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POPULATION HEALTH ETHICS:
ANNOTATED BIBLIOGRAPHY

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Introduction

The purpose of this annotated bibliography is to begin a dialogue regarding population health ethics by providing a compendium of relevant works. It is a living document that will continue to be modified as the field of population health ethics evolves. This document is not intended to be an exhaustive list of all articles related to the topic. Rather, it aims to summarize key foundational writings and to provide a sense of the scope, issues, and debates in the field.

The following pages are divided into three sections:
(1) *Theoretical foundations & principles of population health ethics*: this section lists works that discuss theories of relevance to population health ethics (e.g. justice, paternalism) and principles that various authors have suggested are useful guides for the field (e.g. equity, autonomy).
(2) *Frameworks for population health ethics*: the starting point for articles in this section is that population health is inherently different from clinical medicine due to its population-level focus and goals and activities. Thus, unique guiding frameworks are needed for the field. This section summarizes various frameworks that have been suggested in the literature. These frameworks vary significantly in purpose and method of organization.
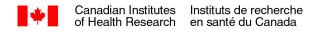(3) *Selected cases in population health ethics*: this final section considers a select number of specific cases in population health ethics, chosen to showcase a range of potential issues. These issues include environmental change, genomic technologies, global health, health surveillance, and pandemic planning.

It is relevant to note that the vast majority of literature included in this bibliography was written on the issue of public health ethics. When considering the following annotations, we encourage consideration of whether the ethical values and principles underlying population health are similar to or distinct from public health, and whether population health activities raise concerns that may be different from or go beyond the scope of those considered in public health ethics.

Search Strategy

A search of PubMed, Web of Science, and Google Scholar databases was conducted using the key words 'population health ethics', 'public health ethics', 'equity', and 'health'. This search was restricted to English language articles and was not limited to a specific time frame of publication. Further articles were identified by reviewing the full text and reference lists of retrieved articles. Publications or authors that were frequently cited or referred to as seminal works were specifically searched within the University of Ottawa library system. Finally, several articles were suggested by a CIHR staff member familiar with the issue of population health ethics. All searching was conducted between June and October 2009.

Articles were chosen for inclusion in the bibliography with the aim of representing a range of work in the field rather than an exhaustive list of all relevant publications. Thus, following a scan of the retrieved articles, select publications were chosen to illustrate the main theories, principles, and frameworks discussed. Emphasis was placed on key publications frequently cited by others. A selection of recently published work was also included to illustrate current thinking in the field.

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Theoretical Foundations & Principles of Population Health Ethics

Arah OA. On the relationship between individual and population health. *Med Health Care Philos* 2009;12(3):235-44.
This article challenges the distinction between individual and population health, which the author argues is inefficient and potentially unethical. Such discussion is important because conceptualizations of health impact how it is studied and addressed. The principle of *equity* is raised as a potential concern associated with viewing population health as simply the aggregation of individuals. The interconnection between individual and population health is framed as an interaction between absolutist and relativist notions of health. Of note, this article potentially questions the need to develop a separate framework for population health ethics. Arah urges careful consideration of the aims of separating public health ethics from mainstream bioethics given the interwoven nature of individual and population health.

Baylis F, Kenny NP, Sherwin S. A relational account of public health ethics. *Public Health Ethics* 2008;1(3):196-209.
Baylis et al. argue that frameworks for public health ethics should draw on *feminist relational theories* and focus on vulnerable subpopulations who lack social and economic power. Public health ethics needs to go beyond identifying tensions between individual and community interests, to recognizing the complex ways in which individuals and communities are inseparable. The authors suggest core values for population health ethics that draw on two strands of theoretical work: (1) *relational personhood*, which views individuals not as discrete beings but as interconnected with and constituted within social, historical, and political contexts. This relational view emphasizes *relational autonomy* and *social justice*; (2) *relational solidarity*, which encourages consideration of responsibility for ourselves and our actions, a willingness to be held accountable for others, especially the most disadvantaged, and an awareness of mutual vulnerability and interdependence.

