Introduction

The *raison d'ĕtre* for this book is to draw attention to what we consider to be one of the largest and most important challenges facing humanity in the twenty-first century – to improve and promote global health. By global health we mean the health of all people globally within sustainable and healthy living (local and global) conditions. In order to achieve this ambitious goal we need to understand, among other things, the value systems, modes of reasoning, and power structures that have driven and shaped the world over the past century. We also need to appreciate the unsustainability of many of our current consumption patterns before we can address threats to the health and lives of current and future generations.

The world and how we live in it have been changing dramatically over many centuries, but in the past fifty years change has been more rapid and profound than ever in the past. Many positive changes have been associated with impressive economic growth, advances in science and medicine and in social policies regarding access to health promotion. These include more equitable access to primary care, greater focus on a primary health-care approach, expansion of social programs to improve living conditions and a welcome increasing emphasis on the rights of all individuals to be equally respected.

Sadly, emphasis on the exaggerated expectations of the most privileged people has resulted in neglect of a large proportion of the world's population with consequent widening disparities in wealth and health. In addition many of the world's health-care "systems" have become *distorted*, *dysfunctional*, and *unsustainable*. By *distorted* we mean that health-care services are not designed to meet the range of demands posed by local burdens of disease equitably. They are *dysfunctional* because they are driven more by adverse market forces and the requirements of bureaucracy, than by emphasis on serving patients optimally and sustaining the professionalism required of health-care workers in the care of patients and the training of new generations of professionals. Finally, marginal benefits for a few are often prioritized while other cost-effective activities of potentially great benefit to many more people are ignored. Within limited resource environments, such strategies that contribute to costs of health care rising disproportionately are likely to prove *unsustainable*.

Disparities in health and in access to health care thus continue to widen globally. Such disparities, combined with population growth, unsustainable consumption patterns, the emergence of many new infectious diseases (and multi-drug resistance), escalating ecological degradation, numerous local and regional wars, a stockpile of nuclear weapons, massive dislocations of people and new terrorist threats (to list just a few relevant factors) have severe implications for individuals' and populations' health. Deeper understanding of the challenges we face and of the feasible changes that could be made to address these, are necessary first steps towards expressing better commitment to genuine respect for the dignity of all people (and, indeed, showing respect for everyone's dignity is an ideal our international agreements increasingly claim to embrace).

Adequate understanding of ethical issues concerning health requires that we extend our focus from the micro-level of individual health and the ethics of interpersonal relationships to include ethical considerations regarding public and population health, and justice concerns more generally. The domain of global health ethics provides a context within which the many relevant disciplines that have valuable insights to offer can usefully engage, and through that engagement promote better understanding of the extensive changes that are needed. Furthermore, developing a global state of mind about the world, and our place in it, is arguably

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relevant to making many of the necessary, progressive changes.

After noting the poor state of global health, there are three main issues covered by almost all contributing authors. They direct our attention to ways in which we exacerbate poor global health, what we should do to remedy the factors identified, and offer reasons why we ought to do something about the highlighted problems, thereby connecting global health issues more strongly with the domain of justice. Many of the chapters in this volume provide constructive suggestions about how national and global policy and institutional changes could function differently to make significant improvements. Together they contribute to a deeper understanding of the challenges we face in trying to improve global health and provide much practical and theoretical guidance, which builds a case for our ability to make a real difference if we so choose.

In what follows we give a brief synopsis of the chapters. A note about structure might be important here. Because almost all the authors cover the issue of responsibilities and global health, it has been difficult to impose a rigid structure on these chapters and the subsections of the book. Like the subject matter under investigation, several issues are intimately linked.

Global health, definitions and descriptions

Solomon Benatar and Ross Upshur pose many questions about the term "global health" and what it means to different people. They analyze various conceptions of, and perspectives on, global health, and show how these can influence the focus of action for improvements. They also draw particular attention to two human-created problems (drug-resistant tuberculosis and poor water management in the Aral Sea area) to show how the broad causal chain of health and disease goes beyond environmental and natural disasters to include avoidable problems directly attributable to acts of human omission or commission. So, while in the 1960s and 1970s we had the tools and resources vastly to reduce the global burden of mortality and morbidity from tuberculosis, we failed to do so and now face a future in which tuberculosis may become an untreatable disease in poor countries where the major burden of this disease is concentrated. The Aral Sea disaster provides an example at the micro-level of the irrevocable damage we may do to our global water supplies if lessons are not learned in good time about the adverse effects of focusing on short-term economic gains.

