Special Section: Open Forum

Justice in Medicine and Public Health

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On the beautifully clear and sun-filled morning of September 11, 2001, just before I went to vote in the New York City primary elections, news came over the car radio that a plane had crashed into the North Tower of the World Trade Center. As I drove toward Manhattan after casting my ballot, newscasters reported a second plane crashing into the South Tower. It became instantly clear to everyone that these were acts of terrorism. We were under attack. All around me the behavior of New York City drivers immediately converted from the standard aggressive mode to a remarkably accommodating style, and in a dramatically uncharacteristic way cars yielded to make way for the emergency vehicles that were suddenly racing down the highway. Only one car surged to follow in their wake.

By the time I reached Mount Sinai, the hospital where I work on the upper east side of Manhattan, the side street on which the emergency entrance was located had been cordoned off, police were on duty, and healthcare workers stood on the sidewalk beside an empty stretcher. The institution was locked down, people were admitted to the complex by only one of the many routine entrances, and those who entered were screened through two ranks of security personnel. Members of the medical staff, surgeons in their operating greens, and doctors who had raced back to campus from elsewhere in their jogging and golf outfits stood waiting in the huge I.M. Pei designed, glassed atrium. Medical students congregated in small huddles.

As I later learned, rehearsed emergency measures were enacted that morning throughout the institution. A disaster plan had previously been developed and practiced so that everyone knew what had to be done. Many beds in each intensive care unit (ICU) were emptied. All elective surgery was canceled. Every patient who could be sent home was discharged. Collection activities in the blood bank went into high gear, but they were only accepting O− donors.

As we all later learned, two additional planes were crashed by terrorists that morning, one into the Pentagon, the other in a Pennsylvania field. Medical institutions near each disaster site responded. Tragically, although we had expected and prepared for many patients, few came. Over the next three days, Mount Sinai had just 11 World Trade Center related admissions.

This paper is a revised and shortened version of my chapter, "Justice in Allocations for Terrorism, Biological Warfare, and Public Health" in *Public Health Ethics*, edited by Michael Boylan, Kluwer; 2004. Portions of this material were presented at the International Bioethics Retreat, Pavia, Italy, June 2003, and at the meetings of the Association for Politics and the Life Sciences, Philadelphia, September 2003.

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After the attacks, health professionals were also called upon for their advice in dealing with the aftermath of the disasters. The public needed to know about the health dangers posed by the material that had disintegrated to dust and was being carried around New York City by the wind. They needed to know about the toxicity of the fires that continued to burn at Ground Zero. They needed to know whether it was safe to go outdoors, how far away to keep from the site, who was most at risk, how to protect themselves from contaminants. Doctors were asked for answers and for advice on safety measures. But in this age of evidence-based medicine, there was no evidence of the toxicity of such tremendous quantities of pulverized concrete or incinerated computer parts and office furnishings. There were odors in the air, but there was no evidence about whether they were harmful and what problems they could cause. The best that our experts could say was that efforts should be made to keep the dust out of the air. So streets and vehicles leaving the site were hosed down and workers at the site were outfitted with masks. Buildings were vacuumed and mopped and air filters changed. Extrapolating from what was generally the case with impurities in the air, warnings went out that those with respiratory problems, children, and the elderly should stay indoors.

Then in early October 2001, envelopes laced with anthrax (*Bacillus anthracis*) began to arrive in the mail at offices in a number of U.S. cities. This was biological terrorism. Cipro was dispensed, postal facilities, office buildings, and homes were tested and decontaminated. Public health officials worried about attacks with other biological agents such as smallpox and started to plan for dealing with the possibilities.

Since the autumn of 2001, public health contingency planning for terrorism and biological warfare has continued. These efforts have proceeded on several levels, as measures to protect society from the harms of future possible attacks, as plans to prepare society to respond to future terrorism, and as efforts to try to learn from our experience in order to avert some harms in the future. Since then studies have begun to collect data in order to assess the short- and long-term health effects of the exposure on those who worked at the World Trade site and those who live or work nearby. This data is supposed to be helpful in understanding the kinds of hazards that are caused by various contaminants and in designing public health measures and medical interventions to avoid or combat dangers.

Although there has been some debate about strategy (e.g., universal vaccination to protect against a possible smallpox epidemic versus ring vaccination in response to an actual terrorist infectious disease attack) and about the allocation of resources (e.g., which victims to benefit and how much, whether to allocate resources for planning and to which plan, whether to allocate resources for research and what to study), the principles that underlie these decisions have been assumed with relatively little contention. Implicit in this silent agreement are the presumptions (1) that everyone knows the guiding principle of justice and (2) that the principle has the solid endorsement of a broad majority of the population.