Black M, Mooney G. Equity in health care from a communitarian standpoint. *Health Care Anal* 2002;10(2):193-208.
This article argues that in order to achieve equity in health, *communitarian* ideals that acknowledge, respect, and foster bonds that unite communities need to be recognized and harnessed. The authors present two alternative conceptualizations of autonomy that emerge from such a view: (1) *social autonomy* – those who have power to assist others should help support them to alleviate disadvantage and promote autonomy. Such a form of autonomy has a circular process whereby communities are necessary to help promote autonomy, and autonomous individuals are necessary to promote these kinds of communities; (2) *community autonomy* – providing communities with power and choice through involvement in decision-making. The authors argue that this form of autonomy benefits both individuals and communities through the positive impacts of self-governance, and the increased bonds and connectedness formed among community members.

Braveman P, Gruskin S. Defining equity in health. *J Epidemiol Community Health* 2003;57(4):254-258.
Braveman and Gruskin suggest a definition of *equity* intended to assist with its operationalization and measurement. This discussion builds on the previous work of Whitehead (1991; see below)

based on accumulated experience with the concept. Equity is closely linked to *distributive justice* and to *human rights*. The authors argue that a precise definition of equity is needed because the concepts of *social justice* and *fairness* with which it is associated can be variously interpreted. Thus, they propose that equity in health is "the absence of systematic disparities in health (or its social determinants) between more and less disadvantaged groups". The term social advantage is used to denote attributes (e.g. wealth, power, and/or prestige) that structure the grouping of people into social hierarchies.

Buchanan DR. Autonomy, paternalism, and justice: ethical priorities in public health. Am *J Public Health* 2008;98(1):15-21.
In this article, Buchanan critiques the significant focus of public health ethics on *paternalism* and on identifying justificatory conditions for interventions that restrict individual autonomy. This focus neglects the epidemiological transition from infectious to chronic disease and the associated moral difference between controlling disease agents and controlling host behaviours. Instead, public health ethics should be grounded in theories of *justice* through which autonomy can be promoted rather than reduced. *Autonomy* is understood in the Kantian sense in that it integrates both freedom and responsibility. Thus, autonomy is required so that individuals may freely and rationally agree to principles of justice. Buchanan emphasizes, however, that there are significant differences in understandings of justice and that effort should be devoted to building consent among the public as to what constitutes a just society.

Daniels N. Just Health: Meeting Health Needs Fairly. Cambridge: Cambridge University Press; 2007.
As a follow up to Daniels' 1985 publication *Just Health Care*, this book includes a broad scope summarized by a fundamental question of *justice*: what do we owe each other to promote and protect health in a population and to assist people when they are ill or disabled? This issue subdivides into three further questions: (1) what is the special moral importance of health? (2) when are health inequalities unjust? (3) how can we meet health needs fairly under resource constraints? Daniels provides answers as follows: health has special moral importance because it impacts on opportunities; health inequalities are unjust when they result from an unjust distribution of socially controllable factors; meeting health needs fairly requires supplementing general guiding principles with a fair deliberative process. Daniels argues that these answers together provide a population view of justice in health and guidance on how societies should organize to address health equitably.

Daniels N. Equity and population health: toward a broader bioethics agenda. *Hastings Cent Rep* 2006;36(4):22-35.
In this article, Daniels argues that the field of bioethics should expand its scope to consider broader institutional and policy contexts. He asserts that such a view focuses the field on population health as a fundamental good and on the pursuit of *justice* and *equity* in health. According to Daniels, bioethics has traditionally overemphasized decontextualized clinician-patient and researcher-participant relationships, as well as emerging technologies. Following a review of current ethical challenges in population health, he suggests a broader bioethics agenda focused on unresolved questions related to two key areas: (1) the distribution of health; (2) the development of fair policies that affect health distribution.

Faden RR, Powers M. Health inequities and social justice: the moral foundations of public health. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz* **2008;51(2):151-7.**
This article advances a theory of *social justice* that the authors argue provides the moral basis for public health. They compare and contrast this theory to different approaches (utilitarian and libertarian), as well as to other egalitarian theories of justice. Two main principles underlie Faden and Powers' theory. First, that social justice should focus on actual states of well-being rather than merely the capacity for well-being. Second, that inequality should be reduced by focusing on systemic disadvantage that impacts many dimensions of well-being and which results in diminished futures for those affected. From this theory the authors derive two moral functions for public health: (1) improve well-being by improving health; (2) monitor systemic disadvantages and intervene to improve the well-being of vulnerable groups.

