of the patient. In public health, however, most ethical issues arise from the interaction between an agency – such as a city health department – and the population it is serving. A public health agency is often protecting some people within a population from others. For example, it may need to isolate an infectious person in order to prevent transmission to others. In so doing, the autonomy of the infected person is constrained in the interest of the community. Because of these fundamental differences between medicine and public health, the Belmont Report, and policies subsequently derived from the Report, do not adequately address a number of important issues in public health.

Epidemics of highly pathogenic organisms in recent years have underscored the need for ethical guidelines in public health. They include epidemics of severe acute respiratory syndrome (SARS), Ebola, and the highly anticipated but not yet realized H5N1 influenza pandemic (Gostin et al., 2003; Hsin-Chen Hsin and Macer, 2004; Ovadia et al., 2005; Singer et al., 2003; WHO, 2007; Thomas and Miller, 2015). Common ethics challenges have included the distribution of scarce resources for curing or preventing infection, protection of populations without unnecessarily infringing on individual rights, ensuring that health-care workers fulfill their duties when they and their families are at risk, and ensuring that health-care organizations fulfill their obligations to employees who are taking risks.

Origins of the Code of Ethics in Public Health

Codes of Ethics in Public Health are a recent development. While the American Medical Association (AMA) approved its first code of ethics in 1847, the American Public Health Association (APHA) approved its code in 2002 (Thomas et al., 2002). The late emergence of a code of ethics in public health may reflect that, until recent years, many public health institutions were led by physicians who would naturally recognize medical codes of ethics. Moreover, for centuries, physicians were regarded as the overseers of all health-related matters. Only in the past few decades have nonclinical health professionals begun to assume more authority in health care and prevention.

The landmark, 1988 Institute of Medicine (IOM), report on public health set the tone for the writing of the U.S. Public Health Code of Ethics. It focused on strengthening federal, state, and local government agencies in their mission of protecting and promoting the health of the public. The impetus for developing a Public Health Code of Ethics originated within a group of public health practitioners, including providers of public health services, staff of public health nonprofit organizations, government officials, and academics. They had come together for leadership training by the Public Health Leadership Institute. As a leadership exercise, they sought to identify ethical principles that aligned with the issues they were encountering in their work more closely than the common principles of medical ethics. The group began by identifying typical ethical challenges and responses that had surfaced over time from their experiences in public health. From these, they identified principles, such as the use of scientific data for making decisions. These principles led in turn to an initial draft of the code.

Three professional perspectives were represented in the drafting of the Public Health Code of Ethics: law, philosophy, and public health practice. When confronted by an ethical dilemma, such as the use of quarantine to limit transmission of a highly pathogenic infection, lawyers typically reflect first on what the law allows and on the precedents in case history. Philosophers typically expand on the situation to explore all the philosophical threads and identify what various schools of philosophical thought would have to say about the ethical conundrums. Public health practitioners are relatively pragmatic. They commonly seek to minimize the number of people harmed by the epidemic. Although they may not name the philosophy, this perspective is closely aligned with utilitarianism, which seeks the greatest good for the greatest number of people. In some instances, public health practitioners also appeal to human rights, another ethical school of thought, which acts as a counterbalance to a utilitarian calculus that can sideline a minority of the population; for example, the few placed in quarantine for the benefit of the community have a right to have certain basic needs met while in quarantine.

Lawyers and philosophers familiar with public health weighed in on early drafts of the code developed by the public health practitioners. Input on the next draft was sought during an open meeting at an annual conference of APHA. The final code was officially endorsed by APHA in 2002 (Table 1).
Public health institutions should ensure the professional competence and professional preparation. As an example of the employers, the delivery of health education, research and evaluation ensures an opportunity for input from community members. The Public Health Education (SOPHE) Code of Ethics consists of more than does the code for public health. The Society for Public Health Educators (SOPHE) Code of Ethics for Disciplines within Public Health. A few constituent disciplines of public health have their own codes of ethics. The Code of Ethics of the American College of Healthcare Executives (ACHE) consists of 39 principles grouped into six responsibilities: to the profession, to patients, to the organization (i.e., an employer), to employees, to the community, and to report violations of the Code. Other traditional disciplines within public health either refer to the Public Health Code of Ethics or the codes of related fields. None of the principles in the three codes for constituent organizations (SOPHE, ACE, and ACHE) disagree with the Public Health Code of Ethics. Each affirms accountability, equity, confidentiality, professional competence, and more. One potential area for disagreement between the guidelines for epidemiologists and the Public Health Code of Ethics relates to advocacy. Some epidemiologists assert that advocating for certain groups or needs compromises scientific objectivity. Yet, the Public Health Code states that "Public health should advocate and work for the empowerment of disenfranchised community members." ACE avoided this controversy by stating both sides of the issue: "In confronting public health problems, epidemiologists sometimes act as advocates on behalf of members of affected communities. Advocacy should not impair scientific objectivity."