In what follows, I shall question both presumptions. By exploring several vivid and timely examples from the fall of 2001, I will try to shed some light on our general approach to the just allocation of a society's limited medical and public health resources. A comparison of the principles that are most commonly invoked in discussions of the just allocation of social resources with the

policies enacted post-September 11th reveals that there is no single principle that supports all of the relevant policies. This discovery, that no single conception of justice explains the array of broadly endorsed medical and public health policies, challenges the philosophical approach of defining and defending an authoritative conception of justice.

Prominent Conceptions of Justice

Aristotle defined justice simply as giving each his due. Yet, in his lengthy discussion in book 5 of the *Nicomachean Ethics*,[1] he equates justice to the entirety of interpersonal virtue[2] while also acknowledging its complexity and contextuality. Although some contemporary philosophers follow Aristotle's insights and find an account of justice in an array of reasons, those who write on issues of justice and healthcare appear to prefer a more Platonic approach and attempt to articulate or conform with some singular comprehensive account of justice. Allow me to briefly sketch a few of the several competing contemporary accounts of justice that enter discussions of medicine and public health.

Utilitarianism: Utilitarianism has a long history in ethics, tracing back to the writings of Jeremy Bentham and John Stuart Mill. Today utilitarianism appears to be the dominant view of justice in medical and public health policy. It is the view that justifies policies that produce the best outcomes. For example, policies that rely upon quality adjusted life years (QUALs), disability adjusted life years (DALYs), or disability adjusted life expectations (DALEs) are all utilitarian.

Utilitarian allocations aim at maximizing an outcome over a population. A utilitarian conception of justice is committed to treating people as equals and to deliberately ignoring relational and relative differences between individuals. Hence, utilitarians aim at producing the most of the desired results for the entire population that is to be governed by the policy. Utilitarians identify an objective standard for calculating outcomes and employ that standard in policy decision. Adopted policies are just on utilitarian grounds when they are the most likely to produce the greatest amount of the specified end, that is, they are efficacious. In the domain of medicine, utilitarians focus on measurements of health or life span. A cost–benefit analysis of the same considerations is employed to determine the policy for a population.

John Rawls: Since 1971, many of the positions on justice espoused by philosopher John Rawls, first in *A Theory of Justice*[3] and later in *Political Liberalism*[4] and other works, have come to play a significant role in public deliberation about nonutilitarian criteria for justice in society and the allocation of medical resources. One Rawlsian concept that has received especially broad endorsement in the medical ethics literature is his commitment to what he calls "fair equality of opportunity." The other concept that has been widely supported in this literature is the "difference principle," and people who have embraced some version of that principle now refer to such views as "prioritarianism." These principles exemplify Rawls's view of what a liberal political conception of justice should include.[5]

Rawls's two principles of justice provide "guidelines for how basic [political] institutions are to realize the values of liberty and equality"[6] and assure all citizens "adequate all-purpose means to make effective use of their liberties and opportunities."[7] Together these principles specify certain basic rights,

liberties, and opportunities and assign them priority against claims of those who advocate for the general good or the promotion of perfectionism (i.e., the best possible society).

Rawls himself does not extend his principles of justice to health and medical care. In fact, he specifically maintains that "variations in physical capacities and skills, including the effects of illness and accident on natural abilities"[8] are not unfair and they do not give rise to injustice so long as the principles of justice are satisfied. Yet, several prominent authors who write about justice and medicine discuss medical allocations by invoking Rawls's principles and extend Rawlsian concepts to medicine.

Rawls famously advances two principles of justice. According to Rawls's first principle, justice requires a liberal democratic political regime to assure that its citizens' basic needs for primary goods are met and that citizens have the means to make effective use of their liberties and opportunities. Rawls's second principle regulates the basic institutions of a just state so as to assure citizens fair equality of opportunity. The first principle has priority over the second in that it requires political institutions to provide whatever citizens must have in order to understand and to exercise their rights and liberties. According to Rawls, his principles assure such basic political rights and liberties as liberty of conscience, freedom of association, freedom of speech, voting, running for office, freedom of movement, and free choice of occupation. They also guarantee the political value of fair equality of opportunity in the face of inevitable social and economic inequalities.[9] Both principles, therefore, express a commitment to the equality of political liberties and opportunities.