Probably the most striking feature about the state of global health is that it is characterized by such radical inequalities. Here is just a sample of the more widely noticed and documented kinds. Life expectancy at birth varies enormously: from around 40 years in Sierra Leone or Afghanistan to twice that at more than 80 years for those lucky enough to be born in Japan or Australia. Similarly, there is huge variation in maternal mortality. A Canadian woman's lifetime risk of dying from childbirth or pregnancy complications is 1 in 11 000, whereas for a woman in the Niger it is 1 in 7. Whereas malaria is almost entirely absent in high-income countries, it kills around a million people each year elsewhere.

As Ronald Labonté and Ted Schrecker observe, a largely accurate explanation for these types of differences involves potentially avoidable poverty and material deprivation. However, these authors remind us that we should resist the inference that policies that promote economic growth are therefore the best way to achieve good population health. There is a threshold level, at about $5000 (US), beyond which the relationship between life expectancy at birth and per capita incomes breaks down. In addition we see many countries with very good life expectancies at birth despite quite low per capita incomes. For example in Costa Rica, with per capita income of about $10 500 per year, life expectancy is 79, notably more than the 78 years those who reside in the USA can expect to live, where per capita income is greater than $45 000.[1] Other social changes besides economic growth can have significant consequences for health. For example, improved female literacy and commitment to health as a social goal in Kerala (in India) have resulted in low infant and maternal mortality despite very low income (per capita income of about $3000). Another example is how increased urbanization and globalization have allowed the consolidation of power over food systems, which can lead to detrimental consumption patterns. (Consider, for instance, how Mexicans now consume 50% more Coca-Cola products per person than those who reside in the USA.)

[1] However, it should not be forgotten that economic growth remains important in countries with very low per capita incomes (for example, below $2000–3000), and that the extent of income disparities within countries is also important.

Some gains in the state of world health have been achieved through improved vaccination coverage and access to affordable antiretroviral therapies, but much work remains to amplify these meager gains. Providing extra resources for health care is at least part of what is needed. Jeffrey Sachs has calculated that a tax of 1 cent in every $10 earned by the wealthiest 1 billion in the world could provide the $35 billion required per year to give the poorest 1 billion people a $50 annual per capita health-care package.[2] Labonté and Shrecker conclude: "the fact that resource scarcities condemn millions every year to premature and avoidable deaths, and millions more to shorter and less healthy lives than most readers of this volume take for granted, must be understood as policy-generated, resulting from choices that could have been made differently and institutions that can function differently" (Chapter 2).

The distribution of power and of social, political, and economic resources is crucial in influencing and explaining population health. In her chapter, Anne-Emanuelle Birn analyzes the societal determinants of health: factors that shape health at various levels including household, community, national, and global levels. Living conditions both at the household and community level can cause numerous ailments including respiratory, gastrointestinal, or metabolic diseases. Availability of potable water and adequate sanitation are key factors. Though water is essential for life, more than a billion people (one-sixth of the world's population) have an inadequate supply. The facts about access to adequate sanitation are even more striking – almost half the world's population has inadequate access to basic sanitation facilities, which can result in soil contamination and increased rates of communicable diseases. The impact of other factors analyzed include: nutrition and food security (over 50% of child deaths are attributable to poor nutrition), housing conditions, public health and health-care services, and transportation. Social policies and government regulation (or lack thereof) can also affect health in dramatic ways through, for example, the domains of education, taxation, labor, and environmental regulations. Patterns of unequal resource distribution and political power play a fundamental role in the societal determinants of health. To address radical health inequalities effectively means that we cannot ignore these other more basic factors.