A few principles in the Public Health Code of Ethics are not addressed in the other codes. The Public Health Code, for example, emphasizes the importance of prevention and addressing the fundamental causes of disease. It also speaks clearly of the need to allow communities to have input into policies affecting them and for collaboration among institutions and organizations. The absence of these principles from the other codes does not represent a disagreement. Rather, it highlights the value of a code that transcends the perspectives of the constituent disciplines within public health, one that maintains a broader, interdisciplinary perspective. The agreement and complementarity of the codes demonstrate that one code does not supersede another. A professional needs both the global perspective of the Public Health Code and the particularity of the code of his or her narrower profession.

### Ethics in Global Health

The codes of ethics cited above were written for American professional organizations. Codes related explicitly to public health ethics in countries other than the US have yet to be written. Instead, one can find lists of values and principles that are often invoked in the context of a particular public health threat. Pandemic influenza planning provides one example. The World Health Organization Project on Addressing Ethical Issues in Pandemic Influenza Planning divided themselves into four working groups:

1. Equitable access to therapeutic and prophylactic measures;
2. Ethics of public health measures in response to pandemic influenza;

### Codes of Ethics for Disciplines within Public Health

A few constituent disciplines of public health have their own codes of ethics. Each narrows in on particular concerns within the profession. In doing so, they enumerate more principles than does the code for public health. The Society for Public Health Education (SOPHE) Code of Ethics consists of 38 sections or principles categorized into six articles or responsibilities. The responsibilities are to the public, the profession, employers, the delivery of health education, research and evaluation, and professional preparation. As an example of the level of detail, the first section of the third article (pertaining to responsibilities to employers) states, "Health Educators accurately represent their qualifications and the qualifications of others whom they recommend."

The American College of Epidemiology (ACE) ethics guidelines addresses 11 topics, such as the professional role of epidemiologists, providing benefits, and protecting confidentiality. The Code of Ethics of the American College of Healthcare Executives (ACHE) consists of 39 principles grouped into six responsibilities: to the profession, to patients, to the organization (i.e., an employer), to employees, to the community, and to report violations of the Code. Other traditional disciplines within public health either refer to the Public Health Code of Ethics or the codes of related fields. None of the principles in the three codes for constituent organizations (SOPHE, ACE, and ACHE) disagree with the Public Health Code of Ethics. Each affirms accountability, equity, confidentiality, professional competence, and more. One potential area for disagreement between the guidelines for epidemiologists and the Public Health Code of Ethics relates to advocacy. Some epidemiologists assert that advocating for certain groups or needs compromises scientific objectivity. Yet, the Public Health Code states that "Public health should advocate and work for the empowerment of disenfranchised community members." ACE avoided this controversy by stating both sides of the issue: "In confronting public health problems, epidemiologists sometimes act as advocates on behalf of members of affected communities. Advocacy should not impair scientific objectivity."

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1. Equitable access to therapeutic and prophylactic measures;
2. Ethics of public health measures in response to pandemic influenza;
3. The role and obligations of health-care workers during an outbreak of pandemic influenza;
4. Issues that arise between governments when developing a multilateral response to a potential outbreak of pandemic influenza (WHO, 2006).

The working group addressing public health measures identified four values: (1) public health necessity (a government should exercise its public health police powers on an individual or group only if the person or group poses a threat to the community such as the likelihood of spreading an infection), (2) reasonable and effective means (the methods by which a threat is addressed should have a reasonable chance of being effective), (3) proportionality (the human burden imposed by a public health regulation should be proportionate to the expected public health benefit), and (4) distributive justice (the risks, benefits, and burdens of public health action should be fairly distributed, thereby precluding the unjustified targeting of an already socially vulnerable population).

In addressing the tension between the rights of individuals and the good of the community, this group noted The Siracusa Principles, which are internationally recognized limitations on human rights established at a meeting in Siracusa, Italy (United Nations Economic and Social Council, 1985). They are as follows:

- The restriction is provided for and carried out in accordance with the law.
- The restriction is in the interest of a legitimate objective of general interest.
- The restriction is strictly necessary in a democratic society to achieve the objective.
- There are no less intrusive and restrictive means available to reach the same objective.
- The restriction is not drafted or imposed arbitrarily, that is, in an unreasonable or otherwise discriminatory manner.

Other lists of values in public health ethics are on Website in the section titled Relevant Websites, below.

**Research Ethics**

Principles and rules for research ethics have developed along a path separate from codes of ethics. They have evolved out of recommendations resulting from high-profile research abuses such as Nazi war crimes and the Tuskegee study of untreated syphilis. The principal concerns in research ethics are informed consent and the protection of vulnerable individuals such as prisoners and minors. To ensure compliance with prescribed procedures in federally funded research, there exists an institutional infrastructure reaching from the federal government to individual institutions such as universities. Institutions found not to comply with the prescribed procedures can lose their license to conduct federally funded research until they are found to be compliant once again. Codes of ethics for the practice of public health do not have the enforcement structures seen in research ethics. Rather, the codes are aspirational, articulating the values and expectations of the profession. They are a means of being transparent and enabling the public they serve to hold them accountable for their actions. In addition, they serve as a tool for identifying and addressing ethical issues. For example, ethical issues in the application of genomics to public health were identified by considering genomics in light of each principle of the Public Health Code of Ethics in turn (Thomas et al., 2005).