Gostin LO, Gostin KG. A broader liberty: J.S. Mill, paternalism and the public's health. *Public Health* **2009;123(3):214-221.**
In this article, Gostin & Gostin question the appropriateness of John Stuart Mill's *theory of liberty* and associated *harm principle* (1974; see below) to public health ethics. According to this principle, the only justification for the state to infringe on individual liberty is to prevent unacceptable harm to others. The authors argue that many public health interventions aim to limit the harms individuals inflict on themselves. Such interventions would not be supported by Mill, who opposes regulation of 'self-regarding' behaviour. Instead, Gostin & Gostin argue for *paternalism* as a means of justifying public health action. They suggest that most arguments in favour of paternalism fail because they continue to focus on individuals. Taking a population-level perspective, however, turns the focus to lives saved rather than individual burden. The authors argue that such public health paternalism can provide a 'broader freedom' where people have better opportunities for health, enhanced prospects for life, and a wider range of choices.

Mill, JS. On Liberty. Baltimore: Penguin; 1974.
This book presents a reprint of John Stuart Mill's 1859 essay, *On Liberty*. In this work, Mill presents his *theory of liberty*, which is founded on the freedom of individuals from restraint as long they do not cause harm to others. This includes freedom of opinion and speech, freedom of assembly, and freedom of action without interference from the state. Most relevant to population health is the elaboration by Mill of his *harm principle*: "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." Thus, Mill's theory delineates the limits of the authority of the state over its citizens. He also argues, however, that individuals owe two things to society in return. First, as previously stated, that they do not do harm to others. Second, that each person should bear their share of the labours or sacrifices of defending society and its members from harm.

Mill JS, Bentham J. Utilitarianism and Other Essays. London: Penguin Classics; 1987.
This book includes extracts from the essays of two key *utilitarian* theorists: Jeremy Bentham and John Stuart Mill. In general, utilitarian theories evaluate the moral worth of actions based on their contribution to overall 'utility'. In Bentham's 1789 work *Introduction to the Principles of Morals and Legislation*, he discusses his principle of utility. According to this principle, the ultimate standard by which actions should be judged is the degree to which they contribute to overall happiness. Mill outlined his own theory in 1863 in *Utilitarianism*. In this work, he

supports the *greatest happiness principle*, by which actions are judged right to the extent that they promote happiness and wrong to the extent that they cause pain. While Bentham believed that utility could be calculated, Mill felt that happiness was not always quantifiable. Thus, secondary moral principles are also useful guides for everyday life.

Nixon S, Forman L. Exploring synergies between human rights and public health ethics: A whole greater than the sum of its parts. *BMC Int Health Hum Rights* 2008;8:2.
Nixon & Forman argue that collaboration between *human rights* and public health ethics can provide a stronger justificatory framework for action than either field alone, especially in terms of addressing the needs of the global poor. In particular, human rights strengthens public health ethics by: (1) contributing definitions of the right to health and the notion of indivisibility of rights; (2) emphasizing duties of the state to progressively realize the health of citizens; (3) recognizing the protection of human rights itself as a determinant of health; (4) refocusing attention on the health and illness of marginalized individuals and populations.

Rawls J. Justice as fairness: political not metaphysical. *Phil Pub Affairs* 1985;14:223-252.
In this article, Rawls revisits his theory of 'justice as fairness' originally presented in his 1971 work, *A Theory of Justice*. Justice as fairness is presented as an alternative theoretical approach to utilitarianism. The aim of this theory is to reconcile the tension between liberty and equality. To aid in this analysis, Rawls posits the 'veil of ignorance' behind which one knows nothing of their position in society or natural abilities. He argues that the rational choice from this perspective is to create a society based on fairness, and that this fairness rests on creating just institutions. Thus, he offers two principles of justice: 1) *liberty principle* – the equal right of all people to basic rights and liberties comparable to those of all people; 2) social and economic inequalities may exist, but for them to be considered just they must provide the greatest benefit to the most disadvantaged (the *difference principle*), and be attached to offices and positions for which everyone has a *fair equality of opportunity*.

