BIOPOLITICAL SURVEILLANCE & PUBLIC HEALTH IN INTERNATIONAL POLITICS

Jeremy Youde

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for Mom and Dad

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ABBREVIATIONS

ACT-UP	AIDS Coalition to Unleash Power
AIDS	Acquired immune deficiency syndrome
ARVs	Antiretroviral drugs
ASOs	AIDS service organizations
CCP	Chinese Communist Party
CDC	Centers for Disease Control and Prevention
DoD	Department of Defense
EIS	Epidemic Intelligence Service
GEIS	Global Emerging Infections Surveillance and Response System
GIVS	Global Immunization Vision and Strategy
GOARN	Global Outbreak Alert and Response Network
GPA	Global Program on AIDS
GPG	Global public goods
GPGH	Global public goods for health
HIV	Human immunodeficiency virus
HOLN	Health Office of the League of Nations
HRW	Human Rights Watch
ICCPR	International Covenant on Civil and Political Rights
IHR	International Health Regulations
ISB	International Sanitary Bureau
ISC	International Sanitary Convention
ISR	International Sanitary Regulations
MDGs	Millennium Development Goals
NESRI	National Economic and Social Rights Initiative
NGOs	Nongovernmental organizations
OIHP	L'Office International d'Hygiene Publique
OMCWA	Office of Malaria Control in War Areas
PEPFAR	President's Emergency Plan for AIDS Relief
PLWHAs	People living with HIV and AIDS

SARS	Severe acute respiratory syndrome
SARS-CoV	Severe acute respiratory syndrome coronavirus
TAC	Treatment Action Campaign
UDHR	Universal Declaration of Human Rights
UNAIDS	Joint United Nations Program on HIV/AIDS
USAID	United States Agency for International Development
WHA	World Health Assembly
WHO	World Health Organization

INTRODUCTION

Humanity officially won the battle against one of the world's most dreaded microbial killers on May 8, 1980. Meeting in Geneva, the assembled representatives to the World Health Assembly (WHA), the World Health Organization's (WHO) decision-making body, accepted the report of a commission of eminent scientists about international efforts to eradicate smallpox. Twenty-two years after the erstwhile Soviet Union first proposed that WHO commit itself to the complete elimination of smallpox, three years after the diagnosis of the last-known natural case of smallpox, and nearly two years after the world's last-known death from smallpox,[1] WHA resolution WHA33.3 "declare[d] solemnly that the world and its peoples have won freedom from smallpox, which was a most devastating disease sweeping in epidemic form through many countries since earliest time, leaving death, blindness and disfigurement in its wake and which only a decade ago was rampant in Africa, Asia and South America."[2]

The eradication of smallpox is an amazing milestone. Here was a disease that had afflicted humans for thousands of years, causing an estimated 300 to 500 million deaths in the twentieth century alone—and the international community wiped it off the face of the planet (except for a few samples for research purposes in two high-security labs) after only two decades of dedicated efforts.[3] Efforts to get rid of this killer disease overcame the intense ideological divisions of the cold war, serious shortcomings in funding, and incredible logistical difficulties. States of all ideological stripes came together to combat a common microbial enemy, and they prevailed. They collaborated to establish an extensive health surveillance system and provide a global public good to all the countries of the world, regardless of the amount of their contribution.

Although some may laud these efforts as an incredible example of international altruism, the smallpox eradication campaign was (and remains) incredibly controversial for a number of reasons. In their quest to ensure sufficient coverage, vaccinators occasionally behaved in an unethical manner and potentially violated human rights in some communities—vaccinating people without their consent, breaking into houses, and failing to respect local medical beliefs. The campaign provoked resentment for violating state sovereignty, imposing particular policies and goals without considering the needs and resource capabilities of local communities. Rumors spread in some areas that the smallpox vaccination was really an instrument of Western control and domination, designed to sterilize the recipient or allow Western states to infect local populations. Some human rights and public health groups expressed concerns about the international community's intentions in promoting a massive, invasive, and costly smallpox eradication campaign instead of addressing other, more pressing health concerns. They worried about the surveillance aspects of the eradication programs, fearing that the oversight would extend into additional areas without any recourse. They feared that their citizenship status would come to depend upon their health status, and that their basic collective and individual human rights would not be respected. The same surveillance components that inspired so much faith among the campaign's leaders that they could succeed encouraged concern, fear, and hostility about its potentially malevolent purposes among others.

More recently, the possibility of an avian influenza epidemic has prompted the international community to organize a proactive surveillance program. Suspected human cases of H5N1 are carefully monitored, as are their contacts, to track the disease's spread and understand the origins of the infection. Through aggressive oversight measures and rapid containment of suspected cases, the WHO hopes to prevent an avian influenza epidemic before it takes hold within the human population. Doing so requires an elaborate surveillance system, and governments have shown a willingness to contribute to building such a system.

While national governments may be on board with these surveillance programs, many individuals have expressed alarm at the costs and collateral damage associated with the efforts to combat avian influenza. When the virus is found within a specific bird population, the typical strategy is to cull the flock before the disease can spread among the birds and, eventually, humans. Culling bird flocks can devastate families, though, when they rely on those animals as a primary food source or for income. Killing the birds may prevent the spread of disease, but the owners of those birds receive no compensation for the loss of their livelihood. Reporting a suspected case of avian influenza can thus lead to economic devastation, which discourages the affected people from sharing information with surveillance systems. People want their families to remain healthy, but they also want to be able to provide livelihood for their families. Instead of offering reassurance and comfort, the avian influenza surveillance systems discourage compliance and the sharing of the very information they are supposed to collect.

The smallpox campaign and recent avian influenza efforts typify the larger issues at play in efforts to control infectious disease at the international level. At their core, such efforts must attempt to balance two competing, and often contradictory, forces. On the one hand, international infectious disease control is an excellent example of providing a global public good. It requires contributions from many different states, coordinating their efforts to work toward a common goal. Costs, though, are not necessarily proportional to benefits. Everyone receives the positive payoff from controlling a disease, but no one wants to pay for the control itself. As a result, the international community often underprovides global public goods like infectious disease control, whose provision depends crucially upon sustained cooperation.

On the other hand, infectious disease control campaigns necessarily involve an extensive level of surveillance. The campaign workers and organizers must know when and in which way a disease spreads. This campaign requires detailed information that some perceive as intrusive, overbearing, and with malicious intent. Citizens may feel that the government is constantly looking over their shoulders, essentially spying on them.

The conundrum is this: everyone wants the global public good of infectious disease control, but no one wants to perceive that the government or international community is spying on them. Infectious disease control requires surveillance efforts that are necessary to achieve any level of success, but they may inspire hostility among those who are being watched. Article 12 of the Universal Declaration of Human Rights guarantees a basic human right to privacy, but surveillance efforts necessarily involve oversight and investigation. Indeed, Fairchild, Bayer, and Colgrove recognize that "[t]he history of surveillance has been bounded by a promise of disease control and a specter of intrusion."[4]

This leads to one big question: how can the international community balance the provision of a global public good and the right to privacy without introducing an onerous and resentment-provoking surveillance regime? These forces have coexisted with each other somewhat uneasily over the past fifty years. "Surveillance serves as the eyes of public health . . . Surveillance has also served to trigger the imposition of public health control measures, such as contact tracing, mandatory treatment, and quarantine."[5] Surveillance can bring attention, but it can also bring condemnation. Infectious disease control in the international arena particularly heightens these concerns, as there may be less recourse available to those who feel that such surveillance is unwarranted or overly intrusive.

All hope may not be lost, though. In recent years, we have witnessed an increasing embrace of a human rights-based approach to infectious disease control. This strategy offers a number of benefits that allow the international community to escape the global public goods/right to privacy/biopolitical surveillance conundrum by promoting a particular understanding to all the affected parties. Human rights norms are generally shared, and most states share some general ideas about what it means to respect and protect human rights. Infectious disease control campaign leaders know their obligations to those people subject to the campaign, and those subjects understand their rights. Surveillance still exists, as it must for this global public good to be provided, but it exists within a framework that informs all parties and offers them avenues for registering any violations.

This book explores the shifting balance between biopolitical surveillance and global public goods—how do we weigh the need for oversight with the fear of intrusion when it comes to providing a global public good like infectious disease control? It also examines the emergence of human rights-based strategies as a way to allay fears while still collecting necessary information.

INTERNATIONAL RELATIONS, PUBLIC HEALTH, AND FOUCAULT

Addressing this conundrum combines the perspectives of two fields that pay too little attention to each other: international relations and public health. International relations has provided extensive insight into the nature of cooperation in the international arena and the factors that promote the provision of global public goods. Public health has focused its attention on the social determinants of health and the application of particular strategies in the control of the spread of infectious diseases.

When it comes to understanding international health cooperation, though, neither field can adequately address the problem. International relations has paid too little attention to the role of competing identities in either promoting or retarding cooperative efforts. It has too often uncritically assumed the acceptance of "received wisdom" and scientific knowledge by leaders and peoples in developing countries. Failure to implement or resistance to these strategies is interpreted as a lack of capacity or simple obstinence. Identity, pride, and concerns about surveillance rarely enter into the picture. International health efforts, as will become clear throughout the book, are more than technocratic exercises in bringing technological advances to people in need; they necessarily interact with beliefs, identities, and worldviews in powerful and often unanticipated ways.

Public health, on the other hand, has too often embraced biopolitical surveillance without considering the ramifications and responses. This is especially true when considering public health efforts at the international level. States and citizens are often wary of outsiders watching over them, and they frequently feel like they lack any meaningful recourse. They question the international machinations that promote such programs, fearing that the surveillance structures may collect information (which may or may not even be related to health) to be used against them later. People may like the global public good of infectious disease control, but they hesitate to embrace its attendant surveillance operations. Biopolitical surveillance efforts often find themselves frustrated by the refusal or reluctance of states and peoples to participate, thus harming efforts to control the spread of deadly diseases. The almost functionalist view of translating health into policy overlooks the nuance and subtlety that goes into making and encouraging compliance with health policy, particularly at the international level.

Examining the growth of biopolitics in the international arena has become something of a growth industry for scholars of the French philosopher Michel Foucault in recent years. Foucault established his reputation in the 1960s as a leading critical theorist of social institutions and practices. Drawing on a background in psychology, he focused many of his critiques on psychiatry, medicine, and sexuality. In particular, Foucault explored how these institutions and practices contributed to the exercise of power by the state. These practices allowed the state to exercise control over the populace and discipline their practices. By designating someone as healthy or sick, gay or straight, and sane or insane, the state could both introduce a measure of control over that person and subtly induce individuals to discipline themselves to follow "appropriate" standards of behavior. Instead of being neutral scientific categories, these classifications sent powerful messages as to what is "normal" and "acceptable" within society. It provides society with a standard by which it can include or exclude an individual. In this way, medical surveillance and classification gave society a powerful tool for imposing order under the guise of scientific objectivity.

Foucault scholars have done an admirable job taking the philosopher's somewhat fragmentary discussion of health, surveillance, and state power and fleshing it out into a more complete theory. Doing so, they have helped trace how the state came to be concerned with monitoring and regulating the health of the populace. They call attention to its emergence and provide us with clues as to the resistance against it. What is fascinating, though, is that these scholars have, almost without exception, cast biopolitical surveillance and biopolitical citizenship in a negative, overbearing light. On reading most works on biopolitics, one gets the sense that the state's interest in public health is solely negative and gathering such information serves the sole purpose of using it to prevent the masses from recognizing their genuine interests. It may indeed be true that such health-related surveillance presents opportunities for subterfuge and manipulation, and numerous examples exist where governments have used health data to justify discrimination, but to dismiss all health surveillance as predatory is too blunt an analysis. Furthermore, most of these analyses remain far too abstracted from actual policy implementation. They pay too little attention to the practical realities—both positive and negative—of introducing public health surveillance programs.

It is important to be mindful of the dangers associated with biopolitical surveillance, but it is also important not to dismiss the entire concept out of hand. Surveillance plays an important, even crucial, role in the provision of a global public good like infectious disease control. Dichotomizing biopolitical surveillance as either good or bad without exploring its nuances or attempts to resolve the tension prevents us from understanding the interplay at work. As the following chapters will make clear, biopolitical surveillance also can inspire the international community to work toward the provision of a global public good like health. Such surveillance can provide crucial information about the scope of the problem and appropriate interventions, but few developing states possess the infrastructure necessary to provide reliable public health surveillance programs. Governments cannot do anything about improving health if they do not know about it or the extent of the issue. Information is crucial, and it is only through the collection and dissemination of such information that changes can occur. By seeking out strategies that explicitly recognize and respect human rights, the international community may be able to still collect the data necessary for effective infectious disease control strategies.

KEY CONCEPTS: GLOBAL PUBLIC GOODS AND BIOPOLITICAL CITIZENSHIP

Understanding international cooperation for health requires that we pay attention to two key concepts: the provision of global public goods and the changing nature of biopolitical citizenship in the modern era. Chapters 1 and 2 will provide greater overviews of global public goods and biopolitics, but it will be useful to preview them briefly here.

A public good is a good whose consumption is nonrivalrous (consumption of the good by one person does not diminish the availability of that good for another person) and whose benefits are nonexcludable (no one can effectively be denied that good). Traffic lights, national defense, and public education are examples of public goods. Everyone benefits, and no is denied access. Because of their unique characteristics, public goods face particular challenges in their provision. Consumers can take advantage of public goods without contributing to their provision. Rational gain-seeking behavior by individuals leads to the underprovision of the good. Everyone benefits from the good, but their incentive to contribute to its provision is marginal at best. Without some sort of collective action mechanism, the public good will not be provided.

Global public goods function in much the same manner, but they add a geographical dimension. Global public goods are neither rivalrous in consumption nor excludable in benefits, but they extend to more than one geographical region. Their provision also is nondiscriminatory against any population groups or generations.[6] Examples include clean air, financial stability, and health.

Just like traditional public goods, global public goods face impediments to their optimal provision. At the global level, though, overcoming these impediments is even more difficult. It can be more difficult to enforce some sort of collective action at the international level, as the international community does not have the same enforcement powers that are available to individual states. The international system cannot compel paying taxes to provide public services in the same way that national governments can. This does not mean that national governments will *never* contribute to providing public goods. A casual examination of international relations demonstrates that governments do agree to provide funds that will further the provision of global public goods. Achieving that cooperation takes different steps, though, and is not necessarily as easily done. The provision of global public goods, thus, depends crucially upon successful international cooperation.

International health programs are emblematic of the benefits and challenges of global public goods. Controlling the spread of a disease like severe acute respiratory syndrome (SARS) will benefit the international community in many ways. Compelling states to pay for such a program, though, is more difficult. They may want to wait for other states to begin such a program. Decision makers in each state have to make the conscious decision to dedicate time, energy, and resources to this collective effort without fully knowing the benefits. Even more crucially, successful disease control depends on the combined efforts of all states more or less simultaneously. For example, Vietnam may declare that it has controlled SARS within its borders, but that does little good if neighboring Thailand has not. Infected individuals, who may not even know they are carrying the virus, can cross national borders. Increasing speed and ease of international travel exacerbates the problem. The SARS epidemic of 2002–2003 leapfrogged its way to at least twenty-four different countries thanks largely to airplanes.[7] The disease originated in China, but spread to places as disparate as Canada, France, South Africa, and Kuwait largely thanks to travelers who inadvertently disseminated the virus with their rapid cross-border movements. Only a coordinated effort can produce the global public good of infectious disease control. Investigating global public goods can thus provide crucial insights into why states choose to cooperate on global health issues.

Biopolitical citizenship builds upon the simple fact that health status has long functioned as a status marker within the international community. As Fidler highlights, "Infectious disease measures historically have served as demarcations by which 'we' protect ourselves from the diseases of 'others.' "[8] In the modern era, though, states have become increasingly preoccupied with the intersection of human biological existence and power. They rely more and more on health and disease as social and political markers, and a person's status as a citizen worthy of respect and attention within the international community increasingly depends upon being healthy and avoiding disease.

Why would health play such an important role? Baldwin provides a useful perspective:

> Bodily fluids are politically important, indicating our status as viable members of the community. Inebriated, infected, or influenced, we

> are less than fully capable and responsible citizens . . . Citizens stricken by a contagious disease pose a threat, and the community must decide how to protect itself. Illness, in the best of circumstances a private misfortune, becomes public and political.[9]

A person's health status has thus transformed itself from an indicator of our biological well-being to one that influences our status within the polity. The ill pose a danger to the healthy. They become a group that is acted upon by the state and are often subject to rules and regulations like quarantining that would be otherwise unthinkable. Groups identified with particular diseases, rightly or wrongly, may face social and political discrimination.

Distinguishing the ill from the healthy requires ever-increasing amounts of surveillance. The state collects increasing amounts of data about individual bodies in an effort to regulate behavior and demarcate status within the state. Starting in eighteenth century Europe, state politics took an active role in regulating the health and well-being of its populace. The state was no longer content to just regulate defense and economics; it now saw the regulation of citizens *qua* humans as integral to its very existence. The state now sought to implement policies specifically designed to regulate the physical well-being and health of its populace.[10] The state thus takes greater interest in the health of its citizens as a way of maintaining and extending its power.

With international infectious disease control efforts, biopolitical citizenship moves beyond state boundaries to encompass the entire international community. Health surveillance operates at both the national to the international level. States are required to share increasing amounts of information about health and disease within their borders or face punishment. In 2005, the WHA substantially revised the International Health Regulations (IHR) to compel all member-states to report any event of public health importance to the WHO. (More detail on this process appears in Chapter 6.) Such intrusive surveillance is justified by efforts to stop epidemics before they start, and it is indeed true that such information is crucial to identifying these emergent threats. At the same time, some states have expressed resentment at these new regulations. They perceive them as expressions of power and dominance by larger states, implying that developing countries are inherently more diseased and therefore threatening to the rest of the world. They allege that international biopolitical citizenship becomes a tool whereby the international community further marginalizes them.

At the same time, framing can also lead to a more inclusive notion of biopolitical citizenship. Marginalized groups can receive attention and resources to eliminate diseases that have bedeviled them—even if those diseases no longer exist among wealthier groups—if efforts are framed more expansively. Instead of wanting to isolate the diseased Other, these frames could encourage recognition of common humanity and an ethical obligation to care for all. Sickness in one part of the human family affects the entire human family, either directly through the spread of an illness or indirectly from needing to care for the afflicted. We could move from a narrow focus on eliminating diseases and toward a more holistic view of promoting health. Similarly, the biopolitical citizenship frame could focus more selfishly. States that have successfully controlled a particular disease within their own borders could frame international disease control efforts as attempts to ensure that their hard-won gains are not lost through no fault of their own. In such a frame, international infectious disease control efforts are less about protecting others and more about protecting yourself. The potential ambiguity over the framing of biopolitical citizenship and how it encourages or discourages collaborative international efforts requires greater attention.

HEALTH AND DISEASE

Dictionary definitions of health frequently emphasize vigor, vitality, soundness of body and mind, and optimal well-being. These colloquial usages make it clear that health is more than simply the absence of disease. International treaties and declarations have often employed a more holistic, far-reaching understanding of health. The Constitution of the WHO declares: “Health is a state of complete physical, social, and mental well-being.”[11] The Ottawa Charter for Health Promotion of 1986 expands upon this definition, adding that health is “a resource for everyday life, not the objective of living” and “a positive concept emphasizing social and personal resources, as well as physical capacities.” The Ottawa Charter goes on to list the following prerequisites for health: “peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice, and equity.”[12]

These broader definitions of health are clearly beneficial for understanding all the components that contribute to human well-being, and they challenge the international community to engage in far-reaching, proactive interventions to allow everyone to live a healthy life. The nature of these obligations has led to great international debates over the years. In 1978, the WHO launched its campaign “Health for All by 2000” based upon the principles elucidated in the

Alma-Ata Declaration. The declaration called for the international community to redress the global inequities in health statuses by ensuring access to primary health care services provided by the state for all as a matter of social justice. Primary health care, as conceptualized by the declaration, included health education, promotion of proper nutrition, safe water and adequate sanitation, maternal and child health (including family planning services), immunization, prevention and control of locally endemic diseases, appropriate treatment for common injuries and illnesses, and the provision of essential drugs.[13] The document cited health as a basic right, fundamental to all people everywhere.

