

Nuffield Council on Bioethics Lecture 2011

**Broadening Bioethics:
Clinical Ethics, Public Health and Global Health**

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Medical ethics is the most discussed field of bioethics, and has been mainly concerned with clinical ethics. It has often marginalised ethical questions about public health. A focus on the treatment of individuals has highlighted patient choice and informed consent. It can be widened to discuss the just distribution of health care, but is useless for considering many other interventions and policies that matter for public health. Many public health interventions are non-distributable goods, so cannot be allocated to individuals or subjected to individual choice requirements. In marginalising public health, work in medical ethics also often marginalised questions about global health issues, where public health interventions matter hugely, and entrenched a deep separation of medical from environmental ethics.

Work that takes public and global health seriously needs to be anchored in political philosophy, to look beyond informed consent and individual choice, and to ask which interventions are permissible without the consent of those whom they may affect, and which are not. Public health encompasses more than health 'promotion' and 'nudges'—and these too require justification—and even clinical interventions that are directed to individuals presuppose standards, technologies, and structures that cannot be matters of choice.

1. From Narrower to Broader

Let me start by recalling the trajectory of bioethics across the last 30 years and more. Modern bioethics has had an intense focus on medical ethics, and specifically on the treatment of individual patients. It has aimed to reconceive relationships between patients and medical professionals, in particular doctors. This preoccupation with clinical ethics has unsurprisingly been mainly concerned with clinical ethics in rich societies. It had, at least until recently, less to say about the ethics of public health, or about the health problems of poorer societies, which suffer a high share of the global disease burden, or about connections between health and environment.

The delivery of health care in the rich world shifted from a one-to-one, direct and often long-term relationship between patient and doctor, where each party knew the other and could make reasonable judgements about the other, to one in which increasingly complex health care was provided in complex institutional settings, where patients face a phalanx of professionals, each with a fleeting presence in their lives, which undermined capacities to judge probity and competence, and so to place and refuse trust with discrimination. Medical research changed in parallel ways. It was less and less undertaken by individual doctors and increasingly done by research teams with many members, complex organisation and multiple sources of funding. These transformations were well described twenty years ago in David Rothman's *Strangers at the Bedside*¹ and have been analysed in many works, including recently Renée Fox and Judith Swazey's perceptive *Observing Bioethics*.² However, in some respects Rothman's arresting title underplayed the magnitude of the transformation: those who appeared (briefly) at bedsides (and others who never appeared) were no mere strangers: they had highly specialised knowledge and considerable power to provide or refuse interventions. A heightened imbalance in power and knowledge was seen as a source of risk to patients and research subjects, and one of the aims of modern bioethics was to limit this risk.

¹ *Strangers at the Bedside: A History of How Law and Bioethics Transformed Medical Decision Making*, by David J. Rothman 1991

² Renée Fox and Judith Swazey, *Observing Bioethics*, Clarendon 2008.

As is well known, writing on medical ethics addressed these issues in the main by arguing that traditional, supposedly paternalistic, relations between doctors and patients, and between researchers and research subjects, were defective, and should be replaced by more formal relationships and procedures to protect patients and research subjects. This was to be achieved in part by requiring the informed consent of patients or research subjects—now promoted to ‘research participants’!—to any treatment or research, and in part by regulating and restructuring health care systems and research governance to meet explicitly formulated ethical and other standards. These transformations were often seen as a matter of replacing relations of trust with procedures that ensured respect for what is conventionally called the autonomy of patients and research subjects. This transformation has taken place in various forms in most developed countries, and is now often seen as uncontroversial. Since I have addressed some of what I take to be the ethical, philosophical and practical shortcomings of these approaches in other work, I shall say little about them today.³ My focus will be on some questions that have been marginalised by measures taken to secure autonomy and to spread informed consent procedures through biomedicine.

However, I begin by noting that modern medical ethics has been radically individualistic. It focuses on the individual patient and his or her consent to medical treatment or research interventions; it has a lot to say about the rights, or supposed rights, of patients and research subjects. When it addresses questions of justice, it focuses almost entirely on goods that can be distributed to individuals, such as health care. A whole spectrum of work on issues ranging from assisted reproduction⁴ to genetic enhancement⁵ has also focused on the provision and just distribution of

³ Onora O'Neill, Autonomy and Trust in Bioethics, Cambridge 2002; Neil C. Manson and Onora O'Neill, Rethinking Informed Consent in Bioethics, Cambridge 2007.