Robert JS. Systems bioethics. *Am J Bioeth* 2007 Apr;7(4):80-2.
In this article Robert presents an approach to ethical analysis that builds on insights from systems biology. He argues that viewing ethical issues as dynamic, interactive *systems* helps to frame them within their social and political contexts. The process of *moral landscaping* surveys the diverse values, interests, and opinions regarding an issue and promotes interdisciplinary, cross-sectoral discussions. These discussions help understand the different components of the system that need to be jointly considered. A second process suggested by Robert is that of *moral architecture*, which he defines as creating and maintaining spaces for reflection, deliberation, negotiation, and compromise. Such a process serves the goal of maintaining moral accountability to others, a fundamental component of civil society.

Schrecker T. Denaturalizing scarcity: a strategy of enquiry for public health ethics. *Bull World Health Organ* 2008;86(8):600-605.
This article proposes 'denaturalizing scarcity' as a strategy to inform public health ethics enquiry. This strategy challenges the assumption that health-related resource scarcities are natural. Rather, we must analyze these scarcities to determine whether decisions within the control of society have permitted the resource scarcity to exist. Schrecker provides two lines of reasoning to support such a strategy. First, priority should be given to meeting basic health

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needs, particularly due to the moral arbitrariness of birth into a particular country or social group. Second, there are multiple causal connections that link rich and poor, and moral responsibility has been argued to follow causal responsibility. Thus, denaturalizing scarcity is an alternative to mainstream health ethics, which usually accepts scarcity as a given. Instead, this strategy poses the question of why some settings are resource poor while others are not.

Sen A. Inequality reexamined. Oxford: Oxford University Press; 1992.
In this work, Sen outlines his *capabilities approach* to *social justice*. He presents "equality of what?" as the central question in the analysis and assessment of inequality, and one that can be used to differentiate between ethical theories of social arrangements. Sen argues for an approach that focuses on freedoms and capabilities. That is, a person's capabilities and freedom to achieve functionings that they have reason to value. Sen also distinguishes his approach to justice from that of John Rawls (1985; see above). He critiques Rawls' focus on the holding of 'primary goods' (e.g. wealth) as one that emphasizes the means of freedom over an assessment of the extent of freedom. Sen argues that a capabilities approach to justice has profound implications for the way in which economic inequalities, poverty, and class and gender inequalities are understood and addressed.

Weed DL. Precaution, prevention, and public health ethics. *J Med Philos* 2004;29(3):313-332.
Weed summarizes the evolution of the *precautionary principle* and its variety of potential definitions. In general, these definitions emphasize that we cannot always wait for scientific certainty before acting to prevent harm to the public. Embedded in this principle is the notion that action is taken earlier than it normally would be without precaution. Weed considers, then, how this may be expected to impact public health decision-making. He argues that public health has always involved weighing costs and benefits in real-life situations and that standards of evidence are variably applied by public health practitioners. Thus, he suggests that prior to resetting standards of evidence to fit with the precautionary principle, the field should study how causal inferences are currently made in public health practice, their theoretical foundations, and the ethical implications of their use.

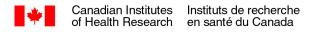**Whitehead M. The concepts and principles of equity and health. *Health Promot Int* 1991;6(3):217-228.**
This article, based on a series of documents produced by the World Health Organization, seeks to clarify what is meant by the concept of *equity*. Inequity is defined as "differences which are unnecessary and avoidable but, in addition, are also considered unfair and unjust". Thus, not all inequalities contain the moral and ethical dimensions associated with the term 'inequity'. To determine if health differences are unfair and unjust, they must be contextualized within society at large. Examples of issues that might be considered inequitable include health-damaging behaviour where the degree of choice of lifestyles is severely restricted; exposure to unhealthy, stressful living and working conditions; and inadequate access to essential health and other public services. Whitehead concludes by providing a list of seven principles for action that follow from this conceptualization of equity.

Wikler D, Brock DW. Population-level bioethics: mapping a new agenda. In: Green RM, Donovan A, Jauss SA (eds). Global Bioethics: Issues of Conscience for the Twenty-First Century New York: Oxford University Press; 2008. p. 15-36.

Wikler and Brock outline distinctive features of population-level bioethics, including: consideration of groups rather than individuals, inclusion of social determinants of health beyond health care, a scope extended in space (e.g. globally) and time (e.g. future generations), a transcendence of disciplinary borders, and a reliance on theories of *justice*. The authors propose a research agenda for population-level bioethics that considers the following areas: societal and individual responsibilities for health, health and human rights, priority setting, cost-effectiveness analysis, health measurement, health and economic development, vulnerable populations and emerging humanitarian situations, risks and the people who bear them, environmental equity, populations and genes, endangering civil liberties in the context of protecting health, global aging, implications for practice, research ethics and social justice, and health system reform.