Is all health inequality morally troublesome? We might tend to think it must be, but on reflection we see that matters are not straightforward here. Lesley Doyal and Sarah Payne explore some inequality and difference related to social gender and biological sex. They outline some important differences between male and female patterns of health and illness and offer various conceptual tools we need to understand the implications of these patterns, which patterns are objectionable, and what we should do about them.

Martin McKee presents an account of how health, well structured and integrated health-care systems, and economic growth can all co-exist and be mutually supporting. Health care, when appropriately delivered, can yield substantial gains in population health, which further reduces the demand for health care. Better population health can result in faster economic growth, through enhanced productivity. The additional economic growth can increase resources available for health care, and further investment in health care can also contribute to economic growth. None of this necessarily follows, however. Concerted action by governments is needed to ensure these relationships are mutually supportive and beneficial.

Global health ethics, responsibilities, and justice: some central issues

Angus Dawson and David Hunter explore the question of whether there is a need for global health ethics. They begin by examining different ways of understanding the term "global health ethics," and proceed to examine arguments that could be used either to support or rebut more substantive accounts of global health ethics, including those based on beneficence, justice and harm, and more cosmopolitan accounts. Some of the arguments they explore, that are used to resist more substantive global health ethics, include ones concerning the moral relevance of distance, property rights, and duties to prioritize the interests of compatriots. They argue that we need not take a stand on any of these arguments to make a convincing case for various global obligations we have with respect to health. Sometimes a case for global responsibilities pertaining to health can be marshalled via more self-interested concerns, such as with infectious diseases, or with the public goods nature of many global health issues (again, as is the case with infectious diseases).

[2] Jeffrey Sachs during a video conference presentation at the Canadian Conference on International Health. Ottawa, October 2009.

Indeed, infectious diseases are one of the most important areas for global concern. Historically, these have caused more morbidity and mortality than any other cause, including wars. Tuberculosis alone has killed a billion people during the last two centuries. But, as Michael Selgelid argues, infectious diseases do not affect us all equally. These primarily affect the poor and marginalized who are more likely to live in the kinds of crowded and poor conditions conducive to spreading infectious diseases, lack adequate hygiene provisions necessary to prevent or treat diseases, or lack access to adequate health care should they become infected, and are malnourished which also weakens immune systems. Infectious diseases therefore cause more morbidity and mortality in developing countries. However, since epidemics in one country can easily spread to others (and become more virulent and harder to treat in the process), rich countries have good self-interested reasons to be concerned about health-care improvement and poverty reduction in developing countries, in order to protect their own populations adequately. Michael Selgelid argues that wealthy developed countries also have ethical reasons to fund poverty and disease reduction in poor developing countries in virtue of other normative commitments, such as to equality, equality of opportunity, reducing injustices, or to promoting well-being.

International health inequalities are very often rightly disturbing, such as those concerning the differences in child mortality before age five or mothers' death rates during labor. Is it fair that there should be such clear losers in the "natural lottery," constituted by where one happens to have been born? Should such an arbitrary fact about one get to determine one's life prospects in such radical ways? Norman Daniels argues that "health inequalities between social groups are unjust or unfair when they result from an unjust distribution of the socially controllable factors that affect population health and its distribution" (Chapter 8). The sources of international health inequalities are explored more systematically and divided into three categories: some result from domestic injustice in the distribution of socially controllable factors (such as inequities experienced by different races); some result from international inequalities in factors not directly concerned with health such as natural conditions; while others result from international practices that harm health more directly, such as through our failure to build worker health and safety protections into our trade agreements. Since many of the causal factors are socially controllable, it is in our power to remedy these.

Jonathan Wolff makes a case for the strategic value of a human rights approach in contributing to positive global health outcomes. Whatever concerns one might have about the philosophical or theoretical grounds for the approach, it does have an important advantage, namely that in many cases because human rights are objects of actual international agreements, there are some powerful mechanisms of enforcement available for protecting health in certain cases. Illustrating the approach with reference to case law, he shows how and when the approach might prove especially effective. Several other authors discuss the issue of human rights and health – its pitfalls and possibilities. Some are more skeptical about its current usefulness and draw attention to the fact that failure to meet human rights on a grand scale is predominantly the outcome of defects in global legal and economic structural arrangements (see Chapter 19 by Stephen Gill and Isabella Bakker).