**Applications of the Public Health Code of Ethics**

Since its creation, the code has served as a resource principally to public health practitioners. As their respective disciplines would rightfully demand, the main reference for public health lawyers remains public health law and regulations; and the main reference for those trained in philosophy remains philosophical schools of thought. Public health practitioners, however, have proceeded to build on the foundation of the code. Although written under the auspices of the Society of Public Health Leadership, soon after it was completed in 2001, the code was officially adopted by the APHA and the National Association of County and City Health Officials (NACCHO). NACCHO incorporated the Code into its ethics training for local public health officials (NACCHO, 2015).

The code of ethics also became a resource for academic public health. In its 2003 report on education in public health, the IOM included a section on public health ethics and mentioned the Code (IOM, 2003). The report recommended the development of core competencies to guide the education of future public professionals. The Association of Schools and Programs of Public Health (ASPPH) then developed core competencies for masters in public health degrees. The ethics competencies incorporated in leadership skills were informed by the code of ethics (e.g., "Use collaborative methods for achieving organizational and community health goals") (ASPPH, 2006).

A few schools of public health have developed an oath of public health professionals that is read at graduation ceremonies. The oath of the University of Georgia College of Public Health is modeled after the principles in the Public Health Code of Ethics (University of Georgia, 2011).

Since the Public Health Code of Ethics was first drafted, a multitude of online platforms have been created that could help to further disseminate the Public Health Code of Ethics and host a community space for discussion on ethics in public health including twitter, which may be particularly suitable for connecting public health practitioners on the issue of ethics in public health.

**The Future of Public Health Codes of Ethics**

The American Public Health Code of Ethics is barely a dozen years old, but it has shaped the guiding principles of national public health organizations and is influencing the training of future public health professionals. As the teaching of public health ethics continues through degree programs and mechanisms, such as online modules and NACCHO’s ethics training, the impact will continue to grow. Even so, there are at least three particular challenges to the growth in impact:

1. As previously mentioned, the ethical principles in the code are intended for organizations rather than individuals. While this accurately reflects the primary relationship between agencies and populations, which makes it difficult
for individual practitioners to understand their role as stewards of the Code. Public health oaths, such as the one written by the University of Georgia College of Public Health, may mitigate this limitation of the Code.

2. Public health is as much a consortium of constituent disciplines as it is a field unto itself. A person working at a water purification plant may identify more with the discipline of environmental science than with public health at large. This challenge is perhaps met in part by codes of ethics written by disciplines within public health, as noted above. We encourage those disciplines to reflect on the broader code of ethics as they write or revise their own, to ensure consistency and coverage of the full range of concerns to address.

3. The Code has served as a resource primarily for public health practitioners. However, philosophers and lawyers are more likely to write test books on public health ethics. Thus, the texts for teaching public health ethics may not appeal to future public health practitioners. We encourage public health practitioners who have one foot in academics, perhaps by being an adjunct professor, to develop ethics teaching resources that incorporate the processes of everyday life in various aspect of public health. This might include, for example, how decisions are made and communicated in the context of public health emergencies.

The effectiveness of public health institutions depends heavily on the trust of the populations they serve. Distrust results in passive and in some cases active resistance to policies and programs. A code of ethics reminds an institution of what it must do to maintain public trust. In the 2015 annual meeting of APHA, the Ethics Section voted to update the Code in light of its use and public health experiences since it was created. Keeping the Code up-to-date and relevant is an important step toward ensuring ethical practices that are worthy of public trust.

See also: Ethics and Health Promotion; Ethics of Immunization; Ethics of Infectious Disease Control.

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Relevant Websites

http://www.acpadoptology.org/sites/default/files/EthicsGuide.pdf – American College of Epidemiology Ethics Guidelines.

http://www.ache.org/ABT_ACHE/code.cfm – American College of Healthcare Executives Code of Ethics.

http://www.cdc.gov/od/science/integrity/phethics/ – Centers for Disease Control, Public Health Ethics.

http://www.ethics.iit.edu/ – Center for the Study of Ethics in the Professions, Illinois Institute of Technology, Codes of Ethics Online.

http://www.ecdc.europa.eu/en/healthtopics/pandemic_preparedness/national_pandemic_preparedness_plans/Pages/Influenza_pandemic_preparedness_plans.aspx – European Centre for Disease Prevention and Control, National Pandemic Influenza Plans.

http://www.nac.nea.gov.au/system/files/documents/publications/pandemic-planning-and-response.doc – National Ethics Advisory Committee of New Zealand. Ethical Values for Planning for and Responding to a Pandemic in New Zealand-A Statement for Discussion.

http://www.phils.org/ – Public Health Code of Ethics and Accompanying Documents, Public Health Leadership Society.

http://www.sophe.org/Ethics.cfm; http://www.sophe.org/about/ethics.html – Society for Public Health Education Code of Ethics.

http://www.ncim.org/wp-content/uploads/NCI/OM/projects/flul_pandemic/standonguardforthee_5_03-06.pdf – University of Toronto Joint Centre for Bioethics. Stand on Guard for thee: Ethical Considerations in Preparedness Planning for Pandemic Influenza.