This framing—of a right to health and health care, of health as a public good, of a comprehensive responsibility for the industrialized nations to provide to the rest of the world—quickly came under attack. Developed states balked at providing the necessary resources to realize this goal, and question arose as to the potential political content of such a program.[14] Even more consequentially, many governments questioned whether health was truly an international concern. Health and health care has long been a national (or subnational) issue, and some feared that internationalizing health and all of its attendant prerequisites represented a fundamental abrogation of national sovereignty.[15]

This should not be read as symptomatic of callousness on the part of developed states so much as an ideological dispute over the appropriate role for the international community. We continue to witness vigorous contestation over the existence and nature of an international human right to health and health care, and these debates are likely to continue for the foreseeable future. The revisions to the IHR, detailed in Chapter 6, reflect many of these debates.

By contrast, disease is relatively discrete. Disease control programs seek to limit or eliminate infectious agents that cause specific illnesses in human beings. It is entirely possible that, as a result of such programs, positive externalities like a well-developed health care infrastructure, economic development, sustainable resources, or peace may emerge. The debates that will come clear throughout this book often center on the relationship between disease and health and the international community's priorities on these two fundamental concepts.

INFECTIOUS DISEASE IN THE INTERNATIONAL ARENA

Why focus on international infectious disease control campaigns? Two reasons are particularly relevant. One, coordination at the international level is potentially more difficult. As already highlighted, the international community lacks the same sort of direct power to compel the provision of global public goods. There is no international tax authority to force states to contribute funds to improve international health. There is no international parliament that can debate the passage of international laws analogous to the U.S. Congress or the British Parliament. The WHA passes resolutions and can promote changes within the international community, but it lacks the legal authority and coercive authority of a parliament. Even when states sign international treaties, like the Charter of the WHO, the treaties often lack direct punishment powers, and states will often register reservations that exempt them from certain provisions. Moral suasion and shaming are often the only tools at the disposal of the international community in these situations. And yet, those tools often work. States may lack the power to tax or threaten punishment to encourage cooperation, but the international community has been able to use these seemingly "weak" tools to bring states together.

Two, effective control of and responses to infectious diseases necessitate some sort of international effort. A single state may be able to control or eliminate a disease within its borders. So long as the disease still exists, though, the threat of the return of that disease remains. Barrett offers a three-tier typology of disease control efforts. Control occurs when the circulation of an infectious agent is restricted to below a level that could be sustained by individuals acting on their own. Elimination refers to controlling that infectious agent sufficiently enough as to prevent an epidemic from spreading within a given geographical area. Eradication means that an infectious agent has been eliminated everywhere and at the same time.[16] In other words, control reduces a disease's severity in one place, elimination removes it from that area, and eradication removes it from everywhere. The United States eliminated yellow fever from its territory in 1905, yet cases still occasionally occur in the United States when travelers bring the disease back with them.[17] The only way to ensure that yellow fever does not reappear within the United States is to eradicate the disease—and eradication requires an international, coordinated effort to eliminate the disease everywhere. We could say that yellow fever has been controlled and eliminated from most countries around the world, but we cannot say that it has been eradicated so long as it remains endemic in forty-two South American and African states. National governments can organize disease control efforts, and they can be quite successful, but it takes the efforts of the entire international community to effect long-lasting changes.

PLAN OF THE BOOK

Before examining how global public goods provision and biopolitical surveillance effect global infectious disease control programs, we must first understand biopolitical surveillance and global public goods. Chapters 1 and 2, respectively, explicate what these concepts mean and how they have been used within the international community. Chapter 3 shows how these two ideas played out during the global smallpox eradication campaign. Smallpox offers us a glimpse at humanity's greatest triumph in international infectious disease cooperation, but the eradication efforts also raised much suspicion and cast doubts on the purposes behind the surveillance. Chapter 4 examines the rise of a human rights-based strategy to balance the need for surveillance with the desire to provide a global public good by examining the HIV/AIDS pandemic. While the human rights approach appears ascendant now, it was (and, in some quarters, remains) the subject of intense political battles. Chapter 5 examines SARS, a new infectious disease that emerged and spread in the midst of this human rights-based approach to infectious disease control. In many ways, SARS' emergence presented the international community with its first opportunity to put the ideals of a human rights-based strategy into practice from the beginning. Chapter 6 focuses on the IHR, the main international treaty regulating the treatment and reporting of infectious diseases to international authorities. The IHR underwent significant revisions in early part of the twenty-first century's first decade, culminating in the ratification of a new version of the treaty in 2005. The updated IHR has been significantly expanded to be more broadly applicable in the modern era, but its increased scope has raised fears of overbearing surveillance and too little respect for human rights. In the Conclusion, I offer ideas for explicitly integrating human rights into biopolitical surveillance. Doing so offers the international community the best opportunity to balance these competing interests of providing a global public good and ensuring that surveillance operations do not become overly intrusive.

1

BIOPOLITICAL SURVEILLANCE IN THE INTERNATIONAL ARENA

Biopolitics and health surveillance have increasingly entrenched themselves within the international political realm. Traditionally being the realm of individual states, public health is increasingly a concern of the international community.[1] The World Health Assembly (WHA) vastly increased the scope of the International Health Regulations (IHR) during its 2005 revisions. The changes greatly expanded the scope of reportable diseases, designated specific offices in each country to be available around the clock to facilitate communication between the World Health Organization (WHO) and national governments, and required each state to develop and maintain core public health capacities—including surveillance. The United States, along with other countries, has developed a national strategy for pandemic influenza, replete with preparation guidelines, contact people in each state, and public service announcements. Infectious diseases are moving from the realm of a health issue to that of a national and international security threat. These strategies can appear quite overbearing and intrusive, and may raise concerns over the nature of biopolitical citizenship.

Need such surveillance always be frightening? Increasing attention to the public's health presents numerous opportunities that allow the international community to uphold a basic human right to health. These systems can help prevent a new epidemic before it takes root, make treatment available to the sick faster, and facilitate international cooperation on addressing health concerns. The revised IHR are now more relevant to people's lives, and preparations for an influenza pandemic should allow governments to mobilize faster to protect the public. Public health now commands more attention from policymakers and more resources than in the past.

If we think about the nature of surveillance and its relationship with public health, we can see why competing views on its usefulness exist. Disease control campaigns frequently necessitate an extensive surveillance network. Public health officials must be able to identify cases of a particular disease, track its spread, and monitor local communities to ensure that the disease does not return. When generating support for a control campaign, advocates often claim that constructing surveillance structures will strengthen the state's public health infrastructure. Once these structures are in place, they can easily be adapted to monitor general public health concerns and bring assistance to those in need. Opponents counter that such promises are illusory at best. Local communities have resisted the state's surveillance capabilities, claiming it merely served to unnecessarily extend the state's reach into private, personal arenas. It is also unclear how well these structures have contributed to an overall strengthening of a country's public health infrastructure.

This chapter explores the potential benefits and difficulties associated with the rise of biopolitics and health surveillance. Why do communities resist this biopolitical surveillance, and what are the potential benefits of increased biopolitical surveillance? This requires demonstrating how health and health status have been used as social and political markers in international politics throughout history, explaining how biopolitics and biopolitical surveillance have changed in modern times, highlighting the concerns it raises, and identifying the potential benefits associated with increased surveillance.

FOUCAULT, BIOPOWER, AND BIOPOLITICS

Salter writes, "The history of the body politic is inextricably intertwined with the history of the political body."[2] This statement neatly summarizes Foucault's conception of biopolitics.[3] For Foucault, the modern state has become increasingly preoccupied with the intersection of power and human biological existence. Human health started to figure into conceptions of power to become a form of power itself. Foucault asserts:

> The body is also directly involved in a political field; power relations have an immediate hold upon it; they invest it, mark it, train it, torture it, force it to carry out tasks, to perform ceremonies, to emit signs. This political investment of the body is bound up, in accordance with complex reciprocal relations, with its economic use; it is largely as a force of production that the body is invested with relations of power and domination; but, on the other hand, its constitution as labor power is possible only if it is caught up in a system of subjection (in which need is also a political instrument meticulously prepared, calculated, and

> used); the body becomes a useful force only if it is both a productive body and a subjected body.[4]

As such, the state took a growing interest in regulating, moderating, and overseeing the health of its citizens in various, distinct realms. The state "progress[es] from a theory of sovereignty, which is 'bound up with a form of power that is exercised over the land and the produce of the land, much more so than over bodies and what they do,' toward a theory of a 'disciplinary' society that constitutes and normalizes in addition to rejecting and excluding."[5] It introduces policies, procedures, and regulations that allow it to regulate and optimize life. Some have called the resulting policies and attitudes "the reign of the monogamous jogger."[6]

Foucault subdivides the state's interest in and regulation of the body into three realms. The first and broadest is *biopower*, by which states acquired power over people as *biological entities* instead of simply as political subjects. The bodies themselves, and not just what they represent, becomes an important concern for the state. At this point, which Foucault identified as emerging in eighteenth century Europe, state politics took an active role in regulating the health and well-being of its populace. With this shift, "political power [took] over care of the biological life of the entire social body."[7] The state was no longer content to regulate defense and economics; it now saw the regulation of citizens *qua* humans as integral to its very existence.[8] Biopower represented the extension of state power because the state now sought to implement policies specifically designed to regulate the physical well-being and health of its populace.[9]

The shift in the basis of a state's power opened a new realm of discipline and coercion. The state no longer needs to rely so much on its overt ability to force changes. Instead, it sought to flex its power through standardizing human existence. "Techniques to control the individual body were integrated into biopolitical techniques that sought to control the standardized multitude of bodies or the statistical 'middle-man' that represents this standardized being."[10] Governments exerted their control through instilling habits to promote the physical and moral well-being of both individuals and of society as a whole. These habits, while seemingly beneficial to individuals, promoted the state's interests and its desire to improve its security and economic wealth.

To understand the emergence of biopower, Foucault subdivided the concept into *anatomo-politics* and *biopolitics*. Anatomo-politics focuses on state efforts to make *individual* human bodies both more productive and more docile. This microlevel manifestation of biopower seeks to convince individuals to change their health-related behaviors in ways that will enrich the state and secure its power against any challengers. Anatomo-politics focuses attention on disciplining the individual body. It is "centered on the body as a machine: its disciplining, the optimization of its capabilities, the extortion of its forces, the parallel increase in its usefulness and its docility, its integration into systems of efficient and economic controls."[11] In so doing, anatomo-politics becomes a sort of invisible power intertwined with various systems of knowledge and surveillance. This idea extends his previous work on discipline and punishment at the individual level to the realm of health.[12]

More relevant for the present purposes is the second dimension of biopower—biopolitics. Whereas anatomo-politics focuses at the individual level, biopolitics concerns itself with the population as a whole. It represents the attempts by governments to regulate health indicators within the entire group, focusing on areas like birth, mortality, and morbidity rates. It focuses on the size and quality of the population, reproduction rates, and on familial relations.[13] To measure such population dynamics, though, the government must collect a great deal of information. This gives the government vast surveillance responsibilities. As the government collects data, it then crafts various interventions to promote its own power.[14] Collecting this demographic data also gives the government powers to classify the population along the lines it sees fit. The decision to disaggregate data along some dimensions (such as race or marital status) but not others (like class) can have immense consequences for the sorts of interventions implemented and the issues that receive government attention.[15] This provides a great deal of regulatory power to the state.

As originally used, Foucault's notion of biopower and biopolitics generally restricts itself to the national level. This largely makes sense, as he finds a correlation between the rise of the modern state with the rise of biopower. In recent years, though, scholars have shown that Foucault's ideas about surveillance and "panopticism" hold a great deal of relevance at the international level. Panopticism traces its intellectual origins to Jeremy Bentham. In 1785, he designed a prison that allowed guards to monitor all prisoners at any time, but the prisoners could not tell if they were being watched at any particular moment. Because the possibility of surveillance existed, Bentham believed it would encourage prisoners to behave properly and monitor their own actions. Foucault extended this idea to the broader society, arguing that similar self-policing structures exist throughout society. Through these structures, power functions automatically to enforce discipline on the broader society even if no one is (seemingly) exercising power in an overt fashion. Stephen Gill, for example, discusses how the neoliberal economic system and its attendant surveillance systems exercised through instruments like credit cards condition behavior and discourage people from questioning the rectitude of the system.[16] Monitoring makes people compliant, Gill argues, even if they are not being overtly monitored at any given moment. It is the *possibility* of such monitoring that encourages such "proper" behavior.

Panoptic surveillance is generally associated with the state and frequently has negative connotations, but neither need be the case. Steele and Amoureux examine how nonstate actors like Amnesty International and Human Rights Watch (HRW) engage in panoptic surveillance for the greater good. These organizations provide an effective and efficient means for preventing human rights abuses and genocide. They "represent a lighter and more rapid form of power structures than the hegemonic power of sovereign states."[17]

Further, recent events demonstrate the growing use of health surveillance at the international level. The WHO, long considered a moribund institution, has taken an active and aggressive role in collecting and disseminating information about human cases of SARS and avian flu. UNAIDS, an organization drawing on the collective strength of a dozen UN-affiliated bodies, has established itself as the definitive repository of demographic information about the worldwide spread of HIV and AIDS. Not only can it provide aggregate numbers, but it also subdivides this data by various groups, such as women, men who have sex with men, intravenous drug users, and commercial sex workers, among others. Projects receiving funding from the Global Fund to Fight AIDS, Tuberculosis, and Malaria must not only demonstrate the utility of their planned interventions, but future funding is contingent upon adequate and continuous monitoring and evaluation throughout the project's lifecycle. Biopower even finds its way into the United Nations' Millennium Development Goals (MDGs).[18] Half of the MDGs explicitly address health-related concerns, such as reducing maternal mortality, cutting the spread of HIV, and eradicating extreme hunger. The MDGs are predicated on the very notion of biopower. Advocates emphasize that one of the key advantages of the MDGs is that they provide concrete, quantifiable, and measurable targets. Thus, to know whether the world is making progress toward realizing the MDGs, the international community must engage in active surveillance of health indicators for nearly every country in the world.[19]

ORIGINS OF HEALTH SURVEILLANCE AND BIOPOLITICS

Health status has long served as a social marker. Fidler notes, "Infectious disease measures historically have served as demarcations by which 'we' protect ourselves from the diseases of 'others.'"[20] *We* are healthy; *they* are diseased. As a result, *we* need to be protected from *them* so that *they* do not infect *us*. Just prior to the dawning of the twentieth century, the world was gripped by a widespread bubonic plague epidemic. Government officials around the world used the fear of plague's spread by the "dirty Others" to justify discriminatory laws and essentially deny citizenship to large swaths of their populations. In San Francisco, political leaders blamed plague on the city's burgeoning Chinese population and instituted segregationist policies to provide a physical separation between the whites and the Chinese.[21] Thousands of miles away, South African government officials used the same argument—that the nonwhite population was bringing plague to the city—to create "native locations" and establish sanitary corridors between the white and black population centers in Cape Town. This was the first instance of the South African government deliberately segregating racial groups, and it was explicitly justified on public health grounds.[22] In both instances, government officials used health status—or, more precisely, *perceived* health status—as a marker of membership within the larger political community. Those deemed "sick" were excluded from participating.

Along similar lines, the spread of diseases has often been blamed on the habits or mere presence of such disfavored groups. When bubonic plague devastated Europe in the 1300s, killing roughly one-third of the continent's population, blame for the disease often fell upon Jewish populations. Some accused Jews of poisoning wells. Others believed the plague came from God's extreme anger, and they targeted Jews as the provocateurs who inspired such ire. As a result, the Jews faced persecution, forced removal from their lands, and, in some instances, murder at the hands of Christians seeking an explanation for this dreaded epidemic.[23]

In its earliest manifestations, biopolitics often found resonance in urban reform movements in the late nineteenth century. Reformers saw cities and towns as poor, dirty, and unhealthy. Their residents often lacked education or job opportunities. They suffered the effects of rampant pollution. Such unhealthy conditions impeded their ability to prosper and break out of the cycle of poverty in which they were trapped. To improve the situations of the poor, though, required more than simple medical interventions; the health of *society* had to improve. "People had to be made more 'healthy' and educated," writes Padovan, "air and cleanliness should prevail everywhere, cities should be rebuilt, sewers dug, fountains, schools, parks, gymnasiums, chemists, and hospitals were all required, if public health were to improve."[24] Treating individual pathologies required addressing these social pathologies. Improving the society's health became part of the government's basic function. Society had to be remade, and it was the state's responsibility to remake it. The government now had a clear interest in understanding and regulating the health of the social health, and it sought to instill proper health and hygiene habits in each individual "that would improve both the physical and moral health of each individual through public education, family involvement, and by state intervention in the field of the most common social areas of health disease."[25]

Biopolitical regulation would allow the society to prosper economically and shift how it allocated its resources. "While spending to clean up the urban environment might appear to increase the sphere of government, the cleanup would actually lessen the need for bureaucracies devoted to other problems."[26] By exercising power through biopolitics, the state would reduce the need to exercise its power in other realms. This fits with emerging norms of utilitarianism. Government actions should be judged not by their costs, but by whether they improved industrial production. The failure by the state to promote the health of the social body cost the laborers who died prematurely as well as the larger community that lost out on potential profits and the expense of providing social welfare services.[27]

Edwin Chadwick was one of the key proponents of this belief. Chadwick was a British social reformer inspired by Jeremy Bentham's utilitarian ideas, and he served as secretary of Britain's Poor Law Commission. Writing a report on urban squalor and its effects on the British economy and moral standing in 1842, Chadwick argued that an improvement in public health would lead to a reduction in national welfare rolls. Living in poor and dirty conditions damaged moral character. It caused people to become "improvident, reckless, and intemperate, and with a habitual avidity for sensual gratifications."[28] They would "spend their earning weekly in the beer shop; associating with the worst of characters, they become the worst of laborers, resort of poaching, commit petty thefts, and add to the county rates by commitments and prosecutions."[29] Regulating health, therefore, became a way of regulating the economy and disciplining people to live right so as not to pose a burden on society. Living a healthy life would instead allow people to contribute to society in a positive manner. Chadwick's report spelled out the case for government intervention in regulating the bodies and the health of Britons.

Some have extended biopolitics even further, tying it to the rise of fascism and eugenics. If biopolitical regulation seeks to improve the health of the societal collective, then it is not far-fetched to argue that the state has an interest in promoting certain kinds of members of this collective. Eugenic strategies could maximize the fitness of the population through incentives and compulsion to prevent certain classes of people from reproducing.[30] This gave the state a direct role, in some cases, in determining who should marry. It also led to sterilization campaigns—some voluntary, some forced—aimed at members of "undesirable" groups.[31] The state sought to rationalize reproduction to strengthen the society and to produce more individuals who would epitomize society's values. Science, according to the eugenicists, could provide us with the tools to identify and replicate the best qualities of the human race, and that knowledge could then be used to improve the state.[32] This system entrenched a social and biological hierarchy within society, putting the weight of the state behind it.

MODERN HEALTH SURVEILLANCE

We can track much of the modern understanding of public health surveillance back to one man: Alexander D. Langmuir. Through his work with the Communicable Disease Center (CDC), Langmuir redefined public health surveillance and its role in shaping the state's policies on biopolitics.

During World War II, the U.S. Public Health Service maintained the Office of Malaria Control in War Areas (OMCWA). Its function was to control and prevent malaria among soldiers both in the United States and on the battlefield. With the war's conclusion, this office morphed into the CDC—the forerunner of today's Centers for Disease Control and Prevention. The CDC built upon the disease control and prevention experience of the OMCWA, applying its insights to a wider range of illnesses. Concurrently, the United States' military involvement on the Korean Peninsula was beginning. Fears arose among political and military leaders in the United States that Communist forces could use biological weapons against American soldiers. Chinese propaganda alleged that American military forces were using biological weapons and warned that they would respond in kind.[33] U.S. government leaders responded by calling for the creation of an early warning system to alert military commanders of any such biological weapons attack in a timely fashion.[34]

Enter Alexander Langmuir. A professor of epidemiology at Johns Hopkins University, Langmuir joined the CDC in 1949 as its chief epidemiologist. His chief task in those early days was to develop the nascent organization's epidemiological capabilities so as to be useful on a practical basis. To this end, he created the Epidemic Intelligence Service (EIS). Members of the EIS commonly called "the disease detectives," received two-year postgraduate fellowships to public health personnel in applied epidemiology to link disease outbreaks with their causes and recommend treatment and prevention options. EIS officers acted as a public health early warning system, alerting officials before a disease got out of hand.[35] EIS essentially put surveillance into practice and trained future generations of public health professionals to do the same.