In Rawls's account, the difference principle is the second condition of the second principle of justice. Recognizing that economic and social inequalities are an unavoidable feature of any ongoing social arrangement, his second principle expresses the limits on unequal distributions. He holds that equal access to opportunities is a necessary feature of a just society, and then, so as to compensate for eventual disparities and to promote persisting equality of opportunity, he calls for corrective distribution measures through application of the difference principle. As Rawls states the principle, "Social and economic inequalities . . . are to be to the greatest benefit of the least advantaged members of society."[10] In other words, governmental policies that distribute goods between citizens must be designed to rectify inequality by first advancing the interests of those who are otherwise less well off than their fellow citizens.

Norman Daniels and Fair Equality of Opportunity: Norman Daniels has used the Rawlsian concept of fair equality of opportunity to argue that healthcare should be treated as a basic need.[11] He maintains that "[h]ealth care is of special moral importance because it helps to preserve our status as fully functioning citizens."[12] Daniels wants us to count at least some medical services as "primary goods" so that they are "treated as claims to special needs." From Daniels's point of view, therefore, the allocation of healthcare resources should aim at equalizing social opportunity.

Daniels expects his claim to lead to the conclusion that a just society should provide its members with universal healthcare, including public health and preventive measures. Recognizing that a society will limit the amount of healthcare it provides, Daniels proposes "normal species function" as the benchmark for deciding which care to provide. He holds that healthcare that

will restore or maintain normal species function should be provided. Nothing has to be provided, however, for those who are already within the normal range. Furthermore, Daniels points to the many social determinants of health inequalities and invokes Rawls's difference principle to claim that a just society should provide the most healthcare to those who are most disadvantaged with respect to health.

Prioritarianism: Prioritization, which builds on Rawls's "difference principle," stands in opposition to utilitarian approaches to the distribution of scarce resources. Whereas utilitarian allocations aim at the maximization of an outcome over a population and deliberately ignore the relational and relative differences between individuals, prioritarian allocations aim at the identification of unwanted inequalities and distribute resources so as to compensate for or correct them. Prioritarian allocations reflect a concern for how individuals fare in relation to each other and attempt to advantage those whose position is worse than others'.

Numerous papers in the bioethics literature address the conflict between prioritarian concerns and utilitarian cost-effectiveness analysis in the allocation of medical resources. For instance, Dan Brock,[13] Frances Kamm,[14] and David Wasserman[15] argue the merits of one approach over the other in a variety of vexing cases. They reflect on the difference between policies that will save the lives of some people or save an arm for some other people. They are concerned with whether public policies should provide a greater advantage to some who are already well off (e.g., save the lives of the able-bodied) or provide a smaller advantage to some who are worse off (e.g., save the use of an arm for a group with some other preexisting disability). These "tragic choices" discussions sometimes focus on identifiable individuals, but sometimes not. They sometimes address trade-offs of future significant harms against present small harms or more certain imminent harms against more hypothetical distant harms. Typically, these discussions favor policies that will allocate resources to immediate needs over future needs and benefits to identifiable individuals over benefits to those who cannot be currently identified.

Medical Models for Resource Distribution

It is illuminating to scrutinize the medical and public health policies that were implemented in the fall of 2001 in light of these competing theoretical conceptions of justice. Consider several examples.

Medical emergencies: Triage is the broadly endorsed approach for responding to medical emergencies. It is the approach that was immediately adopted by healthcare workers on September 11, 2001, and its appropriateness has not been challenged in any of the literature that I have encountered since then. Triage in domestic medical emergencies requires healthcare professionals to make judgments about the likely survival of patients who need medical treatment. Recognizing that some people have urgent needs (i.e., they will die or suffer significant harm if not treated very soon) and that the resources available are scarce (e.g., supplies, facilities, trained personnel), patients are sorted into three groups and they are either treated, turned away, or asked to wait according to their group classification. Those who are not likely to survive are deprived of treatment so that the available resources can be used to save the lives of those who are more likely to live. Those who are likely to die without treatment but

who are likely to live if treated promptly are treated first. Those who are in need of treatment but who can wait longer without dying are treated after those who are urgently ill.

In medical emergencies, healthcare professionals deliberately disregard the concepts of giving everyone a fair and equal opportunity to receive medical treatment, and they also pointedly ignore relative differences in economic and social standing. Instead, they focus exclusively on the medical factors of urgency of need and the likelihood of survival. No one presumes to measure whether each patient has received a fair or equal share of available resources, and no one stops to assess who is more or less advantaged. And no one criticizes medicine for not attending to those differences.[16] In fact, the long tradition of medical ethics, dating back at least to the Hippocratic tradition, requires physicians to provide treatment based on need. Hence the ethics of medicine appears to require physicians to commit themselves to unequal treatment (because need is unequal) and also to the nonjudgmental regard of each patient's worthiness. These long-standing expectations have not changed over the centuries since Hippocrates or in the years following the tragedies of September 11. These commitments remain intact irrespective of recent writing on the just allocation of medical resources, and they have not been eroded or transformed by the events of the fall of 2001.

