

# Public health and bioethics: An interdisciplinary approach

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## Abstract

Public health is often thought of as a field focused exclusively on creating policies and implementing interventions. While this may appear to be true, this reductionist view of public health ignores the ethical bedrock upon which public health is founded. Bioethics, when considered alongside public health, can bridge this gap and bring the ethical foundation of public health to the forefront. It is important to recognize that ethical discussions have influenced public health throughout history. Acknowledging this history and accepting the need to evaluate the ethics of emerging issues in medicine will help guide public health in the future.

When stripped to its core, public health is a manifestation of altruism in society. It is “concerned with the health of the entire population, rather than the health of the individual.”<sup>1</sup> As defined by the World Health Organization, public health is the “art and science of preventing disease, prolonging life, and promoting health through the organized efforts of society.”<sup>2</sup> Epidemiologic data and community-based studies provide the quantitative and qualitative backgrounds necessary for an evidence-based approach to public health, but the roots of public health delve deeper. The ethical basis that runs at the heart of public health is often forgotten. This ethical foundation may be best articulated using the language of bioethics. As originally coined by V.R. Potter in 1970, bioethics is the bridge between “present and future, science and values, nature and culture, and man and nature.”<sup>3</sup> Bioethics as a discipline arose to answer questions that emerged after the invention of technologies and scientific research that pushed the boundaries of ethical practice. It is also the discipline whose language and frameworks may help articulate the nuanced ethical discussions in the field of public health. Understanding the ethical roots of public health is essential to achieve its goals and to address ethical challenges affecting public health in the future.

The traditional ethical principles of autonomy, beneficence, nonmaleficence, and justice are key principles in bioethics and play an important role in informing public health policy.<sup>4</sup> In 1962, after the invention of dialysis, committees were created to decide who would receive dialysis and who would not. These “God panels” chose to allocate dialysis based on social worth. Subjective measurements were used to classify people as more or less “valuable” to society and thus more or less deserving of life-saving treatment.<sup>5</sup> These views have changed today because of discussions regarding the principle of justice and the ethics of such committees. As a result, there are now more systematic and fair ways of allocating scarce resources as well as ethical frameworks for use in similar cases, such as organ transplantation.<sup>6</sup> The issue of abortion is also influenced by core ethical principles. Therapeutic abortions were illegal in Canada until 1988, when the Supreme Court of Canada deemed this unconstitutional as it violated the right to “life, liberty, and security of the person.”<sup>7</sup> These ethical principles, while important in bioethics, also shape public health policy.

The interplay between the rights of the individual and the rights of society is an area of conflict in the field of public health.<sup>1</sup> Some may argue this conflict puts public health, which focuses on populations, against bioethics, which focuses on individual rights. Upon closer

inspection, however, the goals of public health appear to be aligned with those of bioethics. Patient confidentiality is protected in Canada.<sup>8</sup> This individual right is balanced by the right of society to break confidentiality, such as in the case of a patient with a communicable disease dangerous to the population. In this case, the individual right to confidentiality is protected unless there is a valid threat to the population. This is also the case in the setting of medical conditions that impair one’s driving ability.<sup>9</sup> By default, individuals are free to operate motorized vehicles provided they follow the laws of the road. This privilege is revoked, however, if the individual is diagnosed with a medical condition that makes driving unsafe. This is done to protect both the individual and the population. Thus, public health policy is shaped by both individual and societal considerations.

Sometimes, however, the goals of public health do not achieve what is ethical. This is especially true when looking historically at research ethics. An extreme example of ethical violations occurred during the Nazi human experiments in World War II.<sup>10</sup> Other examples of ethical violations include the Tuskegee syphilis study and the nutrition research performed on children in residential schools.<sup>11,12</sup> This clash between public good and individual rights have caused some to suggest that the frameworks of bioethics are not sufficient to use for public health as they are not broad enough.<sup>13</sup> In light of obvious breaches of ethical behaviour historically, public health ethics are continuously being refined to avoid such atrocities from occurring again. This is where the collaboration between public health and bioethics becomes important.

Acknowledging the ethical bedrock of public health is crucial to address future challenges posed by technology and globalization. Recent advances in biotechnology, such as the development of CRISPR technology, have made it possible to manipulate the human genome in unprecedented ways.<sup>14</sup> It is then reasonable to question whether individuals should be allowed to do so, or if the decision to change the DNA of one’s embryo remains within the scope of the individual to decide. Artificial intelligence, virtual reality, and remote medicine are other examples of emerging technology that will affect medicine and, by extension, public health. Globalization, changing the nature of human interaction, also poses a threat to public health. Certain branches of bioethics are already evolving to encompass ethical issues on a broader, more global, scale. As a result, global bioethics is a growing field that strives to create a universal approach to ethics rather than focusing on an individualistic view of ethics grounded in Western philosophical thought.<sup>3</sup> Within that discussion are such themes as climate change, international aid, and global public health. The future of public health requires that the ethics of the above issues

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be addressed, and this can be aided by the field of bioethics.

At its core, public health is an ethical endeavor. It is based on benevolence and moral justice that seeks to preserve the health and well-being of all individuals in society, regardless of socioeconomic status, race, gender, and so on. The goal of bioethics is analogous. Using philosophical and ethical frameworks, bioethics seeks to discover how to best conduct medical practice based on what is in the best interest of individuals and society from an ethical perspective. Thus, public health and bioethics are two sides of the same coin. The interplay between both disciplines is self-evident and necessary to achieve a healthy, prosperous society grounded on sound policies and ethical principles.

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