⁴ For individualistic work on reproductive ethics see, Ronald Dworkin Life's Dominion, Harper Collins, London, 1983; John Harris, 'Rights and Reproductive Choice', in John Harris and Søren Holm, eds., The Future of Human Reproduction: Ethics, Choice and Regulation, Clarendon Press, Oxford, 1998, 5-37; John A. Robertson, Children of Choice: Freedom and the New Reproductive Technologies, Princeton University Press, Princeton NJ, 1994.

⁵ For individualistic work on genetic enhancement see Dan W. Brock, Allen Buchanan, Norman Daniels & Daniel Wikler, 2000, From Chance to Choice: Genetics and Justice, Cambridge University Press, Cambridge, 2000.

interventions to individuals, but has been less concerned with wider, let alone global, public health implications of these technologies.⁶

Recently a number of writers have taken somewhat broader views. For example, Norman Daniels, who focussed largely on health care in his 1985 work Just Health Care, and takes a broader approach to health and justice in his 2008 book Just Health.⁷ In this work he still mainly discusses “health care”, but takes it more broadly as including “both medical services and public health measures, since both are functionally aimed at individual and population health”.⁸ I am unsure whether this is a sufficient broadening of focus, but it takes us some way. It seems to me that a focus on clinical care, supplemented by a focus on those public health interventions that are “functionally aimed” both at individuals and at populations may still be too much concerned with distributable goods and their just allocation to individuals, and that this may still be too narrow a focus for a broader form of bioethics that can take the full range of questions about public health and global health seriously.

2. Targeted and Non Targeted Public Health Interventions

In recent years things have been improving, and in this the Nuffield Council's work has been trendsetting. A number of the Council's reports have taken questions about public health and global health issues head on. This largely reflects the focused remit of the Council which requires it “To identify and define ethical questions raised by recent advances in biological and medical research in order to respond to, and to anticipate, public concern.”⁹ Since many of the ethical questions raised by research are *not* about its implications for individuals or for distributing goods to individuals, and in particular are *not* about their implications for patients, the Council began with a broader focus has and this has proved valuable. Public health professionals also take a broader view, since they focus on types of action, policy or structure that affect

⁶ For wider, non-individualistic discussion of some of the implications of one reproductive technology see Prenatal Diagnosis, Special Issue: Fetal Sexing: Global Perspectives on Practices, Ethics and Policy. Ed. Theresa M. Marteau and Lyn Chitty Vol 27, 2006, 646-47

⁷ Norman Daniels, Just Health Care, Cambridge, 1985 and Just Health, Cambridge 2008. Daniels now views ‘health care’ as “including both medical services and public health measures, since both are functionally aimed at individual and population health”. I am unsure whether this is a sufficient broadening of focus.

⁸ Ibid 12.

⁹ For example the reports on GM, public health, biofuels.

population health. Although the aim of public health interventions is often geographically restricted, it is not intrinsically individualistic.

Some public health measures do not target interventions on identifiable individuals: here we cannot say with any certainty that specific public health activities, policies or structures have been instrumental in protecting or improving the health of particular individuals. For example, measures to improve air and water quality, food and product safety, or the design of housing, roads, transport and other products aim to protect or improve population health. So do measures that set standards for medical training or drug safety. We cannot sensibly talk about the level of benefit that any particular individual receives from these measures, although we may make statistical generalisations about the average health of persons in populations with and without these measures, and note significant differences. These public health measures are *not* targeted on particular individuals, and the benefit they produce is dispersed among a population. Here neither the intervention nor the benefit is targeted. We cannot tell who is benefited to what degree, or who would have fared just as well without a specific public health measure, or indeed who may have been harmed.

This case differs from that of public health measures that use individually targeted interventions, such as immunisation, where individuals who are immunised benefit, but others may benefit indirectly from increased herd immunity. Here it makes sense to speak both a level of benefit to an individual and of a level of benefit to the population. *The intervention is targeted, but benefit spreads beyond the target.*

Both non-targeted public health measures and targeted public health interventions generally have to be paid for by public funds. Where a public health measure is not targeted on any individual, although its benefits are to reach some or many members of the population, individuals may have no immediate interest in funding or accepting provision. Even where a public health measure is targeted on individuals, but benefits accrue more widely, some individuals may be tempted to free ride. In either case market failure would be likely if the intervention had to be paid for by individuals, and collective provision or legal enforcement are needed. This means that public health measures are often politically contentious—another reason why excessively individualistic approaches to bioethics are unlikely to address them effectively.