Frameworks for Population Health Ethics

Callahan D, Jennings B. Ethics and public health: forging a strong relationship. *Am J Public Health* 2002;92(2):169-176.
Callahan & Jennings argue for increased integration of public health ethics into public health itself and bioethics. They identify four areas to which ethical issues may relate: health promotion and disease prevention, risk reduction, epidemiological and other research, and structural and socioeconomic disparities. Given the diversity of these issues, no one type of ethical analysis will be appropriate for all of them. Thus, Callahan & Jennings provide a framework of four types of ethical analysis that may be relevant to ethical issues in public health: (1) *professional ethics* – focuses on the values and standards of professions and the trust in and legitimacy of those professions; (2) *applied ethics* – seeks to devise general principles that can be applied to real-world cases; (3) *advocacy ethics* – advocates for social goals deemed valuable by public health professionals; (4) *critical ethics* – focuses on real-life situations while contextualizing within social values and historical trends.

Childress JF, Faden RR, Gaare RD, Gostin LO, Kahn J, Bonnie RJ, et al. Public health ethics: mapping the terrain. *J Law Med Ethics* 2002;30(2):170-178.
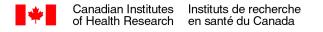In this article, Childress et al. provide a conceptual map of the terrain of public health ethics. They highlight the general moral considerations of justice, autonomy and liberty, and privacy and confidentiality as particularly noteworthy to public health. Conflicts between moral considerations may occur when their scopes overlap. The weight given to a particular moral consideration will help determine which moral consideration yields in cases of conflict. Childress et al. describe a set of five "justificatory conditions" to help address situations in which the goals of public health conflict with other moral commitments: *effectiveness*, *proportionality*, *necessity*, *least infringement*, and *public justification*. Childress et al. also highlight the contributions of theories on paternalism, social justice, and human rights to ethical issues in public health.

Giacomini M, Kenny N, DeJean D. Ethics frameworks in Canadian health policies: foundation, scaffolding, or window dressing? *Health Policy* 2009;89(1):58-71.
Giacomini et al. review health policy documents in Canada with the aim of investigating their use of ethical frameworks and the nature and quality of these frameworks. They find that no two ethical frameworks are identical, and that the frameworks employ a wide range of principles, values, and goals, which are often vague or unexplained. In order to improve the quality and clarity of ethical frameworks, the authors argue that they must clearly explain *where the framework comes from* (authors, theoretical foundation, evidence base), *what the framework is intended to be used for*, and what *the implications of following the framework* are. In addition, they emphasize the importance of coherence in an ethical framework. That is, principles should be consistent with values and meaningful ethical theory, and the framework should be relevant to policy action.

Gostin LO. Public health, ethics, and human rights: a tribute to the late Jonathan Mann. *J Law Med Ethics* 2001;29(2):121-130.
In this article, Gostin presents a framework of three perspectives on public health ethics. First, *ethics of public health* are concerned with professional ethics and the trust that society bestows

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on professionals to act for the common good. Second, *ethics in public health* are case-oriented, and are concerned with the ethical dimensions of the public health enterprise, the moral standing of the population's health, trade-offs between collective goods and individuals interests, and social justice. Finally, *ethics for public health* is a form of advocacy ethics. The public health system views a healthy community as an overriding value, and advocates for the social goals of healthy populations and reduced inequalities.

Gruskin S, Daniels N. Justice and human rights: priority setting and fair deliberative process. *Am J Public Health* 2008;98(9):1573-1577.
Gruskin and Daniels argue that priority setting in health often relies on approaches based in human rights or distributive justice, but that neither of these alone is sufficient. Instead, they suggest a combined approach: *accountability for reasonableness*. This approach is developed as a form of *procedural justice*; thus, it focuses on fair process rather than distribution of resources or rights. Accountability for reasonableness rests on the notion that 'fair-minded' people with interest in seeking mutually justifiable terms of cooperation should be able to agree on the reasons underlying the priorities they believe are necessary to meet health needs fairly. The authors suggest four conditions to further clarify this approach: (1) *publicity condition*; (2) *relevance condition*; (3) *revision and appeals condition*; (4) *regulative condition*.

