

Principles for the Justification of Public Health Intervention

R.E.G. Upshur, MA, MD, MSc, FRCPC

ABSTRACT

Objectives: The objective of this paper is to discuss principles relevant to ethical deliberation in public health.

Methods: Conceptual analysis and literature review.

Results: Four principles are identified: The Harm Principle, The Principle of Least Restrictive Means, The Reciprocity Principle, and The Transparency Principle. Two examples of how the principles are applied in practice are provided.

Interpretation: The paper illustrates how clinical ethics is not an appropriate model for public health ethics and argues that the type of reasoning involved in public health ethics may be at potential variance from that of empirical science. Further research and debate on the appropriate ethics for public health are required.

The translation of the Abstract appears at the end of the article.

Department of Family and Community Medicine, Public Health Sciences and The Joint Centre for Bioethics, University of Toronto, Primary Care Research Unit, Sunnybrook and Women's College Health Sciences Centre, Toronto, ON

Correspondence: Dr. R.E.G. Upshur, Primary Care Research Unit Room E349B, Department of Family and Community Medicine, Sunnybrook and Women's College Health Science Centre, 2075 Bayview Avenue, Toronto, ON M4N 3M5, Tel: 416-480-4753, Fax: 416-480-4536, E-mail: rupshur@idirect.com

Acknowledgements: Dr. Upshur is supported by a Canadian Institutes of Health Research New Investigator Award and a Research Scholarship from the Department of Family and Community Medicine, University of Toronto. The author thanks Shari Gruman for her assistance in preparing the manuscript.

The framework of principlism has proven to be robust and useful as a means of assisting practicing clinicians to organize their thinking about ethical issues in clinical medicine. Surveys done by Coughlin and others have pointed out the relative lack of systematic instruction in ethics in both public health and epidemiology.^{1,2} Thus, there is a need for ethics instruction in both epidemiology and in schools of public health. Conceptual research on frameworks for ethical reasoning, recognizing the essential differences between public health practice and clinical medicine, is necessary. The focus of public health is directed to populations, communities and the broader social and environmental influences of health. As well, there is a greater focus on prevention than on treatment or cure. It is not clear that simply importing conceptual models from clinical ethics will suffice for public health as the philosophy that underlies public health differs from that of clinical medicine.³

Public health practice differs substantially from clinical practice. The context, mandate and range of activities carried out by public health practitioners encompass a wide set of considerations. Most public health departments are part of state, provincial or federal governments. The overarching concern for the individual patient found in clinical ethics is not neatly analogous to a concern for the health of a population. As well, there is no clear analogy to the fiduciary role played by physicians. Simply put, populations are constituted by diverse communities of heterogeneous beliefs and practices. These may at times come into conflict. Individual versus community rights and conflicts within and between communities are the more likely locus of ethical reflection in public health practice. Hence, public health ethics must recognize and be able to reason through issues relating to social, political and cultural contexts; the existence of competing values and perspectives and perhaps, incommensurable world views. Given these considerations, it is clear that the straightforward application of the principles of autonomy, beneficence, non-maleficance and justice in public health practice is problematic.

The principlist framework has come under heavy criticism in clinical ethics.⁴ Modern bioethics, which concerns itself with ethical issues both within and beyond clinical medicine, consists of a wide range of theories including virtue ethics, feminist ethics, and utilitarianism (to name a few), all

of which may have some relevance to public health ethics. The strength of a principle-based approach is its heuristic nature and applicability to practice. Gostin has noted that one problem in defining the sphere of ethics in public health is the broad ambit of public health activities. He makes the distinction between the ethics *of* public health (concerned with the ethical dimensions of professionalism and moral trust that society invests in professionals to act for the common good), ethics *in* public health (which incorporate the ethical dimensions of public health enterprise; the moral standing of population's health; trade-offs between collective goods and individual interests and social justice considerations) and ethics *for* public health (the value of healthy communities; interests of populations, particularly the powerless and oppressed; and pragmatic methods).⁵ A set of principles for public health practitioners to use *in* the practice of public health may thus be useful for systematic reflection on ethical issues. In what follows, a set of principles for the analysis of ethical issues *in* public health practice is articulated and analyzed. It is not intended that these principles be regarded as definitive, but rather heuristic. The principles have been distilled from a reading of the nascent literature in public health ethics. They seek to bring clarity to some of the ethical aspects of public health decision making in practice. The focus of these principles relates to the question of when public health action is justified. Hence, the locus of application of these principles is restricted to a specific, but significant domain. The principles articulated will not, for example, cover screening and prevention programs, health promotion programs or public health research.

Principles

Harm Principle

The harm principle as set out by John Stuart Mill is perhaps the foundational principle for public health ethics in a democratic society. It sets out the initial justification for a government, or government agency, to take action to restrict the liberty of an individual or group. The harm principle is succinctly stated by Mill: *The only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant.*⁶

It is important to note that the harm principle does not specify what action to take, but merely states that action is justifiable in this context.