The idea of who is responsible for doing what with respect to global health is a key issue and one touched upon by most of the contributors to this volume. Allen Buchanan and Matthew DeCamp offer some useful guidelines in translating our shared obligation to "do something" to improve global health into a more determinate set of obligations. They argue that states in particular have more extensive and specific responsibilities than is typically assumed to be the case, as they are the current primary agents of distributive justice, influential actors in the burden of disease, and indeed have the greatest impact on the health of individuals in our world. But non-state actors (such as the World Trade Organization and global corporations) have important responsibilities as well, which are discussed. Furthermore, institutional innovation is needed to distribute responsibilities more fairly and comprehensively, and to ensure accountability. Some of the determinate obligations they identify for states include avoidance of committing injustice that has health-harming effects, for example not fighting unjust wars abroad or assisting in training military personnel of states likely to use force unjustly. In supporting unjust governments and upholding the state system, we contribute to upholding unjust regimes that have health-harming effects. Simply refraining from such activities could do much to improve global health. As one example they point out that between 2000 and 2006 3.9 million people died in the Congo from war and that every violent death in that war zone was accompanied

by no fewer than 62 "non-violent" deaths in the region, from starvation, disease, and associated events.

Solomon Benatar, Abdallah Daar and Peter Singer argue that improving health globally requires an expanded ethical mindset which appreciates that health, economic opportunities, development, peace, and good governance are all linked in our interdependent world. They suggest that such understanding, combined with a set of values that meaningfully respects the dignity of all people, could promote their flourishing more broadly construed than merely in economic terms. Five transformative approaches are outlined: (1) developing a global state of mind about the world and our place in it; (2) promoting long-term (rather than short-term) self-interest; (3) striking a balance between optimism and pessimism about globalization and solidarity; (4) strengthening capacity and commitment to broadening the discourse on ethics through global alliances; and (5) enhancing production and widespread access to public goods for global health. They argue that an expanded moral discourse that goes beyond the notions of individual freedoms and rights to include discourses that promote the idea of economic growth associated with fairer distribution, should comprise the agenda for ambitious multidisciplinary research and action.

Analyzing some reasons for poor health

In Chapter 12 Meri Koivusalo traces the many ways in which trade can and does affect health and vice versa. It is clear that robust interests in trade can undermine health-related priorities and practice. For instance, trade liberalization policies in agricultural products can affect price, availability, and access to basic food commodities that result in less healthy diets for local populations, and related issues of food security. Furthermore, trade liberalization has made available more hazardous substances such as tobacco and alcohol, leading to unhealthy consumption patterns. Poor, developing countries may be more vulnerable to adverse effects of trade liberalization than wealthier ones. We need improved global governance concerning health and trade, which better acknowledges and tackles the wide-ranging effects of trade on health. The call for better global governance in a variety of domains is one that is made by many other authors.

Jeff Rudin and David Sanders explore the origins and factors that perpetuate crippling debt poor countries owe to the wealthy, focusing especially on structural adjustment programs. They also explore the connection between debt and health and note that the magnitude of the debt owed by poor countries is frequently unpayable, especially in the case of Africa (the poorest continent) and not least because of the ongoing extraction of resources from such countries that intensifies their poverty and reduces their ability to repay debt.

The link between international arms trading and global health is easy to appreciate. In his contribution to this volume, Salahaddin Mahmudi-Azer outlines the socio-economic impact of the global arms trade, with special attention to its undesirable effects on human health and the environment. These adverse impacts include death, injury, and maiming from weapons-use in conflict. There are massive opportunity costs to health, economic development, and human well-being when there is large-scale diversion of resources from health and human services into weapons expenditure. The impact of conflict can be far-reaching and includes important effects on children, such as psychological damage, loss of educational opportunities, destruction of families and nurturing environments, abuse, and the conscription of child soldiers. With trade in weapons growing fast and currently constituting "the largest economy in the world" the effects on human health and well-being are worrisome. He outlines some of the measures currently underway to limit the global arms trade and further measures that could be undertaken, including the role governments and bioethicists might usefully play.