Kenny NP, Melnychuk RM, Asada Y. The promise of public health: ethical reflections. *Can J Public Health* 2006;97(5):402-404.
Kenny et al. argue that ethics is often neglected in public health in Canada. Public health ethics, however, is inherently different from clinical ethics and research ethics. The authors argue that a guiding framework for public health ethics should focus on issues related to three sets of values: (1) *terminal values* – the goals of policy and action; (2) *procedural values* – the appropriate and fair process for the development, implementation, and evaluation of policies; (3) *substantive values* – the criteria (values and principles) on which a policy or decision is made. Importantly, a framework must include guidance on how to reconcile competing values. The framework should also take into account ethical issues related to the specific core functions of public health: health protection, health surveillance, disease and injury prevention, population health assessment, health promotion, and disaster response.

Nuffield Council on Bioethics. Public health: ethical issues. London: Nuffield Council on Bioethics; 2007.
In this report, the Nuffield Council on Bioethics discusses ethical issues relevant to public health and presents an ethical framework to assist in considering these issues. This framework, '*the stewardship model*', is intended to address what the Council considers to be the central issue in public health: when, and to what extent, is it acceptable for the state to intervene to improve population health? The stewardship model outlines goals of public health programs (e.g. reduce the risks of ill health that people might impose on each other, reduce health inequalities) and constraints (e.g. not attempt to coerce adults to lead healthy lives). This framework is grounded in a basic liberal framework for public health policy and John Stuart Mill's *harm principle* (see above).

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Thomas JC, Sage M, Dillenberg J, Guillory VJ. A code of ethics for public health. *Am J Public Health* 2002;92(7):1057-1059.

This article presents a code of ethics for public health adopted by the American Public Health Association. The need for a framework for public health ethics distinct from medical ethics is justified on two grounds. First, the primary concern of public health is populations rather than individuals. Second, public health emphasizes prevention over cure. The code consists of 12 principles for ethical practice in public health. These principles draw on a number of ethical concepts, including *human rights*, *communitarianism*, *distributive justice*, *duty*, and the principle of *interdependence*. The target audience for this framework is those in traditional public health institutions (e.g. public health units, schools of public health) within the American public health system.

Upshur RE. Principles for the justification of public health intervention. *Can J Public Health* 2002;93(2):101-103.

In this article, Upshur presents a principle-based framework to guide consideration of when public health action is justified. Such a framework is necessary, Upshur argues, because models from clinical ethics may not be suitable for public health due to differences in the context, mandate, and range of activities. The proposed framework consists of four principles: (1) *harm principle* – preventing harm to others is the only legitimate reason for exerting power over individuals against their will; (2) *least restrictive or coercive means* – action should begin with the least coercive means and progress to more coercive measures only when these other methods have failed; (3) *reciprocity principle* – society must assist individuals and communities in carrying out their duties; (4) *transparency principle* – decision-making should involve a clear, transparent, and accountable process.

Wilson J. Towards a normative framework for public health ethics and policy. *Public Health Ethics* 2009;2(2):184-194.

Wilson argues that there is currently no satisfactory normative framework for addressing the ethical issues encountered when developing public health policies. He suggests the challenge lies in three elements of public health that make it difficult to theorize. First, that public health policy involves *complex systems* in which the distribution of health interacts with the distribution of other goods. Second, that there is a lack of clarity regarding the *goals* of public health (e.g. maximizing population health or focusing on inequalities). Third, that further theorizing is needed on the *relative importance of health* as compared to other goods. He argues that, in light of these complexities and their differences, public health should not focus on one guiding approach. Rather, top-down approaches at higher levels of abstraction should be guided by pluralist accounts of *justice*. Bottom-up issues more closely linked to practice require contextualized decisions regarding how to act in a given situation.

Selected Cases in Population Health Ethics

Carrel M, Rennie S. Demographic and health surveillance: longitudinal ethical considerations. *Bull World Health Organ* **2008;86(8):612-616.**
This article discusses ethical issues regarding the use of demographic and health surveillance systems in developing countries. The authors argue that the responsibility for ethical oversight of such systems is often unclear because they inhabit an area between research, treatment, and population health monitoring. Such systems, however, raise ethical issues related to the principles of *beneficence* (health care provision), *respect for persons* (informed consent), and *justice* (study sustainability). These ethical issues need to be considered in the context of the long-term use of demographic and health surveillance systems. The authors conclude that the benefits provided by longitudinal surveillance should not exempt such systems from careful consideration of potential ethical implications and impacts on individuals.