Least Restrictive or Coercive Means

This principle recognizes that a variety of means exist to achieve public health ends, but that the full force of state authority and power should be reserved for exceptional circumstances and that more coercive methods should be employed only when less coercive methods have failed. Education, facilitation, and discussion should precede interdiction, regulation or incarceration. It should be pointed out that the principle does legitimate coercive means where justified and where less restrictive means have failed to achieve appropriate ends. This principle has been enshrined in the Siracusa principles, a set of internationally agreed upon legal principles that establish the justified conditions for the restriction of civil liberty.⁷ The Siracusa principles hold that restrictions of liberty must be legal, legitimate and necessary and use the least restrictive means that are reasonably available. Furthermore, there should be no discrimination in their application.

Reciprocity Principle

Once public health action is warranted, though, there is an obligation on a social entity such as a public health department to assist the individual (or community) in the discharge of their ethical duties. Complying with public health requests may impose burdens on individuals. These may involve sacrifice of income or time and in general, these should be compensated. The reciprocity principle holds that society must be prepared to facilitate individuals and communities in their efforts to discharge their duties. It is discussed more thoroughly by Harris and Holm.⁸

Transparency Principle

This principle refers to the manner and context in which decisions are made. All legitimate stakeholders should be involved in the decision-making process, have equal input into deliberations, and the manner in which decision-making is made should be as clear and accountable as possible. As much as possible, the decision-making process should be free of political interference and coercion or

the domination by specific interests. The process should strive toward what Habermas has termed an "ideal speech situation".⁹

Example 1

Case 1. Smear Positive TB: A 35-year-old homeless male is found to be smear positive for MTB. The man is frequently non-compliant with medication and uses shelters on nights when it is cold.

In this case there is a potential for harm to others as someone smear positive for tuberculosis is capable of transmitting the disease. Sleeping in a crowded shelter is an opportunity for such transmission to occur. Therefore the harm principle is met and action of some form is justifiable. In terms of limiting the harms, the least restrictive means principle would hold that public health officials start with attempts to educate and move progressively up through Directly Observed Therapy (DOTS), supportive housing, voluntary admission, to involuntary detention.¹⁰⁻¹² The reciprocity principle holds that public health officials have an obligation to not just provide the man with options, but facilitate the discharge of his obligations. Interventions such as DOTS and supportive housing are founded, in part, on the recognition of the need for such social reciprocity. Finally, guiding the entire process should be a clear and transparent communication including the provision of legal counsel if necessary.

Example 2

Case 2. Concerns over a toxic exposure: The health department is called to investigate community concerns regarding chemicals leeching into the water table. An epidemiological investigation fails to show any linkage of the exposure to health outcomes, but the sample sizes are small and the confidence intervals around the estimates wide. Nonetheless the community persists in its belief of adverse health effects.

In this case it is questionable whether the harm principle is met. In essence, there is uncertainty and no persuasive evidence of health impact from an epidemiologic point of view. However, psychosocial impacts from environmental exposures may be considerable,¹³ and using a holistic definition of health, harm may indeed have occurred. Whether the harm principle is satisfied in this case is, therefore, arguable. Given that

Mill's principle does not explicitly state how harms are to be understood, it does not provide clear guidance unless one wishes to invoke the use of principle on behalf of the community and order an immediate clean-up.

In this example, legally sanctioned intervention on the part of the health department may not be warranted. It is likely that both parties to the dispute will interpret the harms differently. Despite this, there is still a need for reciprocity and transparency. If there is no clear warrant for action by public health, there is still an obligation on the part of the department to play a role in facilitating communication and mutual understanding so long as the issues remain focused on health.

Ethical reasoning in Public Health

How are the above principles brought into practice? There has been an increased recognition of the need to assess reasoning as it applies to health care practice.¹⁴ Ethics is essentially a reflective task that requires participants to be explicit about what they believe, why, what they value and on what grounds. This process should be conducted in the context of rational discourse. The introduction of value issues into "objective-scientific" reflection has often been regarded as a potential bias. Yet this rests largely on lack of clarity on the role and meaning of values in science.¹⁵