The indirect effects of war on health are often unappreciated, and protracted health crises are often a festering feature of war-torn countries. Samia Hurst, Nathalie Mezger, and Alex Mauron describe the ethical challenges that face such organizations as Médecins Sans Frontières with humanitarian agendas that are driven by a rights-based view of international health. They illustrate how the challenges extend beyond meeting emergency needs to dealing with more protracted crises, and the implications these have for "propping up repressive and irresponsible governments" (Chapter 15). They focus on how resources could be fairly allocated when it is not possible to meet all needs, and they offer a variant of the Daniels and Sabin account of procedural fairness as a plausible option.

The high media profile of humanitarian crises in recent years has attracted resources from wealthy countries. While some of these resources are new,

others represent shifts in allocations within only minimally increased Official Development Aid (ODA) budgets. Indeed there have been significant shifts away from projects that may contribute to structural developments with the potential to advance the economies of poor countries, towards humanitarian emergencies and specific health problems – for example HIV/AIDS. Whether or not such aid is effective has been a topic of great controversy in recent years. Overlapping and contesting views have been offered.[3] While it is clear that some impressive short-term gains have been achieved in focused areas (such as HIV/AIDS) it is generally agreed that for a variety of reasons little real development of infrastructure or of economies has resulted from ODA. Anthony Zwi reviews some controversial aspects of ODA, such as trends in the magnitude of such aid, the intentions that lie behind it, possible shortcomings (in particular as ODA relates to global health) and some emerging issues that require attention. He does so by considering the "seven deadly sins" associated with ODA described by Nancy Birdsall. These constitute impatience with institution building, envy among competing donors, ignorance as evidenced by failure to evaluate impact, pride (failure to exit), sloth (using participation to justify ownership), greed (stingy transfers), and foolishness (under-funding of public goods). He focuses his discussion on how these sins impact on health, and concludes with some recommendations for new approaches.

Moving towards macro scale considerations, Sharon Friel, Colin Butler and Anthony McMichael argue that although anthropogenic climate change will affect all human beings, it will affect the poorest and most disadvantaged much more intensely. Their chapter outlines the various ways in which this is likely to come about, and the implications for policy. Some of the pathways that will lead to health inequities include the fact that extreme weather events are likely to increase, resulting in more general destruction, flooding, infectious disease, or food shortages, all of which affect those with fewer resources much more than the better-resourced. Rising sea levels, drought, water insecurity, and human relocation are other mechanisms through which it can be predicted that the more vulnerable will suffer disproportionate effects. Considering that developed countries emitted much of the greenhouse gas that caused the problem, they will have to take a lead role in solving it. Their inability (and perhaps unwillingness) to forge an agreement to reduce emissions fairly constitutes a major inequity. There is much developed countries can and should be doing here, such as assisting in the provision of affordable, clean household energy in developing countries.

David Benatar observes that concern with global health ethics is invariably limited to ethical issues that pertain to global *human* health, rather than a more expansive notion of global health that includes other species. He argues that this focus is unfortunate, and that we do have duties (whether direct or indirect) concerning non-human animals and the environment. He draws attention to the ways in which human and animal interests coincide and also the ways in which environmental degradation from our mass breeding and consumption of animal products threatens human health. While there is widespread awareness of how destruction of the environment can affect human well-being and health (through processes such as global warming, ozone depletion, and desertification), there is much less awareness of how connected animal and human interests are. Many infectious viral diseases have animal origins, including some of the most recent high-profile ones, such as SARS, HIV, and "swine influenza." Although some animal to human transmission of diseases is probably inevitable, much could be avoided through better treatment of animals, especially keeping them in less crowded, more sanitary conditions. Of course, if humans did not eat them in the first place, fewer animals would be bred for human consumption, and the risks would reduce.