The main innovation of the EIS was to rely upon applied epidemiology. Applied epidemiology, which Langmuir often called "shoe leather epidemiology,"[36] marries epidemiological insights into policy actions to protect and improve the health of a given population. This means investigating health problems, monitoring changes in health status of individuals, and evaluating the efficacy of certain interventions. During his twenty-one years at the CDC, Langmuir placed heavy emphasis on the need for epidemiologists to go into the field, collect their own data, and see the conditions on the ground. They needed to rely heavily on and conduct their own active surveillance. Applied epidemiologists translate scientific studies into practical and effective public health programs and often play a vital role in defining health risks and their potential treatments.[37] This meant a prominent role for biopolitical surveillance. The approach of the EIS is widely credited for identifying the bacterium that causes Legionnaires' disease and identifying toxic shock syndrome, though Langmuir criticized the service for its poor response to AIDS.[38]

This new method of operating also entailed a new definition of public health surveillance. Although previous definitions had focused on the individual and the means by which individuals spread disease through their contacts with other individuals,[39] this new definition paid more attention to disease themselves and their distribution throughout the entire population. Writing in 1963, Langmuir defined this new notion of public health surveillance as

> the continued watchfulness over the distribution and trends of incidence through the systematic collection, consolidation, and evaluation

> of morbidity and mortality reports and other relevant data. Intrinsic in the concept is the regular dissemination of the basic data and interpretations to all who have contributed and all others who need to know.[40]

This redefinition of surveillance emphasized the role of aggregate data. It focused less on individual cases and more on the emergence of statistical anomalies within populations and applying strategies to those populations. Individuals are important only insofar as they manifest a particular disease; it is the emergence and distribution of the disease itself that matters.

Shifting to a disease-centered definition of public health surveillance also means that the entire population is essentially under surveillance at all times. If the emergence of any new disease or a change in its distribution occurs at random, then operations need to be in place at all times in order to allow the surveillance mechanisms to detect these changes. They require large amounts of data in order to identify what is “normal” and what is “abnormal.” It also suggests the need for a robust public health infrastructure to implement the recommendations of EIS or any other public health agency that detects some anomaly in the population’s health. Sharing of epidemiological data only matters if there is someone with whom you can share.

Langmuir’s redefined notion of public health surveillance continues to resonate today. Indeed, the current operating definition of surveillance used by WHO officials is essentially a condensed restatement of Langmuir’s early assertion. As defined by WHA resolution WHA58.3,

> Surveillance means the systematic ongoing collection, collation, and analysis of data for public health purposes and the timely dissemination of public health information for assessment and public health response as necessary.[41]

This definition, just like Langmuir’s, pays particular attention to the need to collect aggregate data and the need to share findings with relevant parties. It also suggests an important role for national and local public health infrastructures to carry out the necessary response.

WHA58.3’s definition of surveillance provides the clearest understanding of what public health surveillance is today and how most public health actors operationalize it. The WHO is the international community’s leading public health agency, so its operating definitions function as default definitions for the world. In this case, a seemingly innocuous definition both provides hope for the strengthening of public health infrastructures worldwide and alarms those who fear the intrusion of biopolitical surveillance.

BIOPOLITICS TODAY

Where do we see evidence of this increased emphasis on biopolitics and health surveillance today? One crucial area is in data sharing. Public health officials worldwide have called upon the international community to do a better job of collecting and sharing data. They often connect their pleas to increased globalization. "Free movement of goods and people create a need for national surveillance institutes to communicate events to each other regularly, sometimes rapidly, and to use similar surveillance components and case definitions."[42] As people and goods circulate more widely and easily, fears increase that disease could inadvertently travel with them. Travelers can get to the other side of the world in less than two days. That is faster than it takes for clinical symptoms of many diseases to materialize. People could conceivably carry an illness around the world, potentially infecting hundreds or thousands, before they even begin to feel ill. Such free and easy movement, generally associated with globalization, makes the timely sharing of public health information even more imperative.

It is not enough to simply share information, though; public health officials must use the same vernacular and diagnose diseases in a similar fashion. Reintjes et al. identify the existence of different clinical definitions for diseases among the countries of the European Union as impeding the development of more robust, continent-wide public health surveillance system. They make a plea for the standardization of diseases, paralleling Foucault's arguments about biopolitical surveillance encouraging the standardization of human health and behavior.[43]

One of the most concrete manifestations comes through the increased collection of statistics. Recent years have seen an increased emphasis on collecting quantitative data on mortality and morbidity rates for various diseases. UNAIDS estimates the number of people who are currently HIV-positive at 33.2 million.[44] Thanks to the WHO's efforts, we have confirmed 408 human cases of avian flu, 254 of which resulted in death, as of mid-February 2009.[45] WHO also reports 8,096 confirmed SARS cases and 774 deaths from the same disease in 2002 and 2003.[46] In the past, states may have resisted sharing this sort of data. They may have underreported cases or even denied a disease's presence within its borders to prevent looking weak or unable to respond.[47] Today, though, states face increasing pressure to share this data, and WHO has cultivated ties with medical professionals around the world to get information that government officials may not want released. During the SARS outbreak, Chinese government officials initially denied the existence of the disease. When they acknowledged the disease's presence, they deliberately underreported the epidemic's scope. Public pressure forced the government to admit the extent of the disease, and WHO officials found the information they needed to prevent the disease from spreading even further by working outside the officially sanctioned channels of communication.[48]

These data go beyond raw numbers—even beyond reports by country and gender. The SARS data, for example, provide information like median age, dates of first and last cases, number of infections among health care workers, and how many cases were "imported" from another country. The AIDS data provides a similar level of detail. Some individual country reports even estimate the number of cases among particular "high-risk" groups, such as commercial sex workers, intravenous drug users, and men who have sex with men. This provides an important level of detail that could be useful for devising appropriate responses from the medical community. It also stokes the Foucauldian fears of health classification as an instrument of control. Classification and quantification, in the biopolitical sense, can be used to separate groups and deem certain groups as "high-risk" or requiring greater observation, such as the quarantining of AIDS patients in countries like Cuba.

The updated IHR factor prominently in any discussion of health surveillance and biopolitics.[49] Originally adopted in 1969, these Regulations underwent massive changes at the hands of the WHA in 2005. The previous version focused largely on passive measures of disease control and notification, and it only applied to four diseases: smallpox, cholera, plague, and yellow fever. The revised version sought to implement more active control and containment activities, the requirement of more proactive international notification of disease outbreaks, and the expansion of the list of notifiable conditions.

The new IHR "aim to prevent, protect against, control and respond to the international spread of disease while avoiding unnecessary interference with international traffic and trade." Under this new framework, all member-states are required to "notify WHO of all events that may constitute a public health emergency of international concern and to respond to requests for verification of information regarding such events."[50] States not only have to tell the international community about any disease outbreaks, but they also have to answer any questions the international community may have about diseases within their borders. The IHR also require states to develop core national public health capacities that will assist with both control and surveillance of disease outbreaks. Instead of just applying to the original four diseases, the new regulations apply to any public health event that could pose a threat to other states through its international spread and could potentially require a coordinated international response.

By upholding these new standards, states stand to gain many benefits. They have access to WHO technical assistance and support, receive support and guidance on strengthening core public health competencies, and gain access to the Global Outbreak Action and Response Network (GOARN), WHO's "'one-stop shop' of global resources to help manage public health risks and emergencies of international concern." Adhering to the IHR also allows a state to consider itself a "respected partner in the international effort to maintain international public health security."[51] Thus, the IHR distinguish states as responsible members of the international community. They come with both psychic and tangible benefits. Proper health surveillance leads to respect and status within the international community.

When it comes to disease epidemics, such panopticism and biopolitical surveillance proves useful and beneficial. Epidemics are often random events, especially when new pathogens find a niche within the human population and take hold. Though it would be irrational to assume that no new pathogen would ever emerge, no one could have foretold, for instance, that SARS would emerge. Epidemics strike without warning. The very randomness makes it all the more important for states to be ready to respond effectively and collaborate with the international community at a moment's notice. Structures need to be in place ahead of time. Preparation increases the chances that a state will be able to address the epidemic's challenges in a timely manner. Just as Bentham's panopticon could watch the prisoners at any time so can an epidemic strike at any time. A state that had failed to discipline itself properly by establishing some sort of response plan could find itself in real danger. The WHO openly exhorts states to prepare for potential pandemics. Such actions will lead to "an integrated global alert and response system for epidemics and other public health emergencies based on strong national public health systems and capacity and an effective international system for coordinated response . . . [to] strengthen biosafety, biosecurity, and readiness."[52]

We also find evidence of increased health surveillance and biopolitics in the securitization of disease. Infectious diseases have increasingly inhabited the domain of "high" politics of national security from its more traditional realms of the "low" politics of social issues and policies. Fidler goes so far as to call international health's previous status "really low politics" because it was "considered technical, humanitarian, and non-political."[53] Recent years, though, have seen a dramatic shift. In 2000, the United Nations Security Council held a special session dedicated to exploring the international security ramifications of AIDS. This was the first time ever that the international community's highest body had ever devoted a session solely to a public health issue. While some dismissed the session as political pandering for an American audience,[54] this was not the only, nor the first, instance of linking public health and national security. A 1987 National Intelligence Estimate, pulling together the combined opinion of the government's various intelligence agencies, argued that the AIDS epidemic was already increasing the likelihood of instability in Africa thanks to increased tensions between states and the negative economic effects of the disease.[55] A decade later, the U.S. National Intelligence Council published a report, *The Global Infectious Disease Threat and Its Implications for the United States.* This report explicitly linked AIDS, Ebola, tuberculosis, and other diseases with the U.S. ability to defend itself. With increased cross-border traffic and increasingly drug-resistant microbes, the authors argued, all governments around the world faced an unprecedented threat to their national survival from infectious diseases.[56] A 2002 report by the same body focused specifically on the AIDS epidemics in Nigeria, Ethiopia, Russia, India, and China. These countries currently have relatively low HIV prevalence rates, but the National Intelligence Council singled them out because they (a) have growing infection rates; (b) are quite populous; and (c) are regional hegemons whose AIDS-induced instability could have dramatic effects for their regions and the world as a whole.[57] The U.S. document *National Strategy for Pandemic Influenza* explicitly links the country's need to be prepared to its larger national and international security concerns and places a strong emphasis on surveillance.[58] In 2005, prominent U.S. senators Richard Lugar of Indiana and Barack Obama of Illinois (now the U.S. president) echoed this call, putting avian flu in the same potential threat category as nuclear proliferation and rogue states. They called on the government and the international community to pay greater attention to this security threat and to "increas[e] international disease surveillance . . . especially in Southeast Asia."[59] In these ways, increased surveillance is explicitly tied with ensuring national and international security.

Efforts to include health issues under the rubric of national security are hardly uncontested, as Peterson eloquently illustrates.[60] What is telling, though, is that such a debate is even occurring. Few scholars or policymakers argue for a direct link between health status and the outbreak of hostilities, but there exists a growing awareness of the indirect effects health has on national security. Price-Smith describes health as a stressor variable, exacerbating the problems faced by states with weak national security apparatuses.[61] Peterson and Shellman find that rising HIV infection rates effect national social, economic, and political institutions, which in turn undermine state security systems through indirect processes.[62] These efforts to securitize health and disease recast the health status of a state's citizens (as well as citizens of other states) as existential threats to the state itself; therefore, the state must be ever vigilant against health-related threats to ensure its own survival. Health, then, must move out of the relatively technocratic realm of low politics and into more survival-oriented realm of high politics.

BEING WATCHED: THE POTENTIAL PERILS OF BIOPOLITICS

Fears of biopolitics and objections to it largely fall into one of two camps. The first concerns states being forced to adopt inappropriate institutions or being used as international guinea pigs. The second focuses on inappropriate, often overly militarized, responses. Both of these objections suggest that the emphasis on biopolitics provides a cover for leaders to achieve other political aims under the guise of humanitarianism.

The first objection relates to the use and abuse of biopolitics by outsiders to take advantage of a situation. States have expressed concern that foreign interests use claims of bringing health to undermine state sovereignty, weaken political institutions, and subject people to medical experiments.

Part of the fear comes from how infectious disease can be used to negatively single out particular states. Countries (and individuals) feared that greater scrutiny of their infection rates could undermine their standing within the international system. They would be marked as unworthy or uncivilized, falling victim to a new "standard of civilization."[63] Fortin noted in the mid-1990s that "surveillance was believed to be society's protective response not only to the infectious nature of the disease, but also to what people thought to be the dangerous difference, psychological and more, that the infection symbolized between those who were, and who were not, struck by the plague."[64] Haitian officials reacted with outrage when the United States identified Haitians as one of the four main risk groups for HIV in the mid-1980s. They blamed the designation for decimating the Haitian tourism industry and causing great harm to the national economy.[65] Early discussions of AIDS' effects on Africa highlighted the disease's potential to reinforce an image of helplessness and underdevelopment, further marginalizing the continent within the international political economy.[66] More recently, the Chinese government initially went to great lengths to cover up the extent of the SARS epidemic in 2002 and 2003 out of concern for the socioeconomic repercussions and the perceived potential for political instability.[67]

In all of the above examples, government officials connected disease outbreaks and the resulting international scrutiny with ostracism. They feared that other states will perceive the disease as evidence of the state's weakness and make them vulnerable to the machinations of outsiders.

On the flip side of this argument, developing a state's public health surveillance capabilities may not necessarily respond to that state's public health *needs*. External donors often assume that developing countries want to implement surveillance systems and simply lack the financial resources necessary to make this a reality. Calain identifies four reasons why states may resist implementing surveillance systems. First, externally financed systems may lead to redundancy and overlap. Different donors, focused on different diseases and with different agendas, may lead to confusion, unnecessary duplication of services, and the depletion of scarce human resources. Second, confusion may exist as to the purpose of collecting this data. Is it for planning and managing public health programs, or is it for identifying outbreaks? Is it for national or international officials? These may seem like unimportant distinctions, but the different purposes may provoke different responses and engender different fears about who is conducting the surveillance and for what purpose. Third, disease surveillance systems may place additional administrative burdens on public health workers and officials. If resources are limited, officials may be reluctant to orient their energies toward filing reports for national and international organizations. Finally, public health workers may see little, if any, reward for their compliance. They may not gain access to laboratory facilities, essential pharmaceuticals, or extra workers to help them address the disease outbreak. In other words, reporting a disease outbreak just places an additional burden on the local worker. These objections highlight the fact that disease surveillance systems may not be the highest priority for health officials in countries that are straining to provide basic health services. The international community's surveillance needs and interests may not line up with the health needs and interests of the local population.[68]

We can see some of these tensions playing out in Indonesia over responses to avian flu and cooperation with the international community. The Indonesian government tried to fight back against the perceived increased in biopolitical surveillance. Indonesia has experienced 141 human cases of avian flu as of mid-February 2009—the highest number for any country in the world.[69] Current WHO policy asks, though does not require, states to send virus samples from each confirmed human cases to labs approved by the WHO. The labs, in turn, can use the samples in their efforts to create a commercial vaccine to combat H5N1. Considering that the number of cases in Indonesia is high, WHO scientists had a clear interest in obtaining these samples. In February 2007, the Indonesian government announced it would no longer share its virus samples with WHO unless the organization promised that Indonesia that it would receive guaranteed affordable access to any resulting vaccine.[70] Indonesian health officials "were angry that viruses from their country might be used to make a commercial bird flu vaccine that they themselves would never be able to afford."[71] WHO and Indonesian officials reached a compromise in late March to resume sample sharing but resumed their boycott seven months later.[72] In essence, the Indonesian government objected not only to health-related surveillance, but also to the fact that they would see few, if any, of the benefits of that surveillance. They sought to reorder the balance of power between the "surveillers" and the "surveilled."

The other major concern about the increased surveillance associated with biopolitics focuses on overly militarized responses. As we redefine infectious disease as a security threat, critics have warned that governments may inappropriately rely on traditional security apparatuses to address the problem. Deudney raised a similar concern with the environment. If environmental degradation is deemed a *security* threat that concerns national and international stability, it may lead political leaders to call on military forces to confront the threat. Militaries may be useful for traditional threats, but they may be poorly equipped to respond to environmental degradation or infectious disease.[73]

Militaries can and do play a role in biopolitical surveillance. Some of this is concentrated on the members of the armed forces. Military commanders have an obvious interest in ensuring that their forces are healthy and able to respond to situations as they arise. The military often creates its own parallel public health infrastructure specifically for its members. Like any other public health system, the military seeks to monitor, treat, and prevent illnesses. However, those same capabilities can be extended to monitor civilian populations. Militaries may have laboratory and diagnostic capabilities beyond those of traditional public health organizations. They may also have the logistical and organizational capabilities to facilitate rapid deployment in epidemic regions and the communication technologies to communicate with WHO officials in a timely manner.[74] Indeed, in developing countries, the military may be the only organization with these capabilities. Such an extension of military capabilities into decidedly nonmilitary realms raises fears of the militarization of society. Chretien et al. suggest that some governments have essentially turned the provision of public health services and disease surveillance over to military forces "by providing health services for civilians in remote areas and reporting military surveillance data to the ministry of health."[75] This extends the role of the military into a more prominent place within the domestic arena.

The connections between military forces and public health are not limited to developing countries. Within the United States, much of the global infectious disease surveillance system is linked to the Department of Defense (DoD). In the 1990s, the U.S. government established the Global Emerging Infectious Surveillance and Response System (GEIS). The system set up mobile laboratories that could quickly respond to disease outbreaks around the world. Interestingly, GEIS comes under the administrative aegis of the DoD, not one of the diplomatic or humanitarian bureaucracies in the government. "Their location in the DoD, as opposed to the United States Agency for International Development (USAID) or Center for Disease Control (CDC) demonstrates how seriously the United States views the response to infectious disease as a key national security strategy."[76] Surveillance becomes inextricably linked with the military and the deployment of military personnel in foreign countries. Fears arise that this could cloud the state's response, leading to rely too heavily on military, as opposed to health, means. It also could potentially place the military in a strong position for ensuring and regulating the population's health.

Pandemic influenza preparations have further stoked fears about the links between biopolitical surveillance and the role of the military.

In 2005, U.S. President Bush released the document *National Strategy for Pandemic Influenza*. The document focuses on preparedness, surveillance, and containment. This strategy calls upon government officials at the local, state, and federal government to develop mitigation strategies, build greater lines of communication between officials, and collaborate with international partners. To contain an outbreak, the strategy acknowledges that military capabilities may be used domestically to provide additional medical facilities and to engage in "infrastructure-sustainment activities."[77] Bush expanded upon the military's potential role during a press conference. He remarked:

> If we had an outbreak somewhere in the United States, do we not then quarantine that part of the country, and how do you then enforce a quarantine? When—it's one thing to shut down airplanes; it's another thing to prevent people from coming in to get exposed to the avian flu. And who best to be able to effect a quarantine? One option is the use of a military that's able to plan and move.[78]

Some have seized upon this potential role for the military as proof that governments are using the threat of an infectious disease outbreak to introduce an overly militaristic response that could border on martial law. The United States' pandemic influenza program specifically carves out a special role for the military in providing medical services, enforcing quarantines, and ensuring continuity of government and economy. Some critics of this program have argued that it essentially allows for the declaration of martial law.[79] Greger argues that using the military to institute some sort of quarantine, as he suggests the National Strategy for Pandemic Influenza allows, would serve only to increase stigmatization and discrimination. This would drive people further away from medical attention and exacerbate an epidemic.[80] Irwin Redlener, the dean of Columbia University's Mailman School of Public Health, called the militarized aspect of the government's response "extraordinarily draconian" and equated it with martial law.[81]

More bombastically, Michael Osterholm, an advisor to the U.S. government on its pandemic flu preparations, paints the following doomsday scenario:

> Border security would be made a priority, especially to protect potential supplies of pandemic-specific vaccines from nearby desperate countries. Military leaders would have to develop strategies to defend the

> country and also protect against domestic insurgency with armed forces that would likely be compromised by the disease.[82]

He goes on to discuss the fallout from the government's failure to properly securitize pandemic influenza:

> Someday, after the next pandemic has come and gone, a commission much like the 9/11 Commission will be charged with determining how well government, business, and public health leaders prepared the world for the catastrophe when they had clear warning. What will be the verdict?[83]

Osterholm's prognostication envisions widespread looting and the need for roaming militias to ensure access to drug supplies as he envisions millions of people dying. He speaks strongly about the need to protect our borders to prevent people from coming to the United States to get *America's* drugs. This also suggests that pharmaceutical manufacturing capabilities may become a national security issue, as could access to antiretroviral drugs in developing countries. Garrett notes that pharmaceutical patent protections are stoking anti-Western sentiments in some countries, threatening to create greater problems.[84]

These concerns about the role of the military in responding to a disease outbreak get to the very heart of surveillance. Fears have arisen about the potential for overt coercion going hand in hand with increased government surveillance in public health. Government officials have linked increasing adherence with universal standards embodied within increased health surveillance with a loss of sovereignty, attempts to weaken the state, and domination by Western states.