Research and public health: Biomedical research and public health policies typically focus on populations. Biomedical research attempts to disconfirm hypotheses about predicted outcomes and thereby to develop facts about the response of organisms with certain common characteristics. With respect to human subject research, groups of people are selected for study because of some relevant biological or environmental similarities. Any knowledge gained from the process is useful to the extent that it is applicable to all of those who share the common condition.

Public health policies are also designed to have an impact on all, but only those, individuals who are similarly impacted by a disease or a health-related condition. In deliberately focusing on one affected group or another, biomedical research and public health policies typically provide benefits only to the target group. The goals of biomedical research and public health are pointedly directed at everyone in the group that might benefit from them. By looking back at outcomes, researchers attempt to develop generalizable knowledge about biological or psychological reactions. By looking toward the future, public health officials attempt to develop some generalizable approach to the prevention, reduction, or treatment of biological or psychological problems.[17] And as with medical triage in the emergency setting, biomedical research and public health have not been criticized for holding to these agendas.

Challenges for Prevailing Conceptions of Justice

Because ideas about justice and medicine are typically discussed singly, in artificially isolated contexts and with a focus on carefully selected examples, it is hard to notice when and how their underlying conceptions clash. Yet, the post-September 11 broad consensus on emergency triage, public health research, and public health policy provide an occasion to consider justice across a broad spectrum of medical contexts. This array of examples also serves as a challenge to the assumption that a consensus supports a single principle of justice in medicine and public health. As Ronald Green has noted in his criticism of

Daniels, the "mistake . . . is trying to decide such matters by reference to a single consideration—and not necessarily the most important one."[18] Again, consider some examples.

Emergency triage provides neither equal shares of care nor equal opportunity for future social participation. On the contrary, the distribution of resources under triage supports Julian Savulescu's view that he puts forward in opposition to Daniels. Savulescu holds that healthcare policy should aim at providing everyone with a "decent minimum" of medical services.[19] Savulescu would give preeminence to policies that will save the most lives and thereby maximize everyone's chance of being saved so that each can pursue the kind of life that reflects personal values and goals. Savulescu's position also gives everyone a better chance at living than could be had by an equal distribution of resources.

Consequentialist considerations of efficacy and equality support the well-accepted views on emergency triage. When the time constraints of an emergency and the needs for medical resources significantly outstrip the available resources, responses should be based on efficacy and treating all with similar medical needs similarly. Yet, the sweeping exclusions of triage appear to represent the goal of avoiding the worst outcome more than maximizing the greatest utility, particularly when utility might be improved by more fine-grained sorting and ranking. Triage is, therefore, not entirely compatible with utilitarianism, nor is it consistent with either fair equality of opportunity or prioritarianism. If these different principles (avoid the worst outcome, maximize utility, fair equality of opportunity, and prioritarianism) apply to the same kinds of issues, they cannot all be appropriate for guiding these allocation decisions. The intuitions that support the views that priority should be given to equalizing social opportunities or to providing the greatest benefit to the least advantaged are undermined by the strong sense that nonmedical relative differences should not come into play in decisions about emergency responses to terrorism and biological warfare. Questioning the commitment to fair equality of opportunity or prioritarianism in medical triage invites questions about the appropriate framework for policy decisions about public health needs and setting the research agenda. Emergency triage allocates resources by taking everyone's prognosis and expected outcome into account. Individuals certainly get unequal lots, and no priority is allowed to those who are more generally worse off.

Similarly, public health research sometimes has no impact on social participation, on health, or on longevity of the entire population. If it turns out that we never have another disaster similar to what occurred on September 11, if we never again experience a catastrophe that creates enormous amounts of pulverized concrete and incinerated computers and office furniture, research on their effects may never promote the social participation or health of anyone. Or, if the burdens of the interventions that the studies support turn out to be prohibitively costly (e.g., give up skyscrapers and computers), they will not be adopted and no one's fair equality of opportunity will be advanced. Public health research involves a quest for information that may or may not be useful. It also sometimes directs resources to the needs of a relatively few affected individuals. So, the standards of promoting fair equality of opportunity or maximizing health never quite fit. Many other uses of the resources that are more likely to promote fair equality of opportunity should have preference

over public health research if that were the only consideration to be taken into account. Yet, the consensus in favor of such research suggests that other reasons support its broad endorsement.