Lying at the heart of many of these upstream causes of poor health is the way in which the global economy operates. Stephen Gill and Isabella Bakker describe three foundational political economy concepts (new constitutionalism, disciplinary neo-liberalism, and exploitative social reproduction) that correspond to some of the dominant historical structures of globalized capitalism. They also discuss three perspectives on capitalism and the current global economic crisis: pure neo-liberalism, compensatory neo-liberalism, and heterodox economics. They then argue that we currently face not only an economic or financial crisis but a more profound organic crisis which reflects the contradictions inherent in "market civilization" characterized as it is by individualistic, consumerist, privatized, and energy-intensive myopic lifestyles. Solving global health challenges will involve, in their view, addressing this more organic crisis. For instance,

[3] See, for instance, William Easterly (*The White Man's Burden* 2006), Paul Collier (*The Bottom Billion* 2007), Jeffrey Sachs (*The End of Poverty* 2005), and Dambisa Moyo (*Dead Aid* 2009) for some of this debate.

analyzing the global food crisis and resultant increased global malnutrition, we see multiple factors playing a part, including trends towards greater centralization of ownership and control in the agribusiness industry, and greater enclosure by corporations of food sources once held in common. Diversion of food resources, particularly grain, into biofuel production is of further significance. As with food markets, there is a similar shift to more market-based models in the provision of health care, where health becomes another commodity and there is continuing pressure to devolve the costs (and risks) of health financing, to individuals. They conclude with suggestions for reversing these trends and with the need to identify obstacles to realizing change – for example the tax system.

Shaping the future

As Thomas Pogge notes, about one-third of annual human deaths are traceable to poverty and these are easily preventable through such measures as safe drinking water, vaccines, antibiotics, better nutrition, or cheap rehydration packs. Is there an obligation to alleviate world poverty, and to prevent such deaths? Pogge argues that whatever the merits of the case that we should help more, there is much more clearly an obligation to harm less. How do we currently harm the poor? In multiple ways, he argues. One can challenge the legitimacy of our currently highly uneven global distributive patterns concerning income and wealth, which have emerged from a single historical process pervaded by injustices (such as slavery and colonialism). One might also criticize the dense web of institutional arrangements that we have created, and now fail to reform, which "foreseeably and avoidably" perpetuate poverty. Pogge has argued that the way in which we fail to reform these various institutional arrangements, which foreseeably and avoidably perpetuate massive global poverty, is morally culpable.

Notable among these arrangements are the international resource and borrowing privileges, referred to in several chapters in this volume, which allow whoever holds power to sell the country's resources legitimately (the international resource privilege) and borrow in the country's name (the international borrowing privilege), no matter how power was obtained. These privileges have disastrous effects for developing countries, especially in fostering corrupt and oppressive governments, as they incentivize the seizing of power through illegitimate means and enable the consolidation of that power by providing a steady stream of resources helpful in maintaining corrupt and repressive regimes.

But these are by no means the only institutional arrangements that perpetuate poverty. The list would also include upholding grossly unjust intellectual property regimes that require all members of the World Trade Organization to grant 20-year product patents which effectively make new medicines unaffordable for most of the world's population. Reforming these unjust "TRIPS" arrangements are the focus of Pogge's chapter.

Advocates of these arrangements often argue that such patents are necessary to compensate innovators for the large investments necessary to develop new drugs. While Pogge is well aware of the need for incentives and rewards to compensate for research and development investment into new drugs, he presents an alternative proposal which can overcome at least seven failings of the present pharmaceutical regime. These include: high prices, neglect of diseases concentrated among the poor unable to afford the high prices for drugs (such as malaria or tuberculosis), a bias towards developing maintenance rather than curative or preventative drugs, massive wastefulness in policing patent law, the illegal manufacture of counterfeit and often ineffectual drugs, excessive marketing, and inattention to ensuring patients are using the drugs in beneficial ways.

The structural reform idea that Pogge offers is for a "Health Impact Fund" (HIF). Financed mainly by governments, this proposed global agency would present pharmaceutical innovators with an alternative option to participate during its first 10 years in the HIF's "reward pool," thereby being entitled to a share of rewards equal to "its share of the assessed global health impact of all HIF-registered products" (Chapter 20). The innovators would have to make the drug widely and cheaply available wherever it was needed, indeed, would be incentivized to do so. Pogge, and an interdisciplinary team, develop the details of the fund, so that it presents a clear alternative to the current regime and one that is not guilty of the seven main failings identified above. Importantly, it provides significant rewards for the development of drugs that would address some of the most widespread global diseases concentrated among the poor, who currently do not have the purchasing power to command the attention of drug developers. Since Pogge has presented a feasible alternative to TRIPs agreements for rewarding drug innovators, our imposition of these regimes on the world's poor is

not only harmful but morally culpable, and our failure to reform current regimes is unjust.