PROMISE OF BIOPOLITICS

The specter of increased biopolitical surveillance can certainly induce fear, but is biopolitics necessarily a dangerous concept within the international community? Could biopolitical surveillance benefit states and international health? There is reason to believe it could. As public health becomes an increasingly important issue within the international political realm, we see greater resources devoted to it. Countries express greater concern about the need to address health problems in other places. Though they may do it for selfish reasons (like preventing instability or the disease's spread to its own territory), states have shown a greater willingness to devote energies and resources to preserving the public's health—and the world benefits from this.

Surveillance can lead to greater attention to problems that would have gone unnoticed in earlier times. U.S. Surgeon General David Satcher addressed the role of surveillance in public health directly in 2001, noting, "In public health, we can't do anything without surveillance…that's where public health begins."[85] Exploring how biopolitical surveillance can lead to greater attention and greater resources for improved international health can demonstrate how biopolitics need not necessarily undermine the international system.

While Foucault emphasizes the connections between state power and biological existence, it bears emphasizing that biopower directly encouraged many of the sanitary and health reforms that lengthened life spans and improved living conditions for millions of Europeans. Governments may have seen improved public health as a means for reducing the poor's financial burden on the state, but this desire allowed for the extension of sewer services, addition of health clinics, and improvement in general sanitation. These services and advantages had long been available only to the moneyed elites within society.[86] Public health reforms that accompanied the growth of biopolitical surveillance brought these to the masses.

These reforms were not inconsequential. Biopolitical surveillance allowed health problems like rampant tuberculosis in the late 1800s to enter the public consciousness. As the state came to understand the full extent of the problem, it devised interventions that directly contributed to reducing the rates of tuberculosis and improving the conditions that fostered the disease in the first place. Improvements in nutrition and economic standing are widely believed to have helped decrease tuberculosis mortality rates in the United Kingdom from the eighteenth through the early twentieth centuries.[87] These improvements occurred prior to the development and deployment of widespread medical interventions. Effective antibiotics did not yet exist, and few could afford the treatments that were available. Instead, public health improvements, brought on through the collection and dissemination of data on rates of tuberculosis, lengthened life spans. Biopolitical surveillance directly contributed to *improving* the lives of citizens. It was not simply a tool of domination.

Biopolitics and its promotion of particular behaviors benefitted the life spans and general health in other ways, too. Hygiene improvements, such as encouraging breastfeeding for infants, promoting handwashing, and advising mothers to boil milk before serving it, reduced morbidity and mortality rates of infectious diseases.[88] Campaigns to encourage better hygiene were often connected to broader efforts to promote the education of women, as women's education levels correlated with infant and child health status.[89] Promoting better health behaviors thus had the positive externality of promoting and encouraging widespread women's education.

More large-scale, state-directed public health improvements, inspired by the collection of biopolitical data, played significant roles in decreasing morbidity and mortality from infectious diseases. Governments implemented programs to collect refuse, provide clean water through public works programs, inspect meat, and pasteurize milk.[90] Cutler and Miller, focusing specifically on the role of clean water technologies in American cities, found that these technologies reduced mortality by 13 percent between 1900 and 1936, accounting for 43 percent of the total decline in mortality during this period. The effects were even more striking for infants and children, with clean water technologies leading to mortality declines of 62 and 81 percent, respectively. Such improvements almost completely eradicated typhoid and reduced rates of meningitis, pneumonia, tuberculosis, and diphtheria in major American cities in the first half of the twentieth century.[91]

These improvements did not emerge out of a sense of altruism among municipal leaders. Instead, they followed the collection and dissemination of biopolitical data. By keeping an eye on the health and welfare of the general population governments were motivated to take an active role in trying to improve the lives of city dwellers—rich and poor, young and old. Further, while some may fear the increasing role of the military in biopolitical surveillance and public health in general, the reality is that the military may be the only institution with the capabilities to do this. With weakened public health systems in many states, the military alone may possess the infrastructure and personnel necessary to effectively conduct surveillance and implement policies to prevent the spread of infectious diseases.

The increased emphasis on biopolitical surveillance has encouraged states to keep an eye on the health situations in other countries. This is of vital importance if the international community endeavors to stop disease epidemics before they get too much of a foothold or to eradicate diseases. Morse lays the argument out plainly: "The key to control of any pandemic is early identification and rapid response. This must begin with effective early warning."[92] The international community cannot hope to respond to a health situation if it does not know about it. To achieve the early identification of a disease, surveillance systems must already be in place and functioning. Proactive, effective surveillance allows international officials to arrest the spread of a disease early. Bell, though a critic of biopolitical surveillance, acknowledges that such surveillance "is intended to detect, regulate, and perhaps eliminate corrupting factors that threaten the security of the population."[93]

With greater surveillance has come greater attention to health in general. The United Nations Security Council's special session devoted to AIDS in 2000 is just one sign of the increased attention the international community is paying to health concerns. Witness the emergence of both UNAIDS and the Global Fund to Fight AIDS, Tuberculosis, and Malaria. International financial institutions like the World Bank and the International Monetary Fund have moved to place protecting and promoting the health of local populations as central to their organizational missions. The MDGs emphasize the need for the international community to draw on its collective resources to protect the health of all. The WHO, long considered a relatively dormant international organization, has been reinvigorated in recent years as a central repository and disseminator of information. It is now on the front lines of international efforts to arrest disease epidemics as soon as they emerge and a focal point for scientific efforts to identify and treat newly emerging infectious diseases. Even nongovernmental actors have also started to play a central role in providing public health surveillance and promoting disease control programs. The efforts of the Carter Center, for example, have called attention to diseases that have plagued developing countries, putting them on the international agenda. Thanks to its efforts, dracunculiasis is on track to be the first disease completely eliminated from the planet since smallpox's successful eradication.[94] It was only through tracking cases of the disease and publicizing their findings that the Carter Center could marshal the support and resources necessary for such a massive undertaking.

These efforts have helped to redefine how states see their obligations to one another. Health is no longer a matter of national politics; it is now a matter of *international* politics. In all of these efforts, outside actors are increasingly collecting statistics and monitoring the health policy decisions being made by other states. Governments and individuals face more health surveillance from a larger array of actors, but it is through this greater surveillance that the international community has come to recognize the interdependent nature of global health. It is through surveillance and the recognition that some countries lack the resources to address their pressing health needs on their own that other members of the international community have started to contribute to these efforts.

For these outside actors to craft effective interventions and be of real assistance, they must engage in some form of monitoring. They need to know the realities of the situation on the ground. They need to understand what sorts of programs have been tried in the past or are currently being implemented. They need to analyze the effectiveness of their programs. All these efforts require ongoing surveillance. Critics suggest that a state will only agree to work through these international health efforts as long as they continue to benefit that government,[95] but such criticism recognizes that states *do* see some benefit, at least for the current moment, in engaging in surveillance and allowing others to watch them.

With the greater attention paid to international health, we have witnessed a great increase in the resources devoted to addressing the issue. This, too, has only come about through increased surveillance. Government leaders explicitly link their calls for financial outlays for international health with staggering statistics. Governments around the world devoted $14 billion for health issues in the developing world in 2004—a substantial increase over four years and that too at a time when governments faced increasing demands on their overseas development assistance budgets.[96] In 2003, President George W. Bush unveiled his President's Emergency Plan for AIDS Relief (PEPFAR). It provided US$15 billion, spread over five years, to prevent and treat AIDS around the world. Over the course of the program, it has provided services to prevent mother-to-child HIV transmission during 10 million pregnancies, made antiretroviral drugs available to nearly 1.5 million people, and offered care to 6.6 million people affected by AIDS.[97] In 2007, as PEPFAR was nearing the end of its original timeframe, Bush called on the U.S. Congress to reauthorize the program for another five years—but to double the funding to $30 billion.[98] The initial PEPFAR outlays were the largest amount of money ever given by a single country to address any health issue. A pledge of this size only came about because of our understanding of the nature of the AIDS pandemic, who it has affected, and how its unabated spread could have detrimental political and economic consequences.

These resources do not come from national governments alone. The Bill and Melinda Gates Foundation, the world's wealthiest philanthropic organization, has made global health one of its core concerns and has contributed over $3 billion in efforts to combat malaria, AIDS, and other diseases.[99] In a unique partnership of public and private funds, the Global Fund to Fight AIDS, Tuberculosis, and Malaria raised $9.7 billion in pledges in 2007 to fund its worldwide efforts through 2010.[100] The Product (RED) campaign has raised over $100 million for AIDS relief in Africa, and funnels its contributions entirely through the Global Fund. Again, these organizations are able and willing to devote such funds only because they can generate the information to demonstrate the need and usefulness of these efforts. This information comes through the same potentially intrusive surveillance techniques that have given some pause.

Surveillance also introduces a level of accountability. No external force can require any state to ratify the IHR or work with international health efforts like UNAIDS, the Global Fund, or the Cater Center's efforts to eradicate dracunculiasis. Further, these programs lack strong enforcement capabilities to require compliance or impose punishment. They instead rely upon a combination of persuasion, shame, and norm internalization to encourage compliance and agreement. In such a situation, surveillance provides an avenue for monitoring compliance in a way that benefits the citizens of a given country. For example, UNAIDS strongly encourages states to implement programs that respect the human rights of people with HIV/AIDS and to recognize the connections between a lack of human rights and vulnerability to HIV infection.[101]. Through surveillance, the international community can ensure that a country is doing so. It can also bring attention to any deficiencies in integrating human rights into an HIV/AIDS policy. This is not to say that there is only one right way to combine human rights and HIV. It does send a signal, though, that political leaders must be aware that disjunctures between rhetoric and policy may lead to international criticism and punitive sanctioning. Such oversight benefits not only the citizens of a given country, but also the entire international community.

Conclusion

With increased attention to health within the international community has come increased surveillance. This has raised fears among some that this surveillance could redefine biopolitical citizenship and become a new "standard of civilization." Others have called this an advance for recognizing the interdependence of global health. Both of these perspectives are at work within the international community. International cooperation to advance global health is a positive move, but it is important that such moves are not overshadowed by fears of political exploitation.

Cooperation is also the key to providing global public goods, but it can be difficult to achieve. All may agree that something would be beneficial, but that does not mean they all agree about the best way to provide it or who should pay for it. Chapter 2 delves into the issues surrounding global public goods—what they are, how they are provided, and how they relate to issues of health and disease.

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GLOBAL PUBLIC GOODS, COOPERATION, AND HEALTH

We cannot rely upon the market to provide everything we need for society to function and thrive. The product or service may not offer financial incentives to private companies to produce it. It may be inefficient to be provided by multiple different actors. The state may have an interest in ensuring that a particular service or good is produced and made available at a certain level. These are goods and services that are essentially held in common. My use of the service or good does not diminish your ability to use it, and I cannot prevent you from using it. These services and goods are known as public goods. National defense and stop signs are two common examples of public goods.

We can trace the idea of public goods back at least to 1954, when Paul Samuelson first described the qualities of "collective consumption goods." Since then, economists and political scientists have expended a great deal of energy and ink describing how best to provide public goods at an adequate level. This is a particular problem for public goods. Because producers will not reap the benefits (and profits) from producing a public good, there is less incentive to produce that good. What further complicates the situation is that people can benefit from the public good even if they contribute nothing to its provision. Why should I, as a private company, bear the cost of providing of a particular good or service if I know that I cannot recover my costs? In these situations, the government often steps in to either produce the good itself or alter the incentives to induce private companies to provide it.

None of the ideas discussed above is new or revolutionary; these are basic ideas from any Economics 101 course. In recent years, though, we have witnessed efforts to extend the notion of public goods beyond the subnational or national level. Are there goods and services that the *international* community has an interest in providing at an adequate level, yet which the market appears unable to provide? If so, what are they? Do public goods cross international borders? If they do, this poses a new, significant challenge to their provision. Without some sort of government structure, how can we ensure the provision of public goods internationally?

This chapter explores the notion of *global public goods* (GPG), examining the usefulness of the concept and the particular challenges impeding their provision. In particular, the chapter pays attention to the emerging notion of global public goods for health (GPGH). Debates have emerged about the usefulness of considering health a GPG and what health even means in this context.

DEFINING GLOBAL PUBLIC GOODS

At its heart, GPG do not differ significantly from any other public goods. Smith and MacKellar define it thusly:

> A good which it is rational, from the perspective of a *group of nations collectively*, to produce for universal consumption, and for which it is irrational to exclude an individual nation from consuming, irrespective of whether that nation contributes to its financing.[1]

This definition offers a comprehensive overview of the concept while also highlighting the major differences between public goods and GPG. Similar to public goods, GPG differ from regular good in two key ways. The first is *nonrivalrous consumption*. The use of GPG by one person or one state does not diminish its availability to others. Instead of being a zero-sum game (where use by one person or state means another cannot use it), GPG are a positive-sum game (where all sides can benefit without affecting others). The second is "*nonexcludability*." The GPG are available to everyone, and no individual or state can be prevented from enjoying it without an absolutely extraordinary effort. In essence, it would cost more to exclude someone than to bear the cost of providing them with access to the GPG themselves.[2]

The universe of public goods can be subdivided. *Pure public goods* are those like national defense, things from which no one can be excluded, and use by one does not diminish its availability to others. The opposite, *private goods*, would be something like a cookie. My consumption of the cookie means that there are fewer cookies available for others (making its consumption rivalrous), and the baker only gives me a cookie if and only if I pay for it (making it excludable). In between these extremes lie two other types of good, which have public qualities. *Club goods* are those things that are nonrivalrous but are excludable. Closed-source computer software or cable television are examples of this type of goods. Services provided by social and religious organizations would also qualify. *Common goods*, on the other hand, are nonexcludable, but their consumption is rivalrous. Water or grazing lands would be common goods, as they exist in nature and are therefore available to all, but only exist in limited quantities.

Instead of focusing on individuals within a single state, however, GPG focus on the international arena. This is the key difference between public goods and GPG. GPG reach across borders, and a group of states must come together in order to provide them. The benefits of GPG are quasi-universal in their usefulness and availability. This quasi-universality extends across national borders, ethnic groups, generations, and temporally.[3] This necessarily requires some degree of international cooperation and coordination. GPG reflect increased interdependence and globalization. In order to achieve a particular outcome, two or more states or organizations must combine their efforts and work together because "individual rationality is not sufficient for collective rationality."[4] Simply considering what might make the most sense for an individual state from a purely self-interested position would underprovide a good or service desired by the greater international community.

What exactly constitutes GPG? Kaul and her coauthors distinguish among three different arenas in which GPG exist. The first is the *natural global commons*. These goods exist in nature and affect humanity's ability to survive on the planet. Examples include the atmosphere or the ozone layer—natural features from which we all benefit, and no one can be excluded. We cannot prevent people from benefiting from the ozone layer.

The second is the *human-made commons*. These goods arise due to specific human actions, but are not the result of conscious directives by governments or international agreements. An example might be the global stock of knowledge or various international norms and standards. There is no specific policy about the global stock of knowledge, and it did not arise due to specific government action. It is the result of human activity throughout the years, and nearly everyone can access it as need be without diminishing the world's knowledge supply. That is not to say that governments have nothing to do with contributing to the global stock of knowledge; rather, it is an acknowledgement that it arose prior to any overt conscious government intervention.

Policy outcomes are the third type of GPG. They arise from overt intervention by governments and various international bodies. Countries come together to make agreements on specific issues or policy areas that affect the international community at large. Examples include financial stability, environmental protection, and health.[5] Since the first two types of GPG arise without direct human intervention or exist in nature independent of human existence, most discussions of GPG focus on the third category—policy outcomes. They necessarily require human intervention to provide, so their provision (or underprovision) directly implicates the nature of cooperation within the international community.

Increased interdependence and globalization both increase the need for GPG and facilitate their provision. The negative consequences associated with environmental degradation and infectious disease epidemics spread far more rapidly and can affect far more people. We can trace the worldwide spread of SARS to a single hotel in Hong Kong. One (unknowingly) infected person stayed there and managed to transmit the virus to 16 others. Those people then flew to places like Canada, Vietnam, and Singapore, carrying the new disease to those countries. It is entirely possible that those countries would have encountered SARS cases regardless, but the ease and speed of air travel greatly facilitated the dissemination of SARS. At the same time, though, that same high degree of international interconnection facilitated information sharing that helped prevent the disease from spiraling out of control. Interdependence and globalization made it easier for people to exchange information about this novel pathogen, which directly contributed to the eventual breaking of transmission chains.

GPG AND HEALTH

Does health qualify as a GPG? An increasing consensus declares the answer to be positive. Securing the health of a population requires both individual and collective action, so the international community has an interest in taking an active role in providing for the public's health.[6] It is practically a cliché, but the fact remains that microbes do not respect national borders. As it becomes ever easier for people to cross borders quickly, and as an ever-increasing number of goods are traded around the world, more opportunities exist for the inadvertent spread of a health concern from one country to another—even before symptoms emerge in the original country. Ill health and infectious disease in one country can easily affect other states, and it requires coordinated action to halt the spread of an infectious disease or improve the general health of a population.

Recognition of the transborder consequences of infectious diseases and the usefulness of conceptualizing health as a GPG, though, does not necessarily make it easier to *supply* that GPG. Supplying health-related GPGs at an adequate level depends upon widespread cooperation from all states—including the ones that may have the least capacity to contribute. Barrett describes these GPGs as *weakest link public goods*, as their supply depends on the extent to which the least able states can contribute to them.[7] "Whether the supply of weakest link global public goods succeeds or fails depends on the country that does the least," he writes.[8] The international community could only eliminate smallpox if *all* countries allowed for vaccination and maintained high-level surveillance systems to find any new cases. At the end, smallpox's eradication depended upon overcoming the very real logistical and political challenges of tracking down the final cases in Somalia. If those efforts in the Horn of Africa had failed, the entire international campaign would have failed. We can trace the successes and failures at stopping the spread of SARS to the weakest efforts by any given state. When the Chinese government refused to acknowledge the seriousness of this new pathogen and did not hold officials accountable, SARS spread rampantly. Once the government made the arrest of its spread a key priority, its cooperation with the international community gave containment efforts a much-needed shot in the arm.

This view of health as a GPG is a relatively recent phenomenon. In the 1970s, health officials and activists promoted the "Health for All by 2000" campaign. This effort sought to definitively establish health as a basic human right available to all regardless of the ability to pay. As such, "Health for All by 2000" called upon the international community to take an active and overt role in ensuring basic primary health care to all people around the world. Such a vision required a wholesale reconceptualization of a government's responsibility to address the health concerns of both its own citizens and those in other countries. Wealthy states would have financial and personnel obligations to assist with the development of sustainable and useful health care infrastructures around the world. At a meeting in Alma-Ata in the erstwhile USSR, in 1978, nearly every country in the world signed on to a pledge—the Alma-Ata Declaration—to work toward the provision of primary health care as a basic human right. In so doing, the supporters of "Health for All by 2000" challenged the international community to see health as a specific GPG and to act accordingly to provide it.

Shortly after that 1978 meeting, though, the effort fell into disarray. Government officials in the United States feared that the campaign could be used to promote socialism in nonaligned states. Developed states balked at the cost and feasibility of creating health infrastructures and providing adequate personnel in such a short period of time. The international economy fell into recession shortly after the Alma-Ata Declaration was signed, significantly reducing the ability of many states to contribute to the effort. Some objected that the vision of health promoted by "Health for All by 2000" was too broad. Instead, they wanted to focus on a few conditions that caused disproportionate mortality levels. Ultimately, the campaign failed to encourage widespread changes in government behaviors, and the world still lacks basic primary health care for all.