Gitau-Mburu D. Should public health be exempt from ethical regulations? Intricacies of research versus activity. *East Afr J Public Health* **2008;5(3):160-162.**
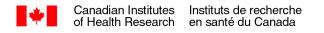Gitau-Mburu considers the issue of which public health activities should be subject to ethical regulation and which should be exempt. This work is framed in the context of criticisms from some that ethical regulations can be obstructive and cause unnecessary delays to public health practice. From a literature review of ethical regulations in public health, the author finds that there are no consistent ethical regulations in public health and that ethical regulation is often required only for those activities that qualify as research. Many public health activities, however, do not or only partially fit the definition of research. Gitau-Mburu concludes by emphasizing the dangers of not considering the ethical implications of all public health activities, particularly as interpretations of whether they constitute research or not may vary.

Lee SS. Pharmacogenomics and the challenge of health disparities. *Public Health Genomics* **2009;12(3):170-179.**
In this article, Lee examines the contribution of pharmacogenomics and population genetics to the creation of an 'infrastructure of racialization'. Lee argues that the use of race as a proxy for genetic variation in research converges with the use of race as a risk factor in clinical decision-making to impact social understandings of racial differences. These practices oversimplify the contribution of genetics to health and risk undermining public health's goal of increasing equity between racially identified groups. Lee urges political leadership and institutional guidance to encourage research that looks beyond race to underlying factors that contribute to health disparities between groups.

Mackenbach JP. Public health ethics in times of global environmental change: time to look beyond human interests. *Scand J Public Health* **2007;35(1):1-3.**
In this article, Mackenbach criticizes public health ethics for its foundation in anthropocentric value systems that neglect the impact of the size and health of the population on the environment. Developing an environmentally conscious value system is increasingly relevant in light of global environmental phenomena, such as climate change and freshwater depletion. A potential alternative value system is '*deep ecology*'. This philosophy holds that humans and all other life forms are interconnected, and that none of these beings can be ranked according to relative value. Mackenbach recognizes the potential radical nature of deep ecology and suggests,

as a starting point, a redefinition of public health ethics in environmentally friendly terms. For instance, *utilitarian* aims could be reframed as ''sufficient health – equitably distributed – for the maximum number of people that can be sustained over time under these conditions, without risking the extinction of other living species''.

Nixon SA. Critical public health ethics and Canada's role in global health. *Can J Public Health* 2006;97(1):32-34.
This article develops a *critical public health ethics* lens and applies this lens to the issue of Canada's role in global health. Critical public health ethics looks at concrete issues in the context of larger social values and historical trends. It emphasizes global health equity, and considers broad institutional arrangements and social power structures. Applied to global health, such a lens encourages public health professionals to refocus questions and conceive of alternative answers. For example, critical public health ethics questions the assumption that there are insufficient resources to simultaneously undertake all essential global health efforts. It also views poverty in developing countries as intricately linked to the richness of industrialized countries. Thus, critical public health ethics emphasizes a return of public health to its roots in *social justice* and advocates for a recognition of the obligation to work for global health *equity*.

Thompson AK, Faith K, Gibson JL, Upshur RE. Pandemic influenza preparedness: an ethical framework to guide decision-making. *BMC Med Ethics* 2006;7:E12.
Thompson et al. present an ethical framework for pandemic influenza planning. The purpose of this framework is to provide guidance to decision-makers regarding an ethical process of decision-making and ethical values that can be applied to the consideration of substantive issues. Five values for an ethical decision-making process are identified: *accountability*, *inclusiveness*, *openness & transparency*, *reasonableness*, and *responsiveness*. In addition, 10 values to guide decision-making itself are presented: *duty to provide care*, *equity*, *individual liberty*, *privacy*, *proportionality*, *protection of the public from harm*, *reciprocity*, *solidarity*, *stewardship*, and *trust*. Importantly, the authors emphasize that this framework was influenced heavily by a particular context (the Toronto SARS experience). Thus, they urge critical reflection and re-evaluation to ensure that it is appropriate for other health crises in different contexts.