3. Global Public Goods?

Some work on global public health has argued that certain public health provisions are 'global public goods' and that they are in everybody's interest. If true, this would be politically important. Where everybody benefits, it should be easier to persuade everybody to contribute (although free rider problems remain). However, this seems to me too fast: some public health measures provide public goods, others do not.

Public goods in the strict sense are *non-rivalrous* or *non-excludable*, and often both.¹⁰ Goods are *non-rivalrous* if they are not depleted by use. For example, safe streets, a medical data base, or knowledge of how to manage a safe maternity service are all non-rivalrous goods. Nobody will have less of them if others too enjoy them. By contrast, the safe delivery of a baby is rivalrous (as well as excludable), in that a midwife or obstetrician who is delivering one baby will not be available at that time to deliver another. Goods are *non-excludable* if it is impossible to exclude others from enjoying them if they are provided, or at least impossible to do so cheaply, and their enjoyment by additional people has no or little additional cost. Systems for ensuring food safety or a stable currency or a high uptake of immunisations are examples of *non-excludable* goods; by contrast a plateful of safe food is an excludable (as well as rivalrous) good.

Some recent writing is optimistic about the possibility of identifying public goods that are highly relevant to health, including specifically *global public goods* of high relevance to health. If there is a significant range of global public goods (or even of regional public goods) that are highly relevant to health, providing them would be important for public health policy, and in particular for public health programmes that aim at global impact. *If* there are true global public goods that bear on health, providing them would be in the interest both of those able to contribute and for those who cannot.

¹⁰ I offer examples of goods that meet *both* criteria, but not of cases where they diverge: *common goods* are rivalrous but non excludable; *club goods* are excludable but in context non rivalrous; I am not sure how important either is for public health.

This line of thought was taken up by *United Nations Development Programme*, with the aim of building coalitions to support the provision of global public goods. Kofi Annan championed this approach claiming that “no country can achieve these global public goods on its own, and neither can the global marketplace. Efforts must now focus on the missing term of the equation: global public goods”.¹¹

In some cases this seems a plausible view of public health measures. For example, the eradication of small pox is a benefit to everyone, wherever they live. The disease was highly transmissible and serious: even when controlled in some countries and regions, it remained prevalent elsewhere and created risks that could be managed only by immunisation and travel restriction.¹² Another example of a global public good might be a programme of effective action to prevent and to treat a rapidly spreading and highly transmissible disease, which crosses boundaries. For example, had SARS proved as transmissible as was initially feared, then given its death rate and seriousness, there would have been a good case for international action, ranging from mandatory monitoring of those exposed to infection, to mandatory immunisation (if a vaccine had been developed), to restrictions on travel or quarantine.¹³ Should SARS or another serious infection mutate and become readily transmissible between humans, this situation might arise.

However, it is much less plausible to regard the eradication of the diseases of poverty as a global public good. Reducing the incidence of these diseases requires a reduction of poverty, which is a great good, but in large measure a distributable rather than a public good. High level characterisations of projects that aim to *eradicate* or *contain* serious transmissible diseases look to me like the best cases of global (or sometimes regional) public goods with high relevance to public health.

¹¹ Kofi Annan in Executive Summary of Inge Kaul, Isabelle Grunberg and Marc A. Stern Eds. *Global Public Goods: International Cooperation in the 21st Century* Oxford 1999.

¹² Similar things might be said about certain tropical diseases, which create risk for anyone entering certain regions without the necessary precautions, although here the claim is less strong because those who live far away need not enter those regions. The eradication of malaria or of yellow fever would benefit everyone, but the benefit is greater for those living where the disease is prevalent.

¹³ *Sars: A Case Study in Emerging Infections*, ed. Angela McLean, Robert May, John Pattison and Robin Weiss, Oxford, 2005

Yet, even here, not every aspect of action taken to eradicate or contain these diseases will be a public good, let alone a global public good. Programmes that target HIV/AIDS provide a good example. Richard D Smith and Landis MacKellar argued out that that even if the *aim* of containing the spread HIV/AIDS counts as a Global Public Good, many of the measures used to achieve containment do not. They point out that providing subsidized antiretroviral therapy (ART) to AIDS sufferers in low-income countries is *not* a public good:

ART is rivalrous (therapy made available to one person or nation cannot be made available to another) and excludable (persons can be barred from receiving it). By contrast, AIDS prevention, in the form of media campaigns, condom distribution, voluntary counselling and testing, reduction of sexually transmitted infections, and encouragement of male circumcision, is non-rival (if A remains HIV-negative as a result of a prevention program, his sex partners B and C are protected equally) and non-excludable (no one can prevent C from enjoying the same protection as B).¹⁴