The failed "Health for All by 2000" campaign demonstrates that the international community did not view health as a GPG in the 1970s and 1980s. Its proponents could not convince enough members of the international community that it was worthwhile for them to collectively produce this good that the market had thus far been unable to provide. States did not recognize the necessity of collaborating to provide health. It was still largely seen as being the province of national and subnational governments. Compelling the international community to ensure the provision of health as a GPG, according to this line of thinking would violate a state's sovereign right to determine its own policies without undue external interference.

Since that time, the thinking among many policymakers has started to shift toward an embrace of health as a GPG. This has occurred for a number of reasons. First, the world has witnessed an increasing number of new and reemergent infectious diseases. The emergence of SARS and AIDS, among others, has convinced public health officials around the world that medical science has not vanquished the microbial threat as they once thought. Indeed, the CDC reports that at least 33 new infectious diseases have emerged among humans since the mid-1970s.[9] In addition to these new ailments, diseases once considered to largely be under control, such as cholera, tuberculosis, and malaria, continued to infect increasing numbers of people every year and have mutated into more dangerous forms. Second, governments increasingly recognize the potential consequences of diseases crossing borders. The SARS epidemic of 2002 and 2003 clearly demonstrated to governments the ease with which infectious diseases can enter new countries and the value of collaboration to prevent such a spread. Third, a number of governments and international organizations have promoted the idea that health is a development issue. A country that wishes to prosper economically in a manner benefiting the entire international community needs a healthy populace. Health is not a discrete issue, but rather an integral element of a grander international effort to spread prosperity. Finally, the international community has started to take a broader view of who should be responsible for providing health care. No longer is health care solely the domain of the state. Nongovernmental organizations, international organizations, multinational corporations, nonstate actors, and public–private partnerships all play significant roles in expanding health care infrastructures and providing services. This expansion reflects the recognition that these other entities can often better reach underserved communities and show the flexibility necessary to adapt to challenging circumstances.[10]

With this recognition comes a new concept—global public goods for health (GPGH). GPGH embodies a holistic view of health and the international community's role in securing it for humanity. Feachem and Sachs use a simple question to describe GPGH: "If there were such a thing as a world government, what activities would it undertake to improve heath?"[11] GPGH focuses the insights around and challenges of GPG on a single sector—health. This offers a central core around which activities can emerge and take root within the international community.

An example of GPGH comes from the Global Immunization Vision and Strategy (GIVS). Endorsed by both the WHA and UNICEF in 2005, GIVS aims to reduce vaccine-preventable disease mortality and morbidity by two-thirds by 2015 as compared to 2000.[12] It represents a coordinated effort to work toward the greater goal and public good of widespread vaccination against preventable diseases. Higher vaccination rates benefit all, as they decrease the likelihood of a disease spreading within a community. They may also help provide some of the infrastructure necessary for other critical health interventions, thus increasing access to health care overall.[13] Achieving such widespread immunization rates to achieve this two-thirds reduction in 119 countries around the world will not be cheap; officials estimate that the total expenditure over 10 years will be approximately $76 billion.[14] Supporters are optimistic about their chances of success, though, because they believe that the international community has come to realize the value of such a program and the need for it to be collectively provided.

Even with this growing recognition, health-related GPG remain underprovided. Sandler notes, "Despite the high stakes, there is no overall strategy for promoting health worldwide owing to collective action problems stemming from the need for global participation, lack of awareness, and national protection of autonomy."[15] Different types of health problems require different types of solutions, making it all the more difficult to ensure their provision at an adequate level. Eradicating smallpox involves a different set of strategies and thus requires a different type of cooperation from the international community than the control of HIV/AIDS or amendment and ratification of the IHR. Sandler goes so far as to call GPGH the international problem that requires the greatest diversity of strategies for their provision.[16] Health is, by and large, a pure public good. Ensuring health and health care, though, is not necessarily a pure public good. Providing access to pharmaceuticals deals with a private good (the drugs themselves), but the state often seeks to provide these drugs as a common good. Medical services could qualify as either a club good (if they are only available to citizens or residents of a particular area, but otherwise available without restriction) or a common good (if they are freely available but there exist limits on how many health care providers exist, or how many patients can be seen within a given time period). Most reformers, though, wish to re-envision medical services as a pure public good. Biopolitical surveillance, in its optimal state, operates largely as a pure public good. No one can feasibly be prevented from enjoying its benefits, and the use of such surveillance systems by one party has no effect on their availability to others.[17] However, achieving this optimal state requires not just blurring the lines of these different types of goods, but also securing the trust and cooperation of local communities.

UNDERSUPPLYING GPG

While all people benefit from the provision of GPG, they are often provided at a low level—if provided at all. The commercial incentives that propel private businesses to produce a certain number of widgets do not exist for GPG. Individually rational decisions undermine the collective provision of GPG. The whole of humanity suffers, even though the individual decisions make sense at that level.

Four key problems undermine the provision of GPG, leading to a collectively suboptimal outcome. First, as mentioned earlier, there is the *free-rider problem*. Everyone can benefit from a particular GPG, regardless of their level of contribution—or even *whether* they contribute. Thus, there exists a powerful incentive for an individual or group *not* to contribute. This incentive overrides senses of altruism or common purpose.[18]

Efforts to protect the ozone layer illustrate why the free-rider problem undermines GPG provision.[19] A group of states come together to ban certain chemicals and change industrial practices to prevent further ozone depletion and strengthen it in the future. They collectively agree to these changes with the understanding that they will ensure the future viability of the ozone layer. This will benefit all of humanity if all the states agree to abide by these commitments, but these changes will impose a certain cost—businesses may have to retrofit some of their factories, countries may have to ban certain chemicals, and some heavily polluting industries may no longer be viable. For understandable reasons, a state would like to avoid these costs as much as possible. However, by its very nature, no state can be excluded from the benefits of a stronger ozone layer. The international community cannot move ozone holes to only expose noncompliant states with higher levels of damaging UV rays from the sun. A noncompliant state can reap the benefits of ozone layer protection without shouldering any of the costs. Thus, a state may decide that the costs are too great for them to abide by the ozone layer protection agreement—an economically rational individual decision in the short-term—without suffering undue consequences.

Of course, if *all* states made this choice, no action would be taken and no protection to the ozone layer would occur. This leads to the second problem undermining the provision of GPG—the so-called *prisoner's dilemma*. There exists an incentive for a state to "defect" from an agreement in the absence of facilities or institutions to promote communication and building trust among members.[20] A state would certainly benefit from protecting the ozone layer by paying the costs. Its benefit would be even greater, though, if it can get the protection to the ozone layer without paying any of the costs. That state, then, has a strong incentive to defect from the agreement. A state's immediate individual benefit (protection with no costs) outweighs the more long-term collective benefit (protection with shared costs). However, this same strong defection incentive exists for all of the other members of the agreement. If all states (or even just a significant portion) take the individually rational path of defection, then the international community ends up with its least preferred option—no protection. Axelrod suggests that repeated interactions can allow parties to build trust that would make them less likely to defect, but this requires that the parties understand and plan to continue to interact on a particular issue.[21] However, states can also use these repeated interactions to punish states for earlier defections. It devolves into a tit-for-tat pattern of punishment. The continual interactions, in this case, do not promote cooperation and trust; instead, they promote revenge.

In order to prevent states from defecting or using their repeated interactions as an excuse for exacting revenge for previous wrongs, the international community must find a way to overcome the third problem leading to the undersupply of GPG—*lack of coordination*. The international community lacks the same ability to compel participation in the provision of public goods that national and subnational governments enjoy. It does not have the same mechanisms to ensure both payment and production.[22] As an individual, I benefit from my government's decision to install stop signs at intersections even if I do not pay for them directly. The government knows that, too, so they devise ways to force me to contribute to their erection and maintenance. In most cases, this contribution is through taxes. I pay taxes to the government, and the government uses that revenue to provide this particular public good. The arrangement ensures both my contribution to the provision of this public good and simplifies the process. Instead of asking me to pay each time I stop at a stop sign, I simply pay my taxes and leave it to the government to allocate the money to provide the public good. If I were to refuse to pay my taxes, the government could garnish my wages or throw me in jail to force me to contribute. They have the power to make me contribute to facilitate their providing public goods.

The international community lacks any equivalent authority or power. It has the power of moral suasion and shame, and these tools can certainly be quite powerful in compelling action. If a state remains obstinate and refuses to contribute to the provision of a particular GPG, though, the international community cannot "tax" that state in the same way. It cannot "jail" a state. The recalcitrant state may see its reputation as a good international citizen or as a cooperative partner take a severe hit, and that may indeed negatively affect its status within the international community, but this may not carry the same sort of direct, immediate, and overt compelling force. States may agree to pay a voluntary levy to manage the costs of protecting the ozone layer, but it is unclear what sort of punishment the international community could impose against a state that refused to pay its contribution. It could assess a penalty, but that would be unlikely to encourage an already obstinate state to pay its arrears. It cannot refuse the benefits of a strengthened ozone layer to a state that does not pay. It cannot eliminate the state from the community of nations. The tools that help to ensure the provision of public goods at the national level disappear when we get to the international level. GPG require some sort of mechanism to coordinate activities and ensure that states live up to their obligations to ensure their provision, but generating such coordination is particularly difficult at the international level.

The preceding discussion focuses on paying for GPG, but the lack of coordination also hinders the actual production of GPG themselves. Assuming the international community can find some manner through which it can ensure financing to provide a particular GPG, it faces the problem of ensuring that someone or some group produces that GPG. As with financing, the problem arises that the international community lacks the ability to compel the production of GPG. Everyone may agree that it is useful and necessary to collectively provide for some GPG. Everyone may even be willing to provide a degree of funding necessary to make that happen. That does not necessarily mean that it will be possible to actually provide the GPG itself. Without an entity to coordinate GPG production, we may see the same problems with free-riding and the prisoner's dilemma emerging. We may have overproduction in some areas and underproduction in others. We may see services overly concentrated in particular areas or good provided only to the extent that there is an increase in the power of dominant states. We may see GPG production that benefits the providers more than the recipients.

Finally, underproduction of a specific GPG may arise when the good primarily affects *the needs of the poor*. Sachs forcefully argues that markets tend to do an inadequate job responding to the needs of poor communities.[23] This largely results from an amplification of the problems that underlie the suboptimal provision of a GPG in general. If there already exists an inadequate financial incentive for markets and private business to provide a public service or good, then that financial disincentive would be magnified for public goods and services needed by communities who lack financial resources.

Poorer states may face other obstacles in ensuring the provision of GPG. The international community may take less notice of those issues that do not affect wealthier states as directly. This could be a symptom of callousness, but may instead reflect a more self-interested perspective. It is less an active dismissal of the poor's problems and more a focus on a state's more direct needs and interests. With increased globalization and interconnectedness, it is unlikely that any cross-border problem would remain confined to less wealthy nations for very long. In the short-term, though, it is entirely plausible that wealthier states would choose not to focus on those problems that have a less direct effect on them. In addition, poorer states may lack the governmental capacity and resources necessary to provide GPG. Governments may recognize the desirability of collaborating to provide GPG and genuinely desire to ensure their availability, but simply lack the finances, personnel, and governmental outreach to do so. Providing coordination and oversight for any sort of GPG can be taxing. It can be even more difficult when the countries most affected already find themselves disadvantaged financially.

Let us suppose that scientists discovered that the ozone layer was weakest over sub-Saharan Africa and that the problems associated with this weakness largely remained concentrated in that part of the world. Government officials throughout Africa recognized that they needed to cooperate in order to reverse the damage. They held high-level meetings with each other, figured out the best ways to deal with the problem, and assessed the financial costs of implementing their programs. It is entirely possible that these states would be unable to put their programs into action for a lack of financing and institutional oversight. What's more, wealthier states may not have the resources or interest to contribute to the provision of this GPG.

These four problems directly contribute to the undersupply of GPG. With each of these, the issue is not a lack of desire or lack of interest; rather, it is a limitation on moving from *interest in* the public good to its actual *provision*. Market forces cannot induce private business to provide these goods and services at adequate levels, and governments find themselves unable to serve sufficiently as providers. This leaves the people—the ones who would benefit—underserved.

From a slightly different perspective, there exists one key danger associated with labeling something a GPGH. As Smith and MacKellar snarkily write, "Since a GPG calls for collective action, then, clearly, one's favorite program must be a GPG."[24] While generally supporting the idea of GPGH and their importance for the international community, they fear that the concept could become a political catchall for any policy related to development. If everything health-related is a GPG for health, then essentially nothing is. The concept itself becomes meaningless because it has been stretched to encompass everything. Without some better definition of what exactly qualifies as a global public good for health and why, the idea could lose its analytical usefulness. It may lose also its ability to rally support and promote international action. Smith and MacKellar's caution recalls Susan Strange's warning about regimes—that the idea could become so "fuzzy" as to become analytically useless.[25] GPGH cannot simply be shorthand for "good things related to health"; it must adhere to a more rigorous standard.

BENEFITS OF THE GPG FRAMEWORK

Framing health specifically as a GPG offers distinct advantages that may encourage greater participation and cooperation by various members of the international community. Government officials and activists are taking advantage of changes in the international normative environment and domestic political considerations to promote this broader vision.

By and large, most previous international appeals for cooperation on health issues have centered on appeals to altruism and common humanity. Such appeals have largely failed to motivate states and nonstate actors.[26] They have not generated sufficient resources to adequately implement health-related programs on a large scale. Does this reflect callousness by the international community? That seems unlikely, or at least highly inadequate. More likely, it reflects domestic political realities. Every government has limited resources, and it cannot fund every program. In such a situation, it would not be unexpected for a government to direct its limited resources toward programs that more directly benefit its citizens. Voters may like the idea of helping to provide health care in other countries, but they tend to focus more on the benefits the government provides to them directly. Appeals to altruism and common humanity, in such a situation, may get drowned out in the political cacophony of trying to satisfy voters.

A GPG focus, on the other hand, changes that political calculus. It refocuses the argument away from one that is based on altruism. Instead, investing in international health becomes a more selfish investment that is based protecting the populace.[27] Recall the definition of a GPG offered earlier in the chapter. It specifically highlights that a particular good is so valuable and important that it makes sense for a state or a group of states to provide it to everyone regardless of whether others contribute to its provision. It is ultimately a selfish action. Indeed, this good is so incredibly valuable that a state seeks to ensure its access to the good under any circumstance. A state might place such a strong priority on its desire to protect the ozone layer, for instance, that it will take actions to do so even if all the other states that benefit from a strengthened ozone layer contribute nothing at all.

States thus frame a GPG and its provision as existentially vital to them. They do not contribute to their provision out of altruism, but rather out of this intense need. It is no longer something done for humanity's good; it is something done because it is vital to a state's sense of security or identity. It becomes part of a state's ontological security, pursuing such a social action in order to preserve its self-identity in addition to satisfying its more overt physical needs.[28]

This framing can be incredibly useful as government policymakers seek to rally support for a GPG provision among the general populace. Leaders are essentially asking their citizens to support policies that will seemingly have little direct effect on their own lives. Convincing citizens that providing a particular GPG is important because it directly contributes to their own state's existential needs reformulates the appeal. They are not asking for support for programs that will help others; now, they are asking for support for programs that will help them directly.

A GPGH framework may also benefit the international community's attempts at ensuring the good's provision. The community, by calling something a GPGH, gives the issue greater prominence and raises it higher on the international agenda. It also gives the international community more tangibles toward which it can direct its efforts. It adds a degree of specification to what may otherwise be a generalized feeling or wish.[29] By clearly elucidating GPGH as a goal and desire for the international community, it makes it easier for all parties to know the goal toward which they are working. This does not mean that a GPGH lacks ambiguity or that there exist no debates over the best way to provide it. What it does, though, is help establish the parameters of the debate.

Finally, designating something a GPGH provides a standard by which the international community can be judged. States are essentially making a public declaration that they believe that this good is so important that it should be provided to all regardless of ability to pay. They are thus establishing a benchmark for evaluating their behavior and policy decisions. They are making a pledge—a pledge which they will be expected to uphold. This creates a sense of obligation for the state itself.[30] It also gives the rest of the international community a rubric for judging that state's actions. If the state fails to uphold its pledge, the international community would be completely justified in demanding an explanation from the offender. Thus, designating something a GPGH is not an action which a state would undertake lightly or without considered deliberation. No state wants to face condemnation for its failures or open itself up to such scrutiny unless it genuinely intends to uphold its pledge.

INFECTIOUS DISEASE CONTROL AND GPGH

Debates continue over which health-related issues truly constitute a GPGH. Does the Global Fund to Fight AIDS, Tuberculosis, and Malaria qualify? Do the MDGs promoted by the United Nations fall under the rubric of GPGH? Is pharmaceutical access a GPG, or simply something that would be good for the public? Genuine disagreements exist over the usefulness of bringing these and other health issues under the rubric of GPGH.

Amid these debates, there remains one area that nearly all policymakers, activists, and academics agree properly qualifies as a GPGH—infectious disease control. Kremer notes, "Communicable disease control is sometimes set forth as the archetypical example of a global public good."[31]

Infectious disease control ranks so highly on the list of GPGH because of its potential spillover effects. Controlling or eliminating the spread of a disease in one country not only confers health benefits to the residents of that state, but may then in turn decrease the chances that people in other countries will contract that disease. Barrett explains the situation thusly:

> Imagine that the disease existed in only one country, and that the persons in every other country were susceptible. If the country with the disease took steps to control it, there would be real benefits to the rest of the world, for control would reduce the risk that other countries would import the disease and spark an epidemic . . . In this case, control would be a global public good.[32]

The actions by one state (or a group of states) benefit the entire world, and there is no feasible or practical manner to prevent that benefit from reaching other states. With increasing cross-border traffic and globalization, this can have a very real and important effect on the world.

This does not mean, though, that control of *all* infectious diseases is a GPG. Some diseases may have few, if any, cross-border consequences. Others lack effective means for control or eradication, making them unattractive candidates for a GPG campaign. An additional subset may have relatively low transmission rates.[33] If a disease was endemic around the world, and one country took actions on its own to reduce the spread, it would not qualify as a *global* public good.[34] "Since not *all* communicable diseases are *global*, or prone to cross-border transmission, clearly only some elements of [communicable disease control] will be *global* public goods."[35] Other control programs may have important *national* benefits without being a

GPG. For example, providing nevirapine to HIV-positive pregnant women may have important national benefits by reducing the rates of mother-to-child HIV transmission, but it is unlikely to have a significant effect on controlling HIV worldwide.[36] The control of the spread of HIV itself may be a GPGH, but the specific strategy of providing pharmaceuticals is not.

If we conceptualize infectious disease control as a GPGH, then this implies that biopolitical surveillance is a GPGH, too. In order to effectively control a disease, there exists some system for monitoring that disease. Surveillance efforts must detect outbreaks, track the health of those infected, and ensure that the disease does not cross into uninfected states. States need some way of knowing whether a disease exists within their borders if they are to control it. Barrett describes three key functions for a disease surveillance system: detecting unusual cases, reporting its findings through formal or informal channels that can assess trends, and investigating any unusual cases.[37] These are crucial for any meaningful effort to control the spread of an infectious disease. The benefits of strong surveillance efforts cross international borders, and they benefit both rich and poor countries.[38] They cannot effectively exclude one country or a particular group of countries, and surveillance efforts in one country do not reduce the possibility of surveillance in other states. Thus, biopolitical surveillance itself functions as a GPGH.