Another high profile approach to improving global health is through the Grand Challenges supported by the Bill and Melinda Gates Foundation. These have a specific focus on technological solutions – for example vaccines for HIV and malaria, and new diagnostic technologies. While acknowledging that the role of advances in biotechnology may have been overplayed recently, to the neglect of other powerful determinants of health, Hassan Masum, Justin Chakma and Abdallah Daar credibly explore where and how advances in biotechnology might usefully assist in improving global health. They remind us that while many such advances take a very long time to improve the health of whole populations, the long-term potential of biotechnology should not be underestimated.

It is interesting to note that while massive attention has been directed to providing life-extending treatments to all with HIV/AIDS who need this, much less attention has been directed to the need to provide life-saving food for the millions of people who die from malnutrition. And indeed antiretroviral treatment works best in those who are well nourished.

Lynn McIntyre and Krista Rondeau address the issue of food security and argue for the important connection between food security and global health. They explore five challenges to food security, namely those presented by climate change, pockets of famine, population growth, agricultural production and sustainability, and dietary transition, especially as populations become more urbanized. They also discuss which interventions to address these challenges are likely to be most promising. Prominent among these strategies is the need for investment in agriculture, back to the levels previously common in the 1970s. Agricultural policies, research, and technology should aim to address productivity and poverty alleviation, to enhance capacity for food production. This broad strategy will have different implications for different economies. In middle-income countries this might translate into better integration into market chains while in low-income countries where more staple crops should be produced, the focus might be on more affordable inputs (such as seeds, fertilizer or credit) and improved access to technology.

In her chapter, Gillian Brock examines how reforming our international tax arrangements could be especially important in ensuring that everyone has the prospects for a decent life, which importantly includes enjoying access to decent health care. For every dollar of aid that goes to assist a developing country, approximately $6–7 (US) of corporate tax evasion flows out. She reviews some current widespread practices that facilitate massive tax escape, such as the use of tax havens, transfer pricing schemes (that allow goods to be traded at arbitrary prices in efforts to suggest large, untaxable losses are being incurred), or practices of non-disclosure of sales prices for resources (that greatly assist corrupt leaders in diverting revenue from developing countries for their own private use). Ensuring adequate revenue collection and tax compliance is important for development and democracy, in addition to ensuring developing countries can adequately fund essential goods such as health care. She also considers some proposals concerning global taxes that have a reasonable chance of success and, in some cases, have already been implemented. The "air-ticket tax," operated by the WHO, which collects revenue to address global health problems such as malaria, tuberculosis and AIDs, is one example.

Tikki Pang draws attention to multiple problems that pervade health research, such as the fact that agendas for health research are largely uncoordinated, fragmented, and heavily influenced by donor agencies. He argues for the need to change the global health research agenda. Properly coordinated and harmonized health research could play an essential role in alleviating the massive problems currently facing the developing world. We need new strategic thinking and he argues that key elements to a new health research agenda would involve inclusiveness in defining priorities, ensuring more equitable access to the benefits of research, and ensuring better accountability in research activities.

An issue that troubles many in developed countries concerned with global health ethics is the way in which clinical research is being increasingly "outsourced" to poor countries with vulnerable populations. Does the severe deprivation in these countries render such activities exploitative? Or, alternatively, by providing some benefits (albeit sometimes small ones) to these people, are we assisting them? Under what conditions is research in developing countries morally defensible? Alex London investigates this issue in his chapter. By outlining his Human Development Approach to international research he argues for a position in which basic social institutions can be expected to advance the interests of all community members. Moreover on this approach, there are obligations to ensure that the results of the research are translatable into sustainable benefits for

its population. This entails obligations either to build alliances with those able to translate the research into sustainable benefits or to "locate the research within a community with similar health priorities and more appropriate health infrastructure" (Chapter 25) Instructive examples of research that pass and fail the test are discussed.