Furthermore, although public health policies sometimes meet the standard of promoting utility, fair equality of opportunity, or priority for the worse off, sometimes they do not. In some cases (e.g., anthrax, smallpox), interventions are advocated because they are likely to save more lives than some alternative plan. The huge amount of resources devoted to decontamination of post offices and office buildings after the mail-disseminated anthrax attacks was widely accepted. But the clean-up policy had only a hypothetical and distant relation either to the avoidance of deaths or to the promotion of fair equality of opportunity. In sum, policies adopted in the fall of 2001 suggest that emergency triage, public health research, and public health policy rely on more than a single principle of justice.

Looking Back into Rawls

Rawls offers the "difference principle" in the context of choosing principles for the construction of a political framework for society. He is concerned with the guarantee of fair value for political liberties, that is, for allowing each citizen roughly equal access to public facilities and the political process. He recognizes that the accumulation of personal wealth and the pooling of resources in collaborations of the wealthy for the promotion of their self-serving ends could threaten the political participation of those with lesser means.[20] He also appreciates the importance of limiting disparities in private property because large differences could undermine self-respect and provoke envy. These are crucial concerns for Rawls in the construction of a fair procedural process for the structure of society's basic institutions because ignoring them would tend to threaten social stability.[21] Rawls's recognition of the need for stability in *Political Liberalism* makes the avoidance of destabilizing conditions a paramount political consideration. Stability provides the justification for the difference principle and it explains why the difference principle is essential to Rawls's political conception of justice as fairness.[22]

As Rawls explains it, the difference principle has a very narrow scope. The principle is not intended to eliminate or compensate for natural variations or for the contingencies of social life. Rather, it is designed to promote stability by allowing the least favored to gain functional advantages from the system of entitlements established by public institutions.[23] When Daniels and prioritarians extend the concept to differences in health and fortune, they apply the concept to domains that Rawls does not intend it to permeate. In other words, paying careful attention to Rawls's own declarations about justice makes it clear that broadening the scope of the difference principle into a general precept for the allocation of medical care would be a mistake. According to Rawls, the principles of justice that he offers, and the difference principle in particular, apply to the main public principles and policies that regulate social and economic inequalities. They are used to adjust the system of entitlements and earnings and to balance the familiar everyday standards and precepts. The difference principle holds, for example, for income and property taxation, for fiscal and economic policy. It applies to the announced system of public law

and statutes, but not to particular transactions or distributions, not to the decisions of individuals and associations. Rather, the difference principle pertains to the institutional background against which these transactions and decisions take place.

Rawls concedes that the difference principle is not a constitutional essential,[24] and not a moral requirement.[25] For Rawls it is an important political consideration because of its relation to social cooperation and self-respect and, hence, social stability.[26] Particular medical care allocations are only required by political justice when citizens suffer a loss in fair equality of opportunity because of an accident or illness. Then, according to Rawls, society should aim at restoring people to the level of once again being "fully cooperating members of society."[27] But, the extent of even this political commitment to medical care is limited by costs and competing claims. Although, by footnote, he nods in Daniels's direction, Rawls explains the very limited application of the difference principle. For Rawls, restorative treatments "can be dealt with . . . when the prevalence and kinds of these misfortunes are known and the costs of treating them can be ascertained and balanced along with total government expenditure."[28] In other words, medical care does not have the priority for Rawls that it has for Daniels, and the provision of treatment is just one of several competing goods that a society should consider providing for its citizens.

Daniels and prioritarians who extend the difference principle to the health needs of all humans deviate from Rawls in several significant respects.[29] Those who want to apply the difference principle or prioritarianism to additional domains or additional subjects, or to the provision of a broader array of medical services, cannot claim to build on Rawls. They must provide justifications of their own for each extension.

Justice in Allocations for Medicine and Public Health

The discussion above suggests two conclusions. First, a broad consensus supports many of the policies that were instituted in the wake of the terrorist attacks of September 11 and the anthrax attacks that followed. Second, none of the leading candidates for a conception of justice that I examined, namely, utilitarianism, fair equality of opportunity, and prioritarianism, explains all of the positions that we accept on medical and public health policies. The incongruity between the post-September 11 policy consensus, on the one hand, and these lauded principles of justice, on the other, suggests that there is a mistake in our search for *the* ruling principle of justice. It also suggests an alternative for looking at the problem of justice.