The investigatory elements of surveillance particularly lend themselves to being a GPG. Few countries can afford the laboratory capabilities or have the trained personnel necessary to carry out all of these surveillance activities on their own.[39] A country like the United States, with its CDC, does, and it provides these services to other countries, too. It makes little sense to prevent any other country from having access to these services, as the ability of the United States to control diseases within its borders depends in part upon controlling diseases within the borders of other countries. Other countries do not pay for the upkeep of the CDC or contribute to its budget. The U.S. government apparently believes that the surveillance and investigatory abilities of the CDC are so important that it is willing to provide this good to the rest of the world despite the cost.[40]

COOPERATION THROUGH INTERNATIONAL REGIMES

The balance between GPG provision and biopolitical surveillance can foster or hinder international cooperation on infectious diseases. It also influences the international perceptions of the need to address particular health concerns. Fears of the spread of infectious disease first catalyzed states to work together on international public health issues in the mid-nineteenth century. Governments began to recognize that diseases had cross-border consequences and that cooperation could benefit all states from the perspectives of both health and (perhaps more importantly) commerce. Since that time, international cooperation on health and disease has waxed and waned as the international arena has redefined the nature of the obligation states have to one another on health-related concerns. These fluctuating understandings have greatly affected the fortunes of global responses to infectious diseases. The international system is one of anarchy, but the nature of this anarchy and its implications for international cooperation has been the subject of vigorous debate. Wendt reminds us that "anarchy is what states make of it," and states have created very different conceptions of it throughout time.[41] The changing nature of anarchy in the international arena has had direct implications for cooperation on public health concerns and the development of international public health regimes.

Let us begin by thinking about international cooperation in another realm—environmental protection. Environmental protection is an important issue to the international community. States have come together in many different forums to affirm their belief in promoting a clean environment and taking specific actions for its protection. They have signed treaties. They have made public statements. They have incorporated respect for the environment into their understandings of who they are. They chastise states that fail to behave in a manner consistent with environmental protection. Some of the international action around human rights has been formalized and legalized. Other actions proceed from the basis of shared understandings and expectations not explicitly codified. Even though no overarching power has forcefully compelled states to come to some shared understanding or to perform some of these tasks, the idea of international cooperation on environmental protection demonstrates that such cooperation is possible within a condition of anarchy through the formation and maintenance of a regime.

A regime, to cite the most commonly used definition, is a "set of implicit or explicit principles, norms, rules, or decision-making procedures around which actors' expectations converge in a given area of international relations."[42] A regime functions as a conduit that facilitates cooperation on a particular issue. It also helps to promote learning by providing members with new technical information, fostering the evolution of concepts and ideas, and strengthening relationships among the regime's participants.[43]

The functioning of a regime becomes clear when we dissect Krasner's definition and highlight some important elements. First, the definition emphasizes convergence. The actors share an understanding on a particular issue—but it is not forced. Convergence implies a more organic, holistic process. States do not arrive at this shared understanding through force; they arrive at it through some process of consultation and negotiation. This is not to say that regime formation is necessarily harmonious and that all states agree with each other on all the issues. It does say, though, that states somehow come to share a general understanding among them. Of course, while the members of a regime may interpret an issue in a common manner that, by no means, implies that they hold a common policy solution on that issue.

Second, the definition focuses on expectations. Expectations are not identical to rules or laws. They may be closer to aspirations than legalistic obligations. States may not always live up to these expectations for a variety of reasons. Some have objected that such ambiguity makes regimes too unfocused to be analytically useful and obscure the power relationships that actually drive the convergence of expectations.[44] If we simply hope that states will behave in a certain way, according to this line of argumentation, then regimes lack any analytical leverage. We cannot measure expectations, and states do not sign treaties that spell out their behavioral expectations, so we cannot tell if cooperation on a given issue is because of shared expectations or because of the existent power dynamics within the international community.

These criticisms miss the mark on two important levels. First, they ignore the fact that regimes may be formalized in some instances, but that such formalization is not a *requirement*. Behavioral expectations can exist without a treaty, and failure to meet these expectations can still lead to consequences. Think about this at a personal level. I may be expected to walk the dog when I come home from work. This expectation does not derive from some household meeting or an explicit agreement, yet I still understand that such behavior is expected of me. If I fail to walk the dog, though, I face the possibility of suffering consequences from the rest of my household (not to mention the possibility of needing to clean the carpets). My failure to live up to the behavioral expectations opens the possibility of punishment and sanctioning. To return to the international level, a number of environmental protection regimes exist. States are expected to limit their release of chlorofluorocarbons into the atmosphere, protect endangered and threatened animal species, and set aside land specifically for conservation purposes. Some of these regimes have been formalized in international treaties, but others exist as shared ideals about what responsible states should do. They are not legal obligations so much as they shape what it means to be a responsible member of the international community. States, which abide by the precepts of a particular regime, take certain actions and engage in certain behaviors (and refrain from others) because "[g]ood people do (or do not do) X in situations A, B, and C."[45] As actors internalize the principles and norms of a regime, its behavioral precepts come to guide state action almost unconsciously. They become an integral part of a state's identity.[46]

Additionally, violations of a regime's behavioral expectations in no way imply that the regime or its expectations do not exist. Regimes, like norms, are counterfactually valid.[47] The actual violation itself matters less than the explanation of the violation. When a state seeks to justify its violation of a regime's behavioral expectations, it directly suggests that the violator acknowledges both the existence of the regime and the regime's behavioral expectations. If it did not, it would have no need to justify its actions—as no violation would exist. Regime noncompliance tends to be the exception, not the rule.[48]

Let us return to the previous walking-the-dog example. If I tell my family that I did not walk the dog that night because I was feeling ill or because I had a late meeting on campus, I demonstrate to my family that I understand that they possess certain expectations about my behavior and that I have failed to live up to those expectations. I also show that I accept the basic premises of our walking-the dog regime. I reaffirm the existence of the regime by acknowledging my violation of that regime's precepts. At the international level, when a state falls short of the behavioral expectation of an environmental protection regime and seeks to explain or justify its actions, it sends a signal to the rest of the world that it acknowledges the existence of the regime, the regime's behavioral expectations, and its failure to meet those expectations. A state may cite economic hardship, for example, to explain its failure to enact a vigorous protection program for endangered species. This explanation, while it may not satisfy other members of the international community, shows that the state accepts the basic premises of the regime and that it has some interest in continuing its membership in the regime. It is not a sign that the state rejects the regime or hates animals. Regimes help set normative goals and generate political concern that may allow policymakers at the domestic level to generate the political commitment necessary to extract those resources in the future.[49]

Third, Krasner's definition shows that regimes are not identical to laws or international organizations. Rules and decision-making procedures may indeed come through some sort of organizational structure or an explicit treaty ratified by member-states, but they are not the only means through which regimes operate. Not all regimes have international organizations affiliated with them, but that does not make them any less important or relevant for the international community's functioning. Regimes represent a distinct form of international institutions that cannot be equated with international organizations or international treaties. Their cooperative character, deriving from their use of both explicit and implicit procedures and norms to shape behavioral expectations, make them distinctive and unique.[50]

Taken altogether, regime theory shows us that cooperation can occur in the anarchic international community and that GPG can be provided. The international community can come together to act in the collective interest to provide GPG and offer an opportunity for various actors to participate in that process.

CONCLUSION

Public goods are nonrival and nonexclusive, but have largely been considered at the national level. Global public goods have the same characteristics, but operate at the international level. There exist certain goods and services that are more logically provided by the international level. However, providing these public goods at the international level is even more difficult than at the national or subnational level. Free-riding, the prisoner's dilemma, the lack of coordination and oversight, and the wealth disparities among states contribute to the underprovision of GPG.

For many policymakers and activists, health clearly has a place as a GPG. If health has cross-border consequences, then it makes sense for the international community to collaborate on efforts to prevent those consequences in a manner that benefits all parties. That does not necessarily mean that *all* health issues are GPG. To prevent the concept from being stretched too far, we must limit its application to those areas that clearly have cross-border consequences. In particular, infectious disease control falls squarely under the rubric of GPGH. By extension, that means that biopolitical surveillance qualifies as GPGH, as it plays a central role in infectious disease control.

The role of surveillance in providing this GPGH introduces an uncomfortable tension. On the one hand, biopolitical surveillance is necessary to effectively control the spread of infectious diseases; therefore, the international community has an interest in establishing and maintaining vigorous surveillance capabilities. On the other, though, surveillance introduces the specter of unwarranted oversight, intrusion, and malevolence. Fears arise as to who is conducting the surveillance and how they will use the information they collect.

The following chapters examine how this balance between biopolitical surveillance and GPG has changed over time. They explore how and why the international community has responded to different disease control campaigns using four different case studies. Chapter 3 examines the campaign to eradicate smallpox. While the effort succeeded in wiping out a dreaded disease, its tactics inspired resistance and concern. The smallpox campaign largely ignored concerns about surveillance or the rights of those being vaccinated. It privileged surveillance above all else, offering little opportunity for local voices to be heard.

In Chapter 4, we see the shift toward incorporating human rights into international infectious disease control campaigns. Commentators have described AIDS as the first disease of the human rights era, and various groups and individuals strove to integrate human rights into AIDS control efforts. Such a move, they argued, would provide a necessary GPG and collect the necessary data while reassuring people that the campaign lacked any nefarious intentions.

SARS, the subject of Chapter 5, showed the world the importance of timely and accurate public health surveillance in stopping the spread of a new infectious disease. It also raised questions about the use of isolation and quarantine. More directly, the SARS epidemic directly called into question the adequacy of existing international regulations about disease surveillance. Existing rules lacked any relevance to this new disease, and the international community lacked mechanisms for compelling sharing of information. The Chinese government's actions also demonstrated why states resist international surveillance efforts when they fear the negative ramifications of such data.

Chapter 6 takes up the case of the IHR, the only international agreement that directly addresses public health surveillance and sharing of information. Though the agreement has a long history, most states viewed it as woefully inadequate by the mid-1990s. The revision process, which was ongoing during the SARS epidemic, radically changed the conduct of international disease surveillance, but also raised new fears about the breach of sovereignty and respect for human rights.

3

SMALLPOX: DEFEATING THE SCOURGE AND PROVOKING RESISTANCE

The world has not seen a case of endemic smallpox since 1977 and has not seen any cases whatsoever since 1979. This is a staggering accomplishment. Smallpox went from being one of the world's most dreaded diseases to existing only in vials in two secure storage facilities at labs in the United States and Russia in just a few decades. The international community overcame intense skepticism, technical and logistical hurdles, and resistance within various communities to eradicate one of the most lethal infectious diseases ever known.

Making smallpox eradication a reality took more than mass vaccination. It required surveillance. Indeed, the smallpox eradication program did not show definitive success until it embraced surveillance as its central strategy. Only by identifying every single case of the disease in any given community and then tracking down every person who had come into contact with that case, the eradicators argued, could the international community be certain that the disease had truly disappeared from circulation.

This emphasis on surveillance and its attendant vaccination policies certainly provoked resistance in certain communities. Some local officials displayed great reluctance to report cases out of fear for the consequences, and some communities actively resisted this surveillance out of dislike for foreign oversight and respect for particular deities. Such resistance required eradicators to adjust their techniques on the fly and find ways to make their program resonate with local beliefs. They had to convince local populations that the surveillance and vaccination efforts were in their best interest and would not offend political leaders or supernatural beings. Although they may not initially like the surveillance, local communities needed to understand its importance for saving their lives and protecting their children.

In effect, the smallpox eradication campaign conclusively demonstrated the vital role that biopolitical surveillance can play in protecting the health of humanity. Surveillance was not an option chosen by governments for malicious ends; it was a central element in eliminating a killer disease. Groups certainly resisted it, and they resented its imposition and the strong-armed tactics used in some instances, but the need for active and thorough surveillance ultimately trumped concerns about its maliciousness. The eradication of smallpox only came about *because of* biopolitical surveillance. This was truly a pure public good, as all of humanity benefits from the terrible disease's disappearance.

At the same time, the smallpox eradication campaign also clearly demonstrated why some people and groups resist biopolitical surveillance. Vaccinators imposed a strategy with little transparency or accountability to local communities. There existed few, if any, venues for providing information about the nature of the campaign and its importance. The vaccinated persons felt like their rights were being violated and their beliefs disrespected. These fears fed rumors about malicious intents behind the eradication campaign.

To tell the story of smallpox's eradication, we need to first understand the disease's etiology and history. This chapter will trace the development of, resistance to, and ultimate success of the smallpox eradication program. The eradication effort succeeded both because of some unique characteristics of the virus and the special emphasis placed on creating a useful and accurate surveillance program. We will also see why some groups and communities actively resisted this surveillance. Finally, the chapter will briefly discuss the resurgence of interest in vaccinating populations against smallpox and the biopolitical fears such programs provoke.

SIGNS AND SYMPTOMS OF SMALLPOX

They called it "the speckled monster." It seemingly struck at random, killing young and old, rich and poor, male and female. It killed more than one-quarter of those infected. Survivors bore disfiguring scars for the rest of their lives. Smallpox-inspired levels of dread and mortality unique among infectious diseases thanks to its randomness and its virulence. A medical textbook published in 1888 described the disease thus: "Smallpox, by reason of the malignant nature of its poison, and the general susceptibility to it of individuals of all ages, races, classes, and conditions, is the most loathsome and fatal disease known to man."[1]

At its most basic level, smallpox is a viral infection. Exposure to the variola virus puts a person at risk of contracting smallpox. Exposure generally comes from direct, prolonged face-to-face contact with an infected person. Direct contact with infected bodily fluids or contaminated bedding can also cause infection. In some instances, smallpox has traveled through the air in enclosed spaces like hospitals. Humans are the only known vectors for transmission; there exists no animal reservoir, and insects do not facilitate the spread of smallpox. This fact played a crucial role in the international community's ability to eradicate the disease.

Two primary variants of the variola virus exist—variola major and variola minor. Both are contagious and cause illness, but their severity and mortality rates differ greatly. Variola major was the far more common strain; it is also the more severe, with a mortality rate of 30 percent. Variola minor, also known as whitepox, alastrim, milkpox, and Cuban itch, had mortality rates of 1 percent.[2] The CDC estimates that variola major caused 90 percent of all smallpox cases.[3]

For the first 7 to 17 days after infection with smallpox, a person generally looks fine and feels healthy. This incubation phase provides the virus with time to replicate inside a person's body, but that person is neither contagious nor exhibiting symptoms of illness. High fever ranging from 101°F to 104°F, aches, chills, and occasional vomiting mark smallpox's second phase. After two to four days, the fever subsides, but a rash develops. This rash often begins as small red spots in the mouth or on the tongue, but it quickly progresses down the arms and legs toward the fingers and toes. In contrast to chickenpox, whose characteristic marks tend toward the trunk and chest, smallpox sores have a centrifugal distribution pattern. The sores in the mouth and throat begin to break open, releasing large amounts of the virus. The rash turns into raised bumps after three days, eventually filling with an opaque fluid with a depression in the center. This is the most contagious period. The bumps eventually turn to pustules and are firm to the touch. They gradually scab over by the end of the second week of active infection. If a person recovers from smallpox, the scabs eventually fall off. A person remains infectious until all of the scabs have fallen off. This process pits the skin with deep scars. Smallpox could also cause blindness in those who did not perish from the disease.

In fatal cases of smallpox, death generally occurs 10 to 16 days after symptoms first appear. It remains unclear exactly how or why smallpox kills. It may lead to viremia, where a virus enters the bloodstream and causes a life-threatening infection. Smallpox may also cause immune complexes to enter and infect major organs. The disease may also cause an uncontrolled immune system response, which overwhelms the body.

No treatment exists for smallpox, so recovery largely depends on a person's immune response. Once symptoms begin, treatment focuses on supportive medical care, lessens the patient's pain and discomfort, and prevents dehydration. Patients also enter isolation to prevent them from infecting others, but the specter of isolation tended to make patients and families reluctant to report cases of smallpox.

SMALLPOX IN HISTORY

> The smallpox was always present, filling the churchyards with corpses, tormenting with constant fears all whom it had stricken, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the bighearted maiden objects of horror to the lover.[4]

Few diseases have inspired such intense fear in so many places and over such a length of time as smallpox. The disease ravaged communities worldwide and definitively altered the political futures of many societies. The mummified remains of Ramses V, who died in 1145 BCE, show the telltale lesions that suggest he succumbed to smallpox. Scandal and incursion plagued the reign of Ramses V, and he was likely overthrown by Ramses VI shortly before dying. Speculation suggests that the plague that swept through Athens in 430 BCE during the Peloponnesian War was smallpox. Queen Mary II jointly ruled England with her husband, King William III, before dying of smallpox in 1694. Since the couple had no children, Mary's death started a succession crisis that culminated in the War of Spanish Succession. Joseph I of the Holy Roman Empire's death in 1711 threw alliances formed during the War of Spanish Succession into chaos. When Tsar Peter II of Russia died in 1730 on his wedding day, the direct male lineage of the Romanov Dynasty came to an end. The widespread unpopularity of the reign of French King Louis XV among the masses helped foment antimonarchical feelings and undermined the continued existence of the *ancien regime*. His death in 1774 paved the way for Louis XVI, whose incompetence and unpopularity finally provoked the French Revolution, to assume the throne.

Perhaps most famously, smallpox decimated the Aztec and Inca Empires. In 1520 and 1521, a smallpox epidemic swept through

Tenochtitlan, the Aztec capital city. Some have traced this first case to a slave and soldier, Francisco Eguia, who accompanied Hernando Cortes on his mission, though the veracity of such a precise claim is debatable.[5] When smallpox entered Aztec society, the local populations, with no previous exposure and thus no immunity to the disease, died in great numbers. Between 10 and 60 percent of the city's population died, fatally undermining its defenses. Among its victims was Cuitlahuac, who had assumed leadership of the empire shortly before after the death of Montezuma II. With so few healthy soldiers and the political turmoil swirling through the capital city, Hernando Cortes and his 600 soldiers easily overtook what had been a city of over 200,000 inhabitants. As smallpox worked its way down the Pacific coast of South America, it eventually reached the Incan Empire. In 1532, smallpox ravaged the Incan capital of Cuzco while a civil war over succession further weakened the government. This allowed Francisco Pizarro and his 168 soldiers to take the city and eventually overtake the entire empire.[6]

Smallpox had a profound effect on mortality rates throughout the world. During the 1700s, smallpox killed roughly 400,000 Europeans every year and caused approximately one-third of the continent's cases of blindness.[7] Ten percent of all children in France and Sweden, and 14 percent of Russian children, died of the disease during this same time.[8] Smallpox mortality rates ranged from 20 to 60 percent, and survivors often exhibited disfiguring scars. For children, mortality rates were even higher. In the late 1800s, one smallpox epidemic in London had an 80 percent mortality rate among infants. An outbreak in Berlin around the same time reportedly claimed the lives of 98 percent of infected infants.[9] In the twentieth century alone, smallpox killed an estimated 300 to 500 million people worldwide—a figure significantly higher than the number killed during the century's wars.[10] Fifty million cases of the disease occurred annually by the early 1950s. Even as late as 1967, a decade before the last endemic case of smallpox in the world, the WHO estimated that 15 million people worldwide contracted smallpox and that 2 million of them died from it.[11]

Humanity was not without tools to control the spread of smallpox: variolation—deliberately infecting a person with a mild case of smallpox to induce immunity—was developed in Asia as early as 590 BCE, according to records found in China.[12] Dried smallpox scabs would be blown up a person's nose or introduced under the skin, leading to a relatively mild case of smallpox. This would produce the antibodies necessary to fight off any later smallpox infections. When successful, variolation drastically reduced mortality rates (1 to 2 percent among the variolated versus approximately 30 percent for among the unvariolated). Its success led the technique to spread to other parts of the world; by 1700, parts of Africa, the Ottoman Empire, and India all practiced variolation. Lady Mary Wortley Montagu reportedly introduced the technique to Europe in 1721 after having learned about it a few years earlier in Constantinople. At her insistence, orphans and prisoners underwent variolation as an experiment. When none contracted smallpox after subsequent exposure, variolation became a popular inoculation technique throughout Europe. In the United States, Cotton Mather popularized variolation during a 1721 smallpox outbreak in Boston after learning about the technique from one of his slaves. Though the technique proved successful (844 persons of 6,000 of those infected with smallpox died versus 6 of 247 variolated), it provoked a widespread outcry due to concerns both about the technique's safety and its moral appropriateness.[13]

Indeed, variolation was not without risk. People would occasionally die from these deliberately introduced cases of smallpox, and the introduction of smallpox in this form into a community could spread and create an epidemic. For instance, a report in the 1988 uncovered a previously unknown smallpox outbreak in China between 1962 and 1965, in the midst of the worldwide smallpox eradication campaign, due to variolation.[14] By this time, variolation had largely fallen out of favor. Due to the political disruptions of the Great Leap Forward, though, normal smallpox control activities had been suspended, and local communities reinstated variolation programs.