This seems to me a sober correction of some of the more enthusiastic claims about the possibility of basing public health policies on arguments for the importance of global public goods. But there are grounds for being yet more sober. Some measures taken in HIV/AIDS prevention work, are genuine public goods, but many are not. In the abstract, public education about HIV/AIDS and safe sex, health promotion and nudges may look like public goods. But specific aspects of these prevention policies, while relatively cheap, will be targeted on some individuals and not on others, although the benefit may spread to others. Health is promoted by providing finite, distributable resources, whether leaflets or education, advertisements or nudges. These interventions may be cheap, but they are rivalrous and excludable, and are not public goods. Health promotion is a targeted intervention, aimed at some recipients and not at others.

Probably the *best* examples of genuine public goods are *systems* that have to be universally provided (stable currency, rules of the road) and *abstract entities* that in

¹⁴ *Global public goods and the global health agenda: problems, priorities and potential* Richard D Smith and Landis MacKellar in Globalization and Health 2007, 3:9

the nature of the case are non-depletable, non rivalrous and non excludable. Ideas, knowledge, standards and laws are genuine public goods, and some of them genuine global public goods (laws are non-global, since limited by jurisdiction). It needs a lot of effort to treat abstract entities as private goods. As we all know, intellectual property law successfully construes abstract entities such as texts or musical works, or inventions, as ownable, tradable items that are rivalrous and excludable. Here points of control have been defined that allow the exclusion of non owners from free access to abstract entities, typically by regulating their access to material copies or performances, or to activities and transactions by which ideas are shared, knowledge is transferred, or standards are promulgated. Although abstract entities are not rivalrous or excludable, this provides a way to make their use rivalrous and excludable.

However, the thought that abstract entities are genuine public goods—even genuine global public goods—has not been particularly helpful to those who hope to argue for public health policies. We live in an era in which persistent attempts are made to *extend* intellectual property regimes to ensure that uses of abstract entities are *not* treated as public goods, but as proprietary assets that may be controlled by their owners.

As you will all know, this is a shifting and contested frontier. On the one hand, proponents of extensive intellectual property regimes have become more militant. Patents are filed on smaller inventive steps; steps are taken to control manufacturing of generic drugs. Holders of copyright exert strict control of secondary rights, putting pressure on the traditional 'fair use' exemptions that allow individuals to copy limited amounts of material for private study, review, criticism and research. However, this more aggressive approach probably reflects the reality that major holders of intellectual property—e.g. pharmaceutical companies, publishers—are under great pressure. They are often fighting a rearguard commercial battle in a world of increasing open access publishing, plentiful piracy and rampant plagiarism, all of which weaken intellectual property rights and erode both their traditional role as the reward for originality and their current role as tradable corporate assets. It is not then surprising that various initiatives question current intellectual property regimes and seek to change them. Some of these initiatives are highly relevant to public and

global health they include the *Health Impact Fund*, which seeks an alternative to the patent regime for rewarding innovation in pharmaceuticals¹⁵ and the *Drugs for Neglected Diseases Initiative*.¹⁶

However these initiatives, interesting as they are, do not and I think cannot provide a general basis for thinking that *uses* of ideas, as opposed to the ideas themselves, are global public goods. Uses of ideas are not abstract entities and they are often targeted, rivalrous and excludable. Perhaps unsurprisingly, the definition of public goods used in the UNDP sponsored work *Global Public Goods: International Cooperation in the 21st Century* is much weaker than the economists' definition. The authors state that "Public goods are recognized as having benefits that cannot easily be confined to a single "buyer" (or set of "buyers")". This much weaker condition is met by many goods, including both non targeted public health measures and public health interventions that target individuals (where the *intervention* is rivalrous and excludable) but whose benefits are spread to other individuals (where the *benefits* are in part non rivalrous and non excludable). **Most public health interventions are goods with (beneficial) externalities, rather than genuine global public goods.** The political point of claiming that certain policies promote global public goods is clear enough: it is meant to suggest that proving these goods is no mere humanitarian task, but one in which all have an interest. A focus on goods with dispersed benefits is, I think, likely to be more fruitful for a broader bioethics than any search for global public goods, in the strict sense of that term.