It may seem surprising, but Rawls provides us with a solution to this dilemma. In *Political Liberalism* he explains that the aim of the difference principle is the maintenance of stability in society. In other words, a reason that reasonable people would accept supports the principle and its priority in the regulation of political arrangements. Large economic and social disparities destabilize a society, so because the significant advantages of communal life could not be maintained without prioritization for economic and social rewards, prioritization is a reasonable means for addressing the inevitable disparities in wealth and social status that develop in society. This insight implies that when stability is not threatened by a policy, prioritization may not be required or

even justified. Different reasons could support different principles and different rankings of considerations in different contexts. There is no obvious reason to presume that a single principle defines justice. In some circumstances, some reasons may be more defensible and more broadly accepted than others. With sensitivity to the complexity of human values and to the different contexts of medical and public health policies, we can consider different reasons that justify a variety of medical decisions related to the fall of 2001.

Triage may be the appropriate policy for large-scale emergency situations. The justification for triage is that it is the policy most likely to *avoid the worst outcome* and to save the greatest number of lives. Reasonable people would want to survive a disaster and they would want their loved ones to survive. Forgoing treatment for those who are least likely to survive so as to provide the best chance of survival to the most people yields the result that everyone wants most. In contemplating disaster scenarios and designing emergency response plans, it is hard to imagine any reasonable person objecting to triage and withholding their endorsement from the policy.[30] So long as the same criteria for treatment are applied to everyone, the loved ones of those from whom treatment is withheld should not complain of injustice. Because hypothetical consent to triage policies can be legitimately presumed, a triage allocation of emergency services is not likely to undermine social stability.

Disaster preparedness requires the allocation of communal resources for research, training, and equipment. These are resources that could, instead, be devoted to improving the lot of those who are less advantaged than the rest. Yet, policies to allocate resources so that health professionals and other emergency service agencies can prepare themselves to respond to the emergencies that may occur are justified because, if a disaster should ever befall us, the ability to respond efficiently would be crucial. The good that can be had from preparation would not be available without the prior contribution from a common pool. Hence, it would be reasonable for a society to provide some resources for disaster preparedness to increase the chance for a good outcome and to minimize the chance for the worst outcome (i.e., *maximin*).

In the face of a credible risk of biological warfare, mandatory inoculation against a serious contagious disease like smallpox is an appropriate policy when a reasonably safe and effective vaccine is available. Reasonable people would endorse such required inoculation because it provides protection from the disease, that is, it *provides a public good* that everyone values. Everyone should, therefore, bear a fair share of the burden of safety. Those who might refuse to comply would be free riders, ready to treat others unjustly by taking advantage of their good will and sense of communal responsibility. Other public health measures, such as those that required the safe disposition of corpses after September 11, are similarly justified by the public good of protection against disease that they provide and by the *anti–free rider principle* that would prohibit unsafe practices. And when it comes to actually dispensing the smallpox vaccine in the face of a credible risk, because the relative differences between individuals may not be significant enough to be taken into account, a distribution scheme based on *equality*, such as first come–first served, may be required.

Furthermore, with respect to public health measures like vaccination, there may be good reasons for allowing a few to be exempt from inoculation. Those who are especially vulnerable to the inherent dangers of immunization—for

example, those with impaired immune systems—would bear more than the typical burden of being vaccinated. If everyone else in the society received the vaccination, exempting those few who would otherwise bear an *undue burden*, would not increase the risk for others. In such cases, neither the implementation of the rule nor the countenance of legitimate exceptions would undermine social stability, so priority for the worse off would not be a relevant consideration. The difference in vaccination and exemption would not turn on some person or group being worse off than another. The difference in treatment would reflect the disproportionate burden on those who are immunocompromised and the lack of any other justification for imposing that burden.

The public health concern about air quality immediately after the September 11 attacks reflects three slightly different principles. Clean air, clean water, and sewage treatment are the kinds of public goods that everyone needs constantly. Their *vital and constant importance to everyone's well-being* is a justification for policies to provide and protect them. In many settings, clean air, clean water, and sewage treatment are also the kinds of benefits that no one can have unless everyone has them and making them available or unavailable at all makes them available or unavailable to everyone in the society. In many situations, these are also services that can be provided with greatest *efficacy* by providing them for everyone. Public health measures to assess air quality after the collapse and burning of the World Trade Center and the subsequent measures to protect the water supply from terrorist attacks are justified by both of these reasons.