Thanks in part to these dangers, the search continued for an even more effective means of preventing smallpox. This search eventually led to vaccination. The tale has become common lore in the history of science. Edward Jenner, an English physician, noticed that dairymaids who contracted cowpox, a disease related to smallpox but far less fatal, rarely contracted smallpox. He wondered whether the deliberate introduction of cowpox could prevent smallpox. On May 14, 1796, Jenner took material from fresh cowpox lesions on the hands of Sarah Nelms and inoculated eight-year-old James Phipps. Two months later, Jenner introduced matter from fresh smallpox lesions under Phipps' skin, but the boy did not develop smallpox.[15] From this experiment, Jenner concluded that the vaccination worked and could be used on a large scale. He published his results in 1798, but initially met with a mixed reaction. His supporters, though, enthusiastically spread the word about vaccination, and the practice spread throughout England and the rest of Europe in the early part of the nineteenth century.[16] Vaccination allowed local communities to protect their people against the disease and, with luck, prevent smallpox from ever returning to their midst.

With the discovery of vaccination's efficacy and the technique's spread, smallpox infection rates in Europe and North America declined throughout the nineteenth century. Bavaria, Denmark, Hanover, Norway, and Sweden all introduced compulsory vaccination laws by 1821, and other European countries soon followed. By 1941, only 69 countries still suffered from endemic smallpox, but those in North American and Europe had relatively small numbers of cases as vaccination rates increased.[17] By the 1940s, endemic smallpox had all but disappeared from Europe and North America; the United States saw its last cases in 1949 in Texas, while Europe's last endemic cases were in Portugal in 1953.[18] This progress, though, did not mean that these countries were free of smallpox. Travelers would inadvertently reintroduce smallpox, and national governments spent millions of dollars every year to screen incoming passengers for the disease. A Mexican businessman visiting New York came down with smallpox in 1947, leading to nine cases of the disease and two deaths. The U.S. government responded by vaccinated 6.4 million people in the span of a month.[19] West Germany faced an outbreak in 1970 when a young man returned to the country after spending time "wander[ing] and perhaps sleep[ing] in the streets of Karachi, ill with hepatitis, for three days . . . and probably contracted smallpox during that time." Hospital officials vaccinated all persons known to have contact with the man, but 19 cases of smallpox still developed among people in the hospital who had *not* had direct contact with the man.[20] This outbreak occurred more than 20 years after West Germany had ostensibly eradicated smallpox from within its borders.

While Europe and North America dealt with smallpox's reimportation, many countries in Asia, Africa, and South America still faced widespread endemic smallpox with little relief in sight. India, in 1950, officially reported 157,322 cases of smallpox and 14,092 deaths, but this report likely grossly underestimated the actual number of cases.[21] Official and social pressures strongly discouraged reporting smallpox cases to government officials. At this time, many officials doubted whether smallpox could be effectively controlled in these regions. They held out no prospect for the disease's eradication and only a slim hope for its effective control. They believed smallpox to be too firmly entrenched in these regions. There existed a sense of resignation and acceptance. Smallpox was "perceived as a diseases of the poor, lower classes, and thus its relegation to the status of a neglected, inevitable disease."[22]

What's more, in the hierarchy of health concerns for many of the still-endemic countries, smallpox was not at the top of the list. They faced threats from malaria, tuberculosis, diarrheal diseases, and other maladies that killed more people than smallpox. With their limited budgets and health infrastructures, few Asian, African, or South American countries could afford to focus their resources on smallpox.[23] Without eliminating smallpox from endemic countries, though, every state would face the danger of the disease's reimportation and the associated costs with preventing such recurrences. Eradication offered the only option for preventing smallpox's return and a permanent end to the suffering it caused.

THE PROPOSAL FOR ERADICATION

When Jenner demonstrated the efficacy of vaccination, people began to dream of smallpox's eventual eradication. Jenner himself foresaw the disease's elimination as the logical endpoint of vaccination. He wrote of vaccination in 1802: "It now becomes too manifest of controversy, that the annihilation of smallpox, the most dreadful scourge of the human species, must be the final result of this practice." Four years later, President Thomas Jefferson wrote Jenner to congratulate him on his discovery. Jefferson proclaimed, "Future generations will know by history only that the most loathsome smallpox existed and by you has been extirpated."[24]

Disease eradication requires more than a technical solution. Although there obviously must be a way to prevent transmission, scientific expertise about the modes of disease transmission is insufficient for a successful eradication campaign. The control mechanism itself must be relatively simple, inexpensive, and completely effective. There must exist an effective way to detect and track cases. People must recognize the national and international socioeconomic importance of eliminating the disease. Governments and other interested parties must provide adequate financial, administrative, and health resources. They must commit themselves to the campaign. The socioecological conditions on the ground, population movements, cultural habits, and local beliefs, must be amenable to such a massive undertaking.[25] These conditions, most of which are social, political, and economic rather than technical, will significantly determine an eradication campaign's success. The obstacles to eradication are likely to be political, financial, and perceptual rather than scientific.[26] Governments have to believe that the campaign can succeed, and they must be willing to provide the political and monetary resources necessary for making success possible.

Jenner and Jefferson's enthusiasm notwithstanding, many doubted the possibility of smallpox's complete eradication by the mid-twentieth century. The history of disease eradication efforts gave many health officials pause. Despite intensive efforts, no human infectious disease had ever been eliminated through conscious action. Often times, this was due to fundamental misunderstandings of disease vectors. In 1909, Dr. William Crawford Corgas of the U.S. Army Medical Corps argued that humanity could eradicate yellow fever by destroying the *Aedes aegypti* mosquito in its breeding areas. Since mosquitoes transmitted yellow fever to humans, he reasoned, eliminating the carriers would eliminate the disease. Six years later, Corgas persuaded the Rockefeller Foundation to fund a mosquito elimination program. The effort failed. While the program did succeed initially in reducing the number of mosquitoes, it did not reduce the number of yellow fever cases. Corgas assumed the mosquitoes were the only vector for transmitting yellow fever. He did not understand that some species of monkeys also carried yellow fever.[27] So long as another animal vector existed, yellow fever could not be eradicated. The failure of the yellow fever eradication program dashed hopes. Yaws, a bacterial infection, was also the subject of a failed eradication campaign. After reducing the number of infections by 95 percent, the international community shifted strategies and found it was unable to eliminate the last cases. This resulted in resurgence in the number of cases of yaws.[28] The WHO's Malaria Eradication Program occupied much of the organization's energies and resources, as it started with great promise.[29] Evidence from the field soon emerged that mosquitoes were developing a resistance to DDT and other pesticides being used.[30] The apparent failure of yet another infectious disease eradication campaign convinced many within the international community that smallpox eradication was just as unfeasible.

The magnitude of the project also scared the international community. Smallpox eradication would require unprecedented levels of cooperation and technical know-how—levels that many doubted could exist. Questions arose over the technology necessary for producing enough vaccine to blanket the globe and inoculating millions. People doubted whether the international community knew enough about smallpox and its treatment to make an eradication program a realistic possibility.[31]

Calling smallpox an *international* concern also went against some of the dominant thinking at the time. While not doubting smallpox's deleterious consequences, many considered its control a national or regional problem.[32] Smallpox remained endemic only in some countries; Europe and North America had wiped the disease out largely on their own, so could the rest of the world not do the same? International cooperation on smallpox eradication presented the world with a classic collective action problem. All countries would benefit from smallpox's eradication, but no one necessarily wanted to pay for it. States had an incentive to avail themselves of the free ride, since no country could reasonably be excluded from the benefits of smallpox eradication. Indeed, excluding any state would undermine the very nature of an eradication program. Unfortunately, the WHO lacked any overt enforcement mechanism to compel cooperation. They would have to rely upon moral suasion, which, although powerful in many situations, led to doubts in many minds about the campaign's chances for success.[33]

Finally, in some quarters, there existed an almost fatalistic acceptance of health crises and the devastating consequences of smallpox. Smallpox outbreaks were normal. They were part of the fabric of life. They became interwoven with religious, social, and political customs. Although sad, they were nothing necessarily exceptional. Many assumed that the 33 countries in which smallpox was still endemic in 1966 would always have the disease in their midst.[34] If smallpox would always exist in these countries, then it made little sense to pour resources and energy into an ultimately futile crusade.

These concerns undermined efforts to create a coordinated international campaign to eradicate smallpox. Delegates to the WHA, the annual gathering of WHO member-states that sets policies for the organization, discussed such a campaign as early as 1950, but they never came to any agreement. In 1953, Brock Chisholm, the Canadian WHO Director-General, officially proposed that the WHO undertake a smallpox eradication campaign. The assembled WHA delegates referred the proposal to a study committee. Two years passed before the committee declared in 1955 that a smallpox eradication campaign was unrealistic.[35] Not only did they question the scientific plausibility of such a campaign, but many committee members clung to the notion that smallpox control and eradication was a local or regional, not international, concern.[36]

The 1955 decision did not end calls for smallpox's eradication. In 1958, the WHA met in Minneapolis. At this meeting, Viktor Zhdanov, the deputy health minister of the erstwhile Soviet Union, presented a report that declared that smallpox eradication was indeed scientifically feasible. He noted that many industrialized countries, including the Soviet Union, had already eliminated smallpox, but that it remained endemic in 59 states.[37] Zhdanov proposed a five-year campaign. During the first two years, the international community would focus on producing sufficient quantities of vaccine to inoculate 80 percent of the world's population and provide training to health workers worldwide. After this preparatory work, it would take three years to vaccinate everyone.[38] The responsibility for carrying out the campaign would fall primarily to national governments. The WHO, in Zhdanov's proposal, would offer technical advice and help train staff, but would not conduct the campaign itself. Most endemic states already had some sort of smallpox vaccination program in place prior to the start of the international campaign.[39] The WHO offered these disparate programs access to technical assistance and coordinated efforts.

What led the Soviet Union to propose such an audacious program, especially when the same body had rejected a similar one just three years prior? Three reasons appear particularly important. First, the Soviet Union had not been privy to the earlier debates and rejections of a smallpox eradication program. Between 1949 and 1957, the Soviets withdrew from participating in the WHO.[40] The Soviet government criticized the WHO for failing to provide adequate assistance to countries in need, failing to address the (capitalist) economic roots of disease, and using health as a vehicle for political propagandizing.[41] The 1958 meeting in Minneapolis was its first since rejoining the WHO, so it had missed the previous rancor on the topic.

Second, the Soviet experience convinced the government of global eradication. The Soviet Union encompassed a huge amount of land, many different groups, and great diversity. Eliminating smallpox from its borders was no easy task. Fenner et al. note, "Despite the diverse problems presented by a country so large and abundantly populated, transmission had been stopped by means of a program of compulsory vaccination. For other countries to do likewise seemed both logical and feasible, and the USSR was willing to offer its assistance to support such efforts."[42] Whether this was a humanitarian impulse or an attempt by the Soviet leadership to demonstrate its global leadership on an important issue remains debatable, but it is clear that the Soviet domestic success convinced the government that a global campaign could also achieve positive results.[43]

Finally, the Soviet Union's experience demonstrated the limits of a smallpox control program in a single state. While the country had eliminated the disease from within its borders, it shared those borders with a number of countries still struggling with endemic smallpox. This raised the specter of reimportation, undermining the country's hard work. While it also produced an economic analysis to demonstrate the cost-effectiveness of a smallpox eradication campaign, this appears to have been less influential than fears of smallpox's return itself.[44]

Whatever the motivation, the Soviet plan garnered widespread support. At the 1959 WHA in Geneva, delegates unanimously adopted a resolution supporting a global smallpox eradication campaign and committing the WHO to it.[45] Having a world superpower willing to put its clout behind the campaign gave it a much-needed boost among delegates. By this time, Europe, Central America, and North America had all eliminated endemic smallpox, but they remained susceptible to reimportation from travelers.

After the initial burst of enthusiasm, the smallpox eradication campaign got off to a lackluster start. Marcolino Gomes Candau had replaced Chisholm as WHO Director-General in 1953, and he took a dim view of the effort. He believed its goal was nearly impossible and distracted too much from the organization's other priorities, like malaria eradication. To this end, he required that funds to support the campaign come from supplemental voluntary contributions to the WHO from member-states, not from its regular budget. This provision severely limited the campaign's early efforts. Between 1959 and 1966, its budget only amounted to $2.4 million over the entire period. For the first three years, the campaign had only two full-time staff people. As for technical advisors, it only had five for the entire world prior to 1966.[46]

In the mid-1960s, the situation started to change. C. L. Williams of the United States, a WHA delegate, argued that if the smallpox eradication campaign would only cost the WHO $10 million spread over five years, its funding should come directly from the organization's standing budget. Karel Raska, a Czechoslovakian and firm believer in the feasibility of smallpox eradication, became the new head of the WHO's Division of Communicable Diseases. His appointment gave the campaign new visibility and institutional support. American officials took a more active role in controlling smallpox abroad, heading up a campaign to eliminate both smallpox and measles from 20 Central and West African states.[47] With greater momentum in support of smallpox eradication, the USSR called on Candau in 1965 to prepare a comprehensive program and budget for smallpox eradication to begin in 1966.[48]

Candau attempted to thwart the program while ostensibly complying with the request. In his proposed 1966 WHO budget, he included a line for $2 million specifically earmarked for smallpox eradication. This was a huge increase in the overall budget of WHO, and Candau believed that the rich countries who contributed most of the organization's budget would balk at such a large increase.

Candau was wrong. The WHA delegates approved the budget, even with the significant increase for smallpox eradication. The WHO donor countries had, for the most part, already eliminated smallpox from their borders, but they spent large amounts of money every year trying to prevent any new cases from entering their territory. The United States alone spent $150 million in 1967 and 1968 to prevent the reimportation of smallpox. Seen in this light, a shared $2 million increase in the WHO's budget for smallpox eradication was a pittance. In his frustration, he ordered an American, D.A. Henderson, to direct the program so that Henderson could take the blame if the program failed.[49] This was also a slight to the Soviets, who assumed that one of their nationals would direct the program since it was a Soviet proposal.

With an intensified global smallpox eradication program, the WHO identified four key areas of focus: sub-Saharan Africa, South Asia from Bangladesh to Afghanistan, Indonesia, and Brazil.[50] These four areas covered the 31 countries where smallpox was still endemic. They were home to more than 1 billion people and accounted for 10 to 15 million cases of the disease annually.

The reinvigorated WHO smallpox eradication program got a boost from success stories around the world. A joint CDC/USAID measles and smallpox eradication program in 20 Central and West African states managed to vaccinate 40 percent of the region's population and eliminate smallpox in just three and a half years.[51] This dramatic result demonstrated the realistic possibility of eliminating smallpox from countries with weak public health infrastructures. It helped prove that the disease need not remain endemic in any country due to poverty or infrastructural deficiencies.

Though it was taking longer than the five-year timeline originally envisioned by Zhdanov, the smallpox eradication campaign continued to make headway in its efforts. By 1973, both Brazil and Indonesia had been declared free of smallpox by the WHO. Pakistan had its last smallpox case in 1974. The chances for success in India worried many officials, given the country's high population density and high population mobility. The government established its National Smallpox Eradication Program in 1962 at a time when it was responsible for well over one-half of the world's smallpox cases.[52] Through its own efforts and working collaboratively with the WHO, India discovered its last case of smallpox on May 24, 1975. Saiban Bibi was a Bangladeshi refugee found at a train station in Assam.[53] Six months later, Bangladesh found its last case in a 3-year-old girl named Rahima Banu. Her case was the last case of variola major in all of Asia. The country managed to eradicate the disease, despite natural disasters and political upheaval.[54]

In 1977, the WHO declared Bhutan, India, Myanmar, and Nepal smallpox-free. When it bestowed this designation upon Bangladesh on December 14, 1977, Asia had officially eliminated smallpox.

At the start of 1976, after Asia had seen its last smallpox cases but before its certification as smallpox-free, smallpox remained endemic in only three countries: Ethiopia, Kenya, and Somalia.[55] By July of that year, Ethiopia and Kenya had experienced their last cases, and cautious optimism suggested that Somalia had done the same. Unfortunately, in September 1976, five cases appeared in Mogadishu. Within eight months, there were 3,000 cases in the southern part of the country.[56] Poor travel conditions and the nomadic movements of the afflicted groups hampered the vaccinators' abilities to reach these last cases. Through intensive surveillance efforts and the cooperation of local leaders over the next six months, vaccinators made significant progress in isolating those who contracted smallpox and inoculating those who had come in contact with the infected. Finally, on October 26, 1977, Ali Maow Maalin, a Somali hospital cook and volunteer with the smallpox eradication program, came down with variola minor. Though Maalin had previously received a smallpox vaccination, it apparently was not effective enough. Maalin eventually recovered, but he holds the distinction of being the last person in the world to contract endemic smallpox. On December 9, 1979, the WHO officially declared smallpox eradicated.[57] Finally, on May 8, 1980, the WHA passed a resolution affirming that, thanks to international cooperation, the world had "won freedom from smallpox."

It took 22 years from Viktor Zhdanov's report to the WHA calling for smallpox's eradication to make this a reality. Initial estimates projected that it would cost $180 million to eradicate smallpox. Of this sum, $48.5 million would come from donations and international sources like the WHO, and the rest of the cost would be borne by national governments themselves.[58] In reality, the campaign ended up costing $312 million.[59] Between 1967 and 1979, the period of the intensified campaign, international sources paid $98 million for smallpox eradication. One-third of this total, $34 million, came directly from the WHO's regular budget.[60] Though the campaign cost significantly more and took longer than originally predicted, it proved a bargain for the international community. Traditional control measures during the period of the intensified campaign would have cost the international community $200 million for decidedly inferior results.[61] The extra cost associated with the smallpox eradication campaign ensured that the world would no longer have to pay these recurring costs simply to keep the speckled monster at bay.

THE IMPORTANCE OF BIOPOLITICAL SURVEILLANCE

The CDC/USAID program in Central and West Africa that proved the feasibility of a large-scale eradication campaign also led to changes in how the WHO conducted its program internationally. Initially, the WHO focused largely on vaccinating against smallpox with disease surveillance as a secondary consideration. Zhdanov's original proposal called for vaccinating 80 percent of the world's population, the idea being that such a high vaccination rate would provide the virus with too few susceptible people to sustain future epidemics. The experience in Nigeria demonstrated that an effective surveillance system both allowed for more targeted vaccination and better interrupted transmission chains. In December 1966, reports surfaced about a smallpox outbreak in a village in Ogoja Province, Nigeria. Unfortunately, existing vaccine supplies in the area were inadequate to vaccinate the entire region, and additional supplies could not make it to the area in a timely fashion. Eradicators decided to change their strategy from mass vaccination to targeted vaccination of those individuals most likely to be affected. Working with local missionaries, the vaccinators instituted a comprehensive surveillance program. Upon identifying smallpox cases, vaccinators would target those with direct contact with the afflicted instead of vaccinating the entire village at once. This program continued for four weeks, after which no additional cases occurred. Writing about their success, Foege et al. identified the key to their success:

> The key factors appeared to be a surveillance system that quickly identified the infected areas and control activities that focused on the rapid vaccination of family and village contacts of cases...It was evident that even in smallpox endemic areas with low levels of population immunity, individual outbreaks could be quickly and effectively contained.[62]

Subsequent surveillance activities allowed these communities to remain smallpox-free.

This observation, combined with the realization that smallpox cases tend to be clustered in discrete geographical areas instead of randomly distributed, led the WHO to revise its smallpox eradication strategy. Simply vaccinating a large number of people would not be enough. Active surveillance, monitoring any outbreaks of smallpox and taking quick action to isolate those cases, would now be the key. The government—at local, state, regional, and international levels—now took an overt interest in actively monitoring the health of the populace and responding to any negative changes. In order to stop the spread of smallpox, government officials had to intrude upon the lives of average citizens and make their health statuses part of the government's business. As a side benefit, health authorities believed that smallpox surveillance would allow them to monitor and halt the spread of other infectious diseases. For example, vaccinators in Ethiopia also provided more general health care to encourage people to get vaccinated.[63]

The WHO embraced a very specific definition of surveillance when they made it the centerpiece of the smallpox eradication campaign. The new strategy was one of *surveillance* and *containment*. A 1969 report spelled out the three purposes of this approach: investigate every suspect case of smallpox, determine the source of the infection, and contain its spread through isolation and vaccination.[64] To achieve this, the WHO had to establish usable and reliable reporting networks that could quickly identify new suspect cases and pass that information along to the proper officials. These networks could not be limited to urban centers, though; rural areas had to be integrated, often through establishing radio facilities. Once officials pinpointed the location of these new suspected cases, containment teams needed to rapidly move into the area to isolate the infected and vaccinate those who had come into contact with them.[65]

This strategy required a wholesale shift in health care practices. Instead of passively waiting for patients to come to a clinic, the surveillance and containment strategy put the burden on state and local officials to proactively seek out those in ill-health—or simply suspected of being in ill-health. A person's viral status was now of great importance to health authorities.