Kearsley Stewart, Gerald Keusch and Arthur Kleinman note that debates shaping global health research, ethics and policy have developed along two tracks – one characterized by a neo-liberal approach and another that focuses on human rights, social justice and a broader, more inclusive model of the determinants of health. They argue that these two approaches are now converging around a focus on values. In their chapter they provide a synopsis of papers that emerged from a conference in which participants addressed such questions as: "What values are deeply embedded in the most important global health policies? How do we combine moral philosophy, applied (empirical) bioethics, economics and public health, and engage people in high income countries in work to improve the health of people in resource poor settings?" (Chapter 26) They argue that "an empirically based ethnographic approach may be the best way to effectively bridge local narratives of health with cosmopolitan global health values that shape macro-level policies." (Chapter 26) In support of this proposal they discuss the value of such an approach to resolving the problems that arose between local communities and global interventions in the WHO Global Polio Eradication Initiative in Nigeria.

Jonathan Glover examines the psychology of our attitudes to poverty and he explores some of the moral claims for why we should, but do not, more vigorously assist those in desperate need. In his examination of our tendency towards paralysis he examines the ideas of both physical and moral distance, and beliefs that the problem is insoluble or cannot be addressed by individuals. He rejects many common arguments used to rationalize not assisting, and reminds us of the power of collective action, for example the campaign for debt relief. In examining the moral claims of the poor on the rich he discusses humanitarianism, compensatory justice, and the moral scandal of extreme poverty. He concludes with an examination of how much is required of us and with a recommendation for a sustainable balance between the extremes of limiting our moral obligations to those closest to us and excessive focus on unachievable moral maximums.

Jim Dwyer engagingly reflects on his experiences of teaching global health ethics. He reviews some of the content of his syllabus, the students' reactions to it, and his own reflections on these experiences. In a particularly useful section he explores a notion of responsiveness to global health injustices and offers guidelines for assisting students in thinking about morally appropriate responses to problems of global health.

In their second chapter, the final chapter in this volume, Bakker and Gill pose the challenge that new paradigms are needed to make the changes required for meaningful improvements in global health. They recommend at least three broad areas that need more attention. First, we should attend better to our interdependencies with each other and with nature. Second, we need to improve socialization of the risks experienced by the global majority. Indeed the public sector needs to be made more accountable to the needs of the public as a whole, and this should be connected to policies that also make private corporations more socially accountable and expects more of them in sharing the costs of the social goods and infrastructure from which many of their activities benefit. Third, we need to develop a new idea of "common sense" by nurturing progressive values. Some of the more particular ideas they consider include a call for new measures "to provide adequate financing to rebuild and extend the social commons with these resting upon a more equitable and broad-based tax system where capital and ecologically unsustainable resource consumption are taxed more than labor" (Chapter 29). The need for new media, more responsive to the diversity of public opinions, is also highlighted as is the need for more critical reflection on orthodox economic thinking.

To improve people's health globally and pursue the goals described in this book will require a considerable amount of collaborative multidisciplinary research and pervasive community engagement at many levels. It is arguable that this challenge is as great as, if not greater than developing an HIV vaccine. If equivalent research resources and intellectual attention were to be allocated to such research, significant progress is entirely possible. While we have considerable intellectual and material resources to improve global health, there is little reason to expect that major new initiatives, such as those envisaged

in this text will be implemented without a great deal of effort in mobilizing the political will to do so.[4] However, like Jonathan Glover and others, we retain an element of hope that well-constructed arguments can, on occasion and in the right circumstances, play a significant role in influencing the future. To end on a more optimistic and inspiring note, as Nelson Mandela famously said: "It always seems impossible until it's done."[5]

[4] We note here that the topics covered in this volume are by no means fully inclusive of the numerous problems that undermine and aggravate conditions for overcoming global health challenges. For example we have not included chapters on such issues as child labor, use of children as soldiers, trade in sex and drugs, those cultural practices that have serious adverse health effects, pervasive corruption in business and in health care, and widespread Mafia-like organizations that increasingly influence (even control) the lives of many. All of these contribute to global injustices as well.

[5] Inaugural address, 1994.

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