Another important consideration is also relevant to the endorsement of public health interventions that provide for everyone's vital and constant needs. Such interventions are likely to make the greatest difference in health and well-being for the economically and socially least advantaged. The well-to-do could leave town for the clean air of the country or simply purchase gas masks to protect themselves from air pollution. They would also have the wherewithal to purchase bottled water, to dig private wells, and to install private sewage systems. The well-to-do would be better off with the general availability of clean air, clean water, and sewage treatment. Yet, the underlying interrelation between poverty and health and the consequent disparity between the well-to-do and the poor with respect to health status and life expectancy[31] suggest that the economically and socially disadvantaged would enjoy an even greater benefit from policies that made these benefits generally available. Furthermore, the continuous lack of such basic goods as clean air, clean water, and sewage treatment for some, when others enjoyed them as private resources, could promote social instability. The *difference principle* is, therefore, an additional reason for adopting public health measures to provide these services. It justifies the same policies that would be supported by the *vital importance* of the services and the fact that such services are most feasible supplied to all at once (i.e., *efficacy*). This example, therefore, illustrates how different appropriate principles can be just and converge in support of public health policies.

Conclusion

To the extent that policy domains covered by different principles can be legitimately distinguished, a variety of appropriate and compelling principles can express the complex and varied considerations that make different policies just. In other words, we should avoid both the allure of a single simple ideal

conception of justice and the temptation to shoehorn distinctly different principles into the scope of our cardinal ideological commitment. The just allocation of medical resources is and should be governed by a variety of considerations that reasonable people endorse for their saliency. Several principles have a legitimate place in medical and public health allocation. They include: the *anti–free rider principle*, *avoid undue burdens*, *avoid the worst outcome*, the *difference principle*, *efficacy*, *equality*, *maximin*, *provide public goods*, the *vital and constant importance to well-being*.[32]

To the extent that the scarcity of resources makes it impossible to fulfill all of the legitimate claims for society's allocation of resources, some principle(s) will have to be sacrificed and some projects that are supported by compelling reasons will have to be scaled down from an ideal level, delayed, or abandoned. When these hard choices have to be made, they too should be made for good reasons that reasonable people would support.[33] In making difficult choices about the ranking of projects and priorities and the design of policies, different considerations will have different importance in different kinds of situations. There is no obvious reason to presume that one priority will always trump the others. When the priority of a principle reflects the endorsement of an overlapping consensus of reasonable people, the justice of the policy is clear. When people rank the competing considerations differently, a significant consensus on the principles that are irrelevant may emerge and that consensus can serve as the basis for just policy. To the extent that flexibility can be supported by the available resources, policies should show tolerance for different priorities.

As a general caution, however, medical and public health policy makers need to be alert to the kinds of illegitimate considerations that can distort and pervert any policy. Common psychological tendencies can interfere with judgment. For example, human psychology inclines people to exaggerate the impact of a loss and also inclines people to underappreciate the value of future goods. This common inclination to inflate the importance of risk aversion seems to have contributed to the tremendous amount of resources invested in responses to the anthrax attacks and the charge into risky vaccination policies in the face of a conceivable but remote and unlikely smallpox threat. Politics is another element that may have contributed to the huge investment in anthrax decontamination at sites where the likelihood of danger was almost nonexistent. The desire to curry favor or to shore up votes does not promote reasonable public health policy. And then there is greed, which can be camouflaged under reasons that seem to be acceptable justifications. Greed coupled with the desire to repay debts or to secure future political support may have been an additional inappropriate factor leading to policies for the vaccination of the military against anthrax. Prejudice, stereotyping, the desire to do something, the pressing needs made vivid by individual cases, lack of insight, and lack of foresight are other common psychological inclinations that can distort judgment and lead to unjust public health policies.

In sum, it is difficult to achieve justice in medical and public health policy because there is neither a single ideal governing principle nor a simple formula for success. A variety of considerations can legitimately support good policy. A variety of cloaked and disguised hazards can intrude on the policy-making process and, in the name of justice, lead to indefensible results. For medical and public health policies to be just, the description of the situations they aim to address must be accurate and the reasons behind them must be the ones that

reasonable people would find most compelling and most appropriate. Policies must reflect the choices that reasonable people would make and the priorities that reasonable people find most pressing.