4. Targeted Interventions with Dispersed Benefits.

So, while it is tempting to think that the problem of getting coordinated international action to deal with global health problems could be helped by identifying genuine global public goods, this is not likely to be enough. Much that is needed for public

¹⁵ Thomas Pogge: "Human Rights and Global Health: A Research Program," in Christian Barry and Thomas Pogge, eds.: *Global Institutions and Responsibilities, special issue of Metaphilosophy* 36/1-2 (January 2005). Aidan Hollis and Thomas Pogge, *The Health Impact Fund: Making New Medicines Accessible for All* (A Report of Incentives for Global Health at http://www.yale.edu/macmillan/igh/hif_book.pdf)

¹⁶http://www.dndi.org/cms/public_html/insidearticleListing.asp?CategoryId=87&ArticleId=187&TemplateId=1

health improvements—locally and globally—is the provision of non-targeted health measures or targeted health interventions that spread benefits beyond their targets, and it may not seem or be in everyone's interest to contribute to these. Both are unlike clinical treatment that is indeed targeted, and is provided for a particular patient, where the benefit is meant to be mainly to that patient. Non targeted measures clearly do not aim to benefit particular individuals; targeted interventions aim to benefit not only those targeted but others; indeed, they may not fail if they do not benefit the individual targeted. (For example, anti smoking advice might be targeted on A, who remains regrettably indifferent, but the message may reach B and C who stop smoking; HIV containment policies may influence some but not others in a targeted population, and yet can be highly effective, if the targeting disperses benefits.)

The importance of structuring public health measures and interventions with an eye to the distribution of their benefits beyond targeted individuals can be illustrated by contrasting the differential effects of a pragmatic HIV/AIDS prevention campaign, emphasizing safe sex and clean needles, such as that used in Australia, with the more moralistic approach taken by some US HIV/AIDS prevention policies, that aim individualistic interventions at lower risk individuals (encouraging teenage sexual abstinence; discouraging multiple-partner sex).¹⁷ Pragmatic responses that target those most at risk and spread benefits have worked better than policies that target those less at risk. Programmes such as PEPFAR (the President's Emergency Plan for AIDS Relief) under the Bush administration placed tight constraints on interventions targeting high risk groups such as commercial sex workers and injecting drug users, but proved relatively ineffective. Some commentators concluded bluntly that:

It is hard to consider PEPFAR as collective provision of a GPG when its prevention programs are designed to cater to a domestic political constituency.¹⁸

¹⁷ The contrasts have been discussed in the many publications and reports of the HIV/AIDS project of the Lowy Institute in Sydney. They conclude that countries that used pragmatic HIV containment policies [clean needles for substance abusers, working with sex workers, making condoms available] secured substantially better HIV outcomes than countries that promoted responses based on sexual abstinence, criminalisation of prostitution and zero tolerance for injecting drug use.

<http://www.lowyinstitute.org/HIVAIDSProject.asp>

¹⁸ Richard D Smith and Landis MacKellar *Global public goods and the global health agenda: problems, priorities and potential* Global Health. 2007

5. Targeting and Benefits

A focus on public health interventions that appeals to global public goods is therefore *at best* moderately helpful. The most relevant goods are often not public goods, *a fortiori*, not global public goods in the strict economists' sense of the term. They are a mixture of non-targeted goods that benefit many, and targeted goods with benefits that spread wider than their targets, just as the harms of some targeted malign activities (such as violent crime) spread harm beyond their targets. Both non-targeted and targeted public health activity raise distinctive ethical questions and it should, I believe, be part of the task of a broader bioethics to address these.

Non-targeted public health measures are not a minor aspect of public health ethics. They are presupposed by all but the most rudimentary clinical interventions. Modern clinical medicine needs many structures, facilities, technologies and standards which have to be provided at agreed levels. These provisions are not matters for choice, nor therefore for informed choice by individual patients. Individual patients may give or refuse consent to treatments, but cannot (for example) choose the level of training their doctors receive, the safety standards for licensing drugs, or the safety culture of hospitals. All of these systems and structures are debatable matters in other contexts, but for individual patients at the point of consenting to treatment, they are givens. Medical practice is not just a set of transactions between free-standing agents: it is framed by public health and other provisions that are not and cannot be matters for consent or choice by individual patients or by individual practitioners. This, it seems to me, gives us reason to think that public health ethics is more fundamental than clinical ethics.

Targeted public health interventions too must be judged not only by the extent to which they benefit their immediate targets, but also by the extent to which they confer benefit (or harm) more widely. For the individualistic bioethics that has been dominant for the last 30 years, this looks problematic. Is not using an individual in ways intended to benefit others exactly what we have been telling one another is unacceptable?