Walton argues that public health deliberations rest on a different logic than scientific reasoning. The standard of evidence or burden of proof required for public health action may be at variance with that of traditional conceptions of scientific reasoning. Walton refers to this as *tutorism*.¹⁶ Scientific reasoning relies on confirmation of results and is oriented to avoiding Type I errors. Public health, on the other hand, often takes action to prevent harm even when the evidence may be uncertain. The words of A.B. Hill are appropriate here. Hill is aware that evidence is usually incomplete and hence there is a need for differential standards for action. After noting that on very slight evidence we may wish to reduce hazards to pregnant women and on fair evidence to make interventions in workplaces, it may require very strong evidence to intervene in the lifestyles of people. He writes: "In asking for very strong evidence I would repeat, emphatically, that this does not imply cross-

ing every "t" and swords with every critic before we act."¹⁷

The idea of a differential evidence standard for public health action is a fertile one that requires further development. In public health practice, the evidence may not be clear or the evidence may be characterized by underdetermination.^{18,19} This commonly occurs in public health. We shall never have randomized control trial evidence of many environmental exposures such as chemicals, and many proposed interventions are subject to long lag times before effects are noted. Underdetermination occurs when the data can be interpreted in many ways that are plausible but conflicting. This can occur for statistical reasons such as model selection, or because of unexpressed or unacknowledged value or epistemic commitments. The problem of underdetermination is not limited to observational studies.²⁰ It may be a generalized feature of knowledge acquisition.²¹

CONCLUSION

Ethics in public health requires systematic attention. In this paper, I have argued for the differences between public health and clinical care, defined and illustrated a set of principles for public health practitioners to use in the analysis of using public health powers. The utility of these principles in practice also requires evaluation. There is often a long lag time between the conceptual analysis of ethical issues and their empirical evaluation. This paper intends to stimulate debate, research and scholarship on an important dimension of public health practice.

REFERENCES

1. Coughlin SS, Etheredge GD. On the need for ethics curricula in epidemiology. *Epidemiology* 1995;6(5):566-67.

RÉSUMÉ

Objectifs : Étudier les principes d'un débat éthique en santé publique.

Méthode : Analyse notionnelle et enquête bibliographique.

Résultats : Nous avons cerné quatre principes (réduction des méfaits, choix des moyens les moins restrictifs, réciprocité et transparence) et fourni deux exemples de leur application dans la pratique.

Interprétation : Le modèle de déontologie clinique ne convient pas à la santé publique, car le type de raisonnement employé pour les questions éthiques en santé publique peut être différent de celui des sciences empiriques. Il faudrait pousser la recherche et le débat pour définir un modèle éthique qui convienne à la santé publique.

2. Coughlin SS, Katz WH, Mattison DR. Ethics instruction at schools of public health in the United States. Association of Schools of Public Health Education Committee. *Am J Public Health* 1999;89(5):768-70.
3. Weed DL. Towards a philosophy of public health. *J Epidemiol Community Health* 1999;53(2):99-104.
4. Beauchamp TL. Principlism and its alleged competitors. *Kennedy Inst Ethics J* 1995;5(3):181-98.
5. Gostin LO. Public health, ethics, and human rights: A tribute to the late Jonathan Mann. *J Law Med Ethics* 2001;29(2):121-30.
6. Mill J. On liberty. In: Wishy B (Ed.), *Prefaces to Liberty: Selected Writings*. Lanham, MD: University Press America, 1959.
7. Coker R. Detention and mandatory treatment for tuberculosis patients in Russia. *Lancet* 2001;358(9279):349-50.
8. Harris J, Holm S. Is there a moral obligation not to infect others? *BMJ* 1995;311(7014):1215-17.
9. Habermas J. *The Theory of Communicative Action. Vol 1. Reason and the Rationalization of Society*. McCarthy, T. (trans). Boston: Beacon Press; 1984.
10. Annas GJ. Control of tuberculosis—the law and the public's health. *N Engl J Med* 1993;328(8):585-88.
11. Bayer R, Dupuis L. Tuberculosis, public health, and civil liberties. *Annu Rev Public Health* 1995;16:307-26.
12. Singleton L, Turner M, Haskal R, et al. Long-term hospitalization for tuberculosis control. Experience with a medical-psychosocial inpatient unit. *JAMA* 1997;278(10):838-42.
13. Elliott SJ, Taylor SM, Walter S, et al. Modelling psychosocial effects of exposure to solid waste facilities. *Soc Sci Med* 1993;37(6):791-804.
14. Horton R. The grammar of interpretive medicine. *CMAJ* 1998;159(3):245-49.
15. Longino H. *Science as Social Knowledge. Values and Objectivity in Scientific Inquiry*. Princeton, NJ: Princeton University Press, 1990.
16. Walton D. *The New Dialectic: Conversational Contexts of Argument*. Toronto: University of Toronto Press, 1998.
17. Hill A. The environment and disease: Association or causation? *Proc Roy Soc Med* 1965;295-300.
18. Weed DL. Underdetermination and incommensurability in contemporary epidemiology. *Kennedy Inst Ethics J* 1997;7(2):107-27.
19. Oreskes N, Shrader-Frechette K, Belitz N. Verification, validation and confirmation of numerical models in the earth sciences. *Science* 1994;263:641-46.
20. Jadad AR, Cook DJ, Browman GP. A guide to interpreting discordant systematic reviews. *CMAJ* 1997;156(10):1411-16.
21. Barrow J. *The Limits of Science and the Science of Limits*. Oxford: Oxford University Press, 1998.

Received: December 4, 2000

Accepted: November 15, 2001