Notes

1. Aristotle. *The Nicomachean Ethics of Aristotle*, Ross WD, transl. London: Oxford University Press; 1971.
2. See note 1, Aristotle 1971:1130a9.
3. Rawls J. *A Theory of Justice*. Cambridge, Mass.: Harvard University Press; 1971.
4. Rawls J. *Political Liberalism*. New York: Columbia University Press; 1993.
5. See note 4, Rawls 1993:6.
6. See note 4, Rawls 1993:326.
7. See note 4, Rawls 1993:4.
8. See note 4, Rawls 1993:184.
9. See note 4, Rawls 1993:228–9.
10. See note 4, Rawls 1993:6.
11. Daniels N. Justice, health, and health care. In: Rhodes R, Battin MP, Silvers A, eds. *Medicine and Social Justice: Essays on the Distribution of Health Care*. New York: Oxford University Press; 2002:6–23. Daniels N, Sabin JE. Limits to health care: Fair procedures, democratic deliberation, and the legitimacy problem for insurers. *Philosophy and Public Affairs* 1997;26:303–50.
12. See note 11, Daniels 2002:8.
13. Brock DW. Priority to the worse off in health-care resource prioritization. In: Rhodes R, Battin MP, Silvers A, eds. *Medicine and Social Justice: Essays on the Distribution of Health Care*. New York: Oxford University Press; 2002:362–72. Brock DW. Aggregating costs and benefits. *Philosophy and Phenomenological Research* 1998;58:963–8.
14. Kamm FM. Whether to discontinue *non*futile use of a scarce resource. In: Rhodes R, Battin MP, Silvers A, eds. *Medicine and Social Justice: Essays on the Distribution of Health Care*. New York: Oxford University Press; 2002:373–89. Kamm FM. *Morality, Mortality Vol I: Death and Who to Save From It*. New York: Oxford University Press; 1993.
15. Wasserman D. Aggregation and the moral relevance of context in health-care decision making. In: Rhodes R, Battin MP, Silvers A, eds. *Medicine and Social Justice: Essays on the Distribution of Health Care*. New York: Oxford University Press; 2002:65–77.
16. Rhodes R. Understanding the trusted doctor and constructing a theory of bioethics. *Theoretical Medicine and Bioethics* 2001;22(6):493–504. I have argued generally that physicians have a role-related responsibility to avoid making judgments about patients' worthiness and that they must treat all patients similarly based on medical considerations.
17. Although a subject for biomedical research may disproportionately affect a relatively disadvantaged population (e.g., the effect of lead paint on child development), the study findings and the subsequent public health policies will have implications for all of those who have been or who may be affected.
18. Green RM. Access to healthcare: Going beyond fair equality of opportunity. *American Journal of Bioethics* 2001;1(2):22–3.
19. Savulescu J. Justice and healthcare: The right to a decent minimum, not equality of opportunity. *American Journal of Bioethics* [online journal] 2001;1(2).
20. See note 4, Rawls 1993:328.
21. See note 4, Rawls 1993:284, xvii.
22. See note 4, Rawls 1993:xvii.
23. See note 4, Rawls 1993:283.
24. See note 4, Rawls 1993:228–9.
25. See note 4, Rawls 1993:236–7, fn. 23.
26. See note 4, Rawls 1993:318.
27. See note 4, Rawls 1993:184.
28. See note 4, Rawls 1993:184.
29. Daniels and prioritarians differ from Rawls on the difference principle in at least these ways: (a) For Rawls the difference principle is useful in the political domain. It is not a broadly applicable moral principle. (b) For Rawls, it is primarily applicable to political arrangements. It

is relevant to healthcare only to the extent that treatment can maintain or restore citizens as functioning members. (c) For Rawls, the principle applies only to those who have the moral powers that enable them to cooperate in political arrangements. Those who use it as a broad moral principle tend to apply it to the worst off, but some such individuals are not and could never be citizens. (d) Stability justifies the difference principle in Rawls's framework. Extending the principle, beyond the narrow parameters that Rawls sets, requires additional justification.

30. In this analysis I am drawing freely on T.M. Scanlon's conception of justice. Scanlon TM. *What We Owe to Each Other*. Cambridge, Mass.: Belknap Press; 1998.
31. See note 11, Daniels 2002; Smith P. Justice, health, and the price of poverty. In: Rhodes R, Battin MP, Silvers A, eds. *Medicine and Social Justice: Essays on the Distribution of Health Care*. New York: Oxford University Press; 2002:301–18; Sheehan M, Sheehan P. Justice and the social reality of health: The case of Australia. In: Rhodes R, Battin MP, Silvers A, eds. *Medicine and Social Justice: Essays on the Distribution of Health Care*. New York: Oxford University Press; 2002:169–82.
32. I do not claim that this is a full elaboration of the relevant considerations for justice in medicine and public health.
33. Daniels's "relevance condition" appears to capture this aspect of policy setting. See note 11, Daniels 2002:16.