Yet we can see that clinical ethics too constantly faces situations in which interventions to benefit one affects others. In treating an individual patient, benefit is intended primarily for that patient, but everyone knows that others too will benefit. The patient's family, friends and carers will benefit if health improves. If the condition is transmissible, effective treatment may benefit others who might have contracted the condition. If it is a rare condition, successful treatment may benefit future patients by improving the knowledge base for treating them. In other cases, treatment for the benefit of a particular patient may harm others. Medically futile treatment will use up resources that might have been saved others. Poor decisions about the treatment of transmissible diseases or psychiatric conditions may result in third party injury. And in medical research the dispersal of benefit is even more fundamental: the central aim of clinical research is to acquire knowledge to be used for better treatment of subsequent cases.

Both non targeted public health measures and targeted public health interventions aim to benefit many. Although the incidence of wider benefit cannot be foreseen, its amount can often be estimated prospectively and measured retrospectively by comparing population health before and after the measures are introduced or interventions undertaken. These facts suggest to me that too strong a focus on individual choice and informed consent by patients and research subjects will not only marginalise public health and the ethical questions it raises, but hide much that is fundamental to clinical medicine and to the conduct of biomedical research.

6. Some Ethical Conclusions

If bioethics is to address the broad range of ethical issues raised by public health policy, including targeted interventions, effectively it must place discussions of choice, consent and autonomy in the context of a wider range of ethical issues. Consent procedures are a useful way, but not the only way, of assuring ourselves that an intervention is not (for example) forced, coercive, deceptive, or manipulative, and not likely to injure. Needless to say, consent does not provide total assurance that an intervention will not injure individuals who consent. Assurance is limited because there may be inadequate information about the effects of an intervention; because

individuals do not grasp that information when consenting; because they choose against their own interests; because risks are hard to foresee; because consent cannot be sought from all who may be affected—or just because something goes awry. None of these cases is unusual.

Fortunately, consent procedures are not the only way of assuring ourselves that basic ethical norms are not breached—as we know from the many cases in which persons without competence to consent are treated on the basis of considering their best interests. What matters is not the formality of obtaining consent, but the reality that fundamental obligations not to force, coerce, deceive, defraud, manipulate or injure, which consent *generally* protects, be met in medical and research practice.¹⁹

Both non-targeted public health measures and targeted public health interventions can meet these underlying standards. Non-targeted measures *must* meet them without using consent procedures, because it is impossible to say whose consent would be relevant. For example, setting safety standards for medicines or training standards for surgeons are non targeted measures, which cannot require consent from individuals. Adding fluoride to water that lacks it, or folic acid or iodine to staple foods, if these disperse benefit without injury to individuals, do not require consent from each and every individual and can be done without breaching fundamental obligations.

Similarly for targeted interventions. Measures that make it harder for individuals with contagious conditions to transmit them (quarantine or condoms, as the case may be) can be justified *provided* that they do not rely on force, coercion, fraud, deception, or injure without proportionate reason. It will be said that this is impossible because any legal or regulatory measure backed by coercive powers, coerces. This seems to me a mistake, though a common one, since the position would make the rule of law itself a form of coercion, on a footing with criminal activity. However, this is too large an issue to broach at this point. I simply note that if it were true, many non-targeted measures as well as targeted interventions would have to be seen as coercive. Indeed, almost any action that impinges on others would have to be seen as requiring consent if not to count as coercive! However, legal and regulatory requirements do not work by coercion: often they work by formative, coordinating, persuasive and exemplary

¹⁹ See Neil C. Manson and Onora O'Neill, *op.cit.*

methods, and even when there are legal sanctions—coercive backing—coercion is rarely used. Coercive backing is not the same as coercion. Public health ethics operates in this domain, and does not assume that everything that does not or cannot receive consent coerces.

Health promotion measures and other targeted public health interventions that will benefit many, and not only or necessarily those targeted, do not require consent from all affected parties. There will of course be questions of proportionality to be settled, and questions about the limits of permissible harm that non targeted and targeted interventions may risk. But there is no reason to think either that the only tolerable level of harm is zero, or that the only way of making activity that risks harm permissible is by obtaining the consent from all affected. The world we live in transmits and disperses benefits and harms among agents in ways that are not wholly foreseeable or separable. It is illusory to imagine that we need to obtain consent for everything likely to happen to others who are affected by our action. The most we can do is to try to ensure that what is done to protect or promote public health neither risks disproportionately serious injury, nor breaches other fundamental obligations.