Such a radical change upset established practice and met with resistance in some quarters. When WHO personnel first went into India to assist with smallpox vaccination, some explicitly chastised the Indian medical service for hampering their ability to reach out to the public. Indian health officials, they reported, were often counterproductive because they refused to leave the clinics.[66] This severely undermined the efficacy of the surveillance program, as smallpox sufferers were unlikely to come forward of their own accord. Severe stigma disinclined people to report such cases, and a person ill with smallpox would be unlikely to muster the strength to get out of bed even if they had wanted. Speaking in New Delhi in 1970, D.A. Henderson, the head of the WHO smallpox eradication campaign remarked, "Unless an effective reporting and surveillance program is developed, there is no prospect whatsoever for a successful eradication campaign."[67] Biopolitical surveillance thus was the cornerstone of any hope of eradicating smallpox.

There was also an element of practicality to the emphasis on surveillance. When Foege and his colleagues employed the technique in Nigeria, they did it because they had no other alternative. Their vaccine supply was severely limited, but waiting for additional supplies to arrive would only provide the virus with more time to gain a foothold in the region. Surveillance allowed the vaccinators to target their efforts toward those who most needed and would most benefit from the inoculation. On the other side of the continent, Kenyan health facilities were such that it was unfeasible to initiate a mass vaccination campaign. Again, an intensive surveillance and containment campaign would allow the vaccinators to provide the care necessary without completely overwhelming the existing health care infrastructure.[68]

One of the biggest challenges the surveillance systems had to overcome was a lack of reporting. People feared to tell officials that their family members were sick. Societal opprobrium encouraged families to hide sick relatives. Political pressures militated against accurately reporting the number of cases in a region, as this was often interpreted as a sign of failure. As a result, WHO officials came to believe that the official counts of smallpox cases worldwide represented only 1 out of 100 actual cases. In Ethiopia, the discrepancy was closer to only 1 out of 1000 cases reported.[69] In India, the number of smallpox cases would get gradually decrease as officials reported them to the next higher level of administration. Too high a number could put a health worker's job in jeopardy, providing an incentive at every level to undercount the actual number of cases.[70] This came at a time when the IHR specifically required national governments to report any and all cases of smallpox to the WHO.

Reports from the field highlighted the frustration with getting accurate case counts. A 1971 missive from Bangladesh described the situation there: "This suppression of reporting dated back to the prewar mass vaccination program when authorities considered a report of smallpox an admission of incomplete vaccination and actually punished the reporting health workers."[71] Accurate surveillance thus led to condemnation, making health workers disinclined to make these reports. A vaccinator in India lamented, "It was very difficult to sell the idea that reporting more cases was good."[72] For example, in 1973, the number of officially reported cases of smallpox in India rose. According to WHO vaccinators, this was a clear sign of success, as it indicated that better, more accurate reporting systems were in place.

Local health officials, though, worried that this was evidence of the program's failure.[73]

Surveillance also lacked drama. Mass vaccination campaigns provided stark images—crowds gathered, young and old alike being jabbed with bifurcated needles, the telltale scars that proved the vaccination's efficacy. They gave governments events around which they could organize people. They offered concrete evidence to casual observers that the government was doing *something* about the spread of a disease that touched many families. Surveillance offered none of this.

> The logic of finding and containing outbreaks was more difficult to grasp because it was labor-intensive yet involved vaccinating relatively few people. With vaccinators and vehicles in short supply, it was hard to persuade national health officials that surveillance-containment operations should begin immediate and receive as high a priority as mass vaccination campaigns.[74]

Surveillance took a lot of work but without the dramatic imagery, thus making it less appealing and less intuitive to government health authorities.

RESISTING AND CHALLENGING SURVEILLANCE

Critics of biopolitical surveillance argue that it hides its violence under the guise of promoting health. It presents a benign, even positive, image, but it actually masks violence and oppression because this surveillance gives the state the ability to punish people in a seemingly nonviolent setting.[75] Biopolitical surveillance gives the government the ability to structure desire, possibilities, and the operation of life itself.[76] Government authorities tell the populace that they simply want to help them get healthy, but this hides their actual motivation to force the people to change their beliefs and conform to certain alien standards of behavior.

The rhetoric and actions of local communities resisting smallpox vaccination mirror these complaints and worries. In some cases, too, the actions of the vaccinators seemingly proved the resisters' fears about the malevolent intentions of the program. While it is impossible to know just how widespread such resistance was, it seems likely that it was a minority response. Where it did occur, though, it was serious and forced vaccinators to figure out appropriate ways to respond.

Most commonly, resistance to vaccination and surveillance had religious roots. People believed that smallpox was a supernatural or divine punishment for wrongdoing. "Resistance to vaccination might come from villages who conceived of smallpox as a social or supernatural stigma."[77] Interfering with smallpox by means of inoculation or disease surveillance meant interfering with deities. By extension, submitting to vaccination and surveillance became equated with a rejection of the supernatural. The outsiders were essentially asking people to give up their gods.

These religiously based concerns manifested themselves in many different areas. Not surprisingly, communities in which smallpox was endemic incorporated the disease into their cosmological and religious views of the world. Among the Yoruba in Benin, Togo, and Nigeria, resistance to the smallpox eradication campaign occurred in communities that worshipped Shapona.[78] Shapona was both the Overlord of the Earth and the god of smallpox. According to believers, Shapona used smallpox as a sign of his displeasure and to keep humanity in line. Local priests sought to curry favor with Shapona and keep him happy in order to prevent the disease from striking their community.[79] Vaccination interfered with Shapona's plans and his ability to demand proper behavior among his followers. Shapona believers thought that vaccinators were asking them to make war against one of their own deities and initially resisted.

Perhaps the most famous smallpox deity was Shitala Mata, the Hindu god of smallpox. Shitala Mata was one of seven (or nine) sisters, each associated with a different disease.[80] She was a large-eyed goddess who rode a donkey and sowed deadly grains that caused smallpox's signature pustules. A person's survival depended on whether she used cleansing water or a dry broom to gather and clean her grains. If she used the water, she could gather her grains, and a person would recover from smallpox. The dry broom, on the other hand, proved ineffectual at gathering grains and caused pustules to break out.[81] Believers sought to stay in her good graces by performing proper honorific rituals at shrines. Fulfilling spiritual obligations and performing religious ceremonies could both mitigate the severity of a case of smallpox and prevent it from occurring in the first place.[82] Believers resisted vaccination campaigns because "vaccinations constituted tampering with her divine will and therefore was thought to risk incurring her wrath."[83] Furthermore, smallpox was seen as a form of divine possession and a manifestation of Shitala Mata's personality, so the community had to tolerate and respect the disease.[84] In this view, vaccination would actually make the smallpox problem *worse* because Shitala Mata would exact a terrible revenge for humanity's insolence.

A second source of resistance was the attitudes and approaches of the vaccinators themselves. Their negative, dismissive attitudes gave rise to concerns about their motivations. Vaccinators, both local and foreign, would occasionally blame the spread of smallpox on the ignorance of the community. People were simply too stupid to avoid contracting and spreading the disease. One damning report from India remarked:

> The people didn't resist vaccination, they resisted the *vaccinators*. The vaccinators were members of the Congress Party, they were of the Brahman caste, they were hostile toward villagers who were either not Hindu or were of lower caste. They came in with a vicious, undiplomatic attitude or were physically abusive.[85]

Because the vaccinators showed so little regard for the people they were vaccinating, local groups assumed they must have some nefarious purpose behind their program. This was especially true of foreign vaccinators. Locals had no reason to trust and every reason to fear these outsiders coming into their communities.[86] People felt marginalized, which led them to become defensive against outsiders trying to force them to change their long-standing practices.[87] Such a dismissive attitude would often, in turn, lead local populations to spread rumors that the vaccine would cause sterility or was part of a campaign to force people to convert to Christianity. The vaccinators would then dismiss this resistance, chalking it up to the "well-worn tropical trope of apathy, ignorance, and superstition on the part of the public" instead of seeing it as a genuine site of resistance.[88]

Active resistance to smallpox vaccination often combined both religiously and politically inspired concerns. They fed on each other, reinforcing them. The political motivations of the vaccinators threatened the community's religious beliefs, and those religious beliefs gave rise to local feelings about the state and its power. "Resistance [to smallpox vaccination]," in the words of one observer, "was basically a political phenomenon in a religious garb."[89]

The third source of resistance came from seeing the negative consequences associated with active surveillance. People saw that accurate reports of disease within their own borders would lead to ostracism and economic decline. A few communities in West Africa resisted the vaccination and surveillance campaigns because they saw them as tools of American imperialism.[90] Countries in southern and western Asia had already experienced this, and they were none too anxious to repeat the experience. When these countries had earlier reported outbreaks of cholera, another infectious disease, to international authorities, they soon found themselves subject to severe trade and travel restrictions that cost their economies billions in lost revenue.[91] While the international community shunned these states, they did little to help the afflicted states strengthen their health systems, treat the existing cases of cholera, or prevent the recurrence of cholera. The lesson from this experience was that compliance had consequences. Resistance to smallpox vaccination and surveillance thus became economically rational; the communities perceived the costs associated with an active surveillance system were higher and longer lasting than the benefits. One vaccinator even sympathized with this perspective:

> This failure to report [smallpox] promptly need not be an arbitrary measure or a sign of misunderstanding the concept of surveillance; it is sometimes an unfortunate but necessary means of self-protection against irrational requirements imposed by other countries, which bring on the reporting country a severe penalty through loss in trade, tourism, etc.[92]

Surveillance was only going to bring this countries grief and shame. Failure to report would not save any lives, but it would allow afflicted communities to avoid international sanctioning and condemnation. Outsiders could invoke the IHR and their requirement that smallpox cases be reported to the WHO, but this invocation was often less about epidemiology and more about political pressures, media reports, and the desire to make it seem like "something is being done."[93]

Vaccinators were not blameless in inspiring resistance to their program. Community resistance also arose from the tactics employed by the vaccinators—tactics that ran roughshod over local beliefs and norms. Greenough notes that, in the latter stages of the Indian vaccination campaign, coercion came to play an increasingly prominent role. Vaccinators would discuss physically breaking down doors and holding people down to force them to receive an inoculation. They justified this behavior by pointing to the campaign's containment strategies.[94] The more communities resisted, the greater the level of coercion used to force compliance. These tactics almost invariably bred resentment and occasionally triggered riots.[95] "Encounters with government vaccinators are never about immunization alone. Public health measures derive their authority from the police power of the state, and people do not lightly offer themselves (or their immune systems) to government even when its authority is legitimate."[96]

The resistance to smallpox vaccination and surveillance derived from religious, political, behavioral, and economic concerns. People feared the consequences of vaccination, though the consequences of *not* getting vaccinated included contracting a fatal illness. It is important, though, not to see resistance as static. It was not the case that communities would resist in perpetuity and that the two sides would never come to any sort of agreement. Communities did, over time, drop their resistance and accede to the requirements of the smallpox eradication campaign. In some instances, this came about through force when vaccinators simply overpowered those who resisted. That does not account for the vast majority of cases, though. Just as resistance changed over time the tactics employed by vaccinators gradually adapted to make them more palatable.

RESPONDING TO SURVEILLANCE CONCERNS

To make surveillance more palatable and encourage people to report cases, vaccinators had to be flexible in their tactics. Offering cash rewards became one common strategy. Community members who reported smallpox cases to the proper authorities would receive cash.[97] The rewards were often a substantial amount, equaling or exceeding a month's pay in some areas. As countries moved closer and closer toward eradication, they often increased the reward amount to make sure they tracked down every case. Authorities discovered the last case of variola major in Asia, Rahima Banu in Bangladesh in 1975, when an 8-year-old girl named Bilkisunnessa turned in Rahima for 250 taka.

Smallpox eradicators also responded to these pockets of biopolitical resistance through embracing flexible tactics that responded to cultural concerns. Instead of belittling worship of Shitala Mata, smallpox eradication campaigners would set up surveillance or vaccination sites at or near her shrines.[98] This allowed them greater access to local communities while simultaneously demonstrating a respect for their beliefs. By embracing, rather than rejecting, the belief in Shitala Mata, they showed an understanding of her importance to many people. They allowed people to worship as they saw fit while also protecting their health. This was similar to the American experience with smallpox vaccination in the late eighteenth century. Ministers initially opposed vaccination as interfering with God's will. Supporters of vaccination turned the argument around, arguing instead that God provided humanity the tools to prevent smallpox infection and that it would be wrong to reject God's offer.[99] Vaccinators in India operated in a similar manner, incorporating vaccination into a larger narrative about respect for and worship of Shitala Mata. Vaccinators found that gentle persuasion and alliances with local political and religious leaders were far more effective for encouraging compliance with inoculation requests.

The most striking element of these approaches was that they managed to turn disadvantages into advantages. The vaccinators found ways to make vaccination and surveillance acceptable by putting them into terms that the resisting communities already understood. They addressed the political and religious fears by making alliances with priests and local political elders, reframing vaccination as a religious obligation and a sign of development and freedom. They addressed the economic fears by providing people with an economic motivation to report cases of smallpox. They addressed the behavior of the vaccinators through corrective action that gave local communities less of a reason to fear these outsiders. They did not drop the vaccination and surveillance requirements, but they did find a way to make these requirements better resonate with local understandings and beliefs.

Further, the smallpox eradication campaign made these changes and eliminated the disease without requiring wholesale governance or cultural changes. Shitala Mata did not disappear along with smallpox; she had other diseases (including chickenpox) under her purview, and Hindus regularly worship and perform sacred rituals at her shrines. The Indian prime minister Indira Gandhi actively supported the smallpox eradication campaign, having called the disease one of “economic backwardness.”[100] With her enthusiastic support, WHO officials could provide services more effectively and coordinate eradication activities across the country.[101] The smallpox eradication campaign, though, did not interrupt the dramas of Indian politics in the mid-1970s. Gandhi may have been prime minister when India’s last smallpox case was discovered, but that did not insulate her from allegations of corruption and authoritarianism. Thus, smallpox’s eradication did not fundamentally alter the Indian political scene or change the relationship between the general populace and the government.

Perhaps most importantly, we must keep in mind that the WHO organized and directed the smallpox eradication campaign, but state governments themselves carried out the vast majority of operations. The WHO has only the powers its member-states give it. It cannot force a state to adopt a particular policy. It cannot levy taxes or financial penalties against governments. Its work depends entirely upon the goodwill and cooperation of member-states. The WHO can collect information, but, as will be discussed in detail in Chapter 6, that information largely comes directly from government sources. The WHO can hardly become a behemoth of oversight and surveillance on its own, and it possesses little independent power. Its main stick is shaming noncompliant states. Countries did not flat out refuse the WHO entrance or access because of their opposition to smallpox eradication.

It is understandable that some communities might actively resist vaccination and other smallpox eradication campaign activities. The science of smallpox's spread and vaccination's efficacy is not necessarily intuitively grasped. Further, these activities potentially challenged existing practices, leading to uncertainty and confusion. Given the failed efforts at eradication other diseases, people would have reason to doubt that the international community could eliminate smallpox. Last but not least, the actions of some vaccinators in some situations were overly aggressive and helped give rise to suspicions about their motives. Change, especially such a significant change, is potentially difficult for any community. Once the change occurred, though, the resistance ended. Resisters found ways to incorporate this new reality—a lack of smallpox—into their lives with minimal disruption. It did not become a springboard for larger grievances against biopolitical surveillance or the increased power of the state. People accepted, and likely welcomed, the changes as beneficial. It would be far more telling if resistance to the smallpox eradication campaign led to larger, more sustained movements. This would provide evidence that resistance was truly rooted in concerns about biopolitical surveillance. Greenough suggests that the efforts of vaccinators may have had lingering consequences by making people less trusting of government health programs, but he offers no evidence to suggest this has happened.[102] The smallpox eradication campaign led to massive changes in many communities, but it did not give rise to a sustained antisurveillance campaign.

CONCLUSION

Smallpox's eradication is one of humanity's greatest triumphs over infectious disease. The international community proved that it could come together in the midst of bitter political and economic divisions to provide the ultimate global public good for health—the elimination of a fatal disease. Some have gone so far as to call the smallpox eradication campaign "the high point of the World Health Organization's remarkably successful post-World War II campaign to reduce human deaths from infection."[103]

To understand how and why the international community triumphed in this campaign, we cannot ignore the crucial role played by biopolitical surveillance. Without an active, robust surveillance system to find cases of smallpox and track them down—even when friends, family, and community members wanted to hide them—smallpox would continue to plague humanity today. Vaccination alone was not enough. The campaign's success required biopolitical surveillance.

In praising the role of surveillance, we should not ignore the realities of local resistance to this oversight. Local communities did indeed object. They resented the intrusions by outsiders, and they feared that this surveillance would be used to subjugate them. Vaccinators occasionally failed to appreciate local needs, and they used heavy-handed tactics that reinforced fears.

However, we cannot let the fact that communities *did* resist overshadow the realities that this surveillance was necessary and that the surveillance techniques adapted over time to address these fears. The smallpox eradication campaign shows us that biopolitical surveillance is far more nuanced and flexible than critics suggest.

We can witness the continued evolution of biopolitical surveillance by examining the shifting tactics used to combat HIV/AIDS throughout the world. Again, we see a case where surveillance proves necessary, but the surveilling authorities find ways to make it less onerous and more responsive to local fears and concerns.

4

HIV/AIDS AND HUMAN RIGHTS AS AN EVOLVING STRATEGY[1]

Though the smallpox eradication campaign was successful, it occasionally stoked fears of a nefarious, malicious motivation. Its disregard for local structures and beliefs, occasionally heavy-handed tactics, and extensive surveillance requirements undermined the broader goals of international infectious disease control. Some people came to equate international infectious disease control with intrusions and a lack of respect.

HIV/AIDS was the next infectious disease to receive widespread international attention. The Joint United Nations Program on HIV/AIDS (UNAIDS) estimates that 33 million people worldwide are HIV-positive.[2] The AIDS epidemic presents one of the greatest challenges to public health systems around the world, straining national budgets and medical expertise worldwide. Not only is AIDS incurable, but it also disproportionately afflicts people in their early adult years. The very people who should be contributing to the economic, political, and social development of the state are instead falling ill and dying. This has huge social and economic cost. It also challenges governance structures and democratization processes.[3]

In response, the international community has taken an active role in providing access to treatment, education, and prevention programs. Its organizations provide financial resources and personnel to national governments and collect data about the disease's spread. Given the magnitude and effects of the AIDS epidemic, this is not surprising. What is surprising, though, is that, instead of predicating their actions simply on public health grounds, advocates for people living with HIV/AIDS (PLWHAs) increasingly argue that education programs and treatment access are matters of human rights. For example, UNAIDS declares,

> The risk of HIV infection and its impact feeds on violations of human rights, including discrimination against women and marginalized

> groups…Over the past decade the critical need for strengthening human rights to effectively respond to the epidemic and deal with its effects has become evermore clear. Protecting human rights and promoting public health are mutually reinforcing.[4]

The International Federation of Red Cross and Red Crescent Societies specifically advocates human rights as a cornerstone of its AIDS prevention programs. Protecting rights, it argues, will empower vulnerable groups to demand education, economic opportunities, and protection from violence. This, in turn, will reduce HIV transmission.[5] Amnesty International notes that human rights abuses contribute to HIV's spread and undermine treatment efforts, and Human Rights Watch (HRW) finds that such abuses fuel transmission, which in turn leads to additional abuses and discrimination.[6] Similarly, Physicians for Human Rights encourages medical professionals to both treat the disease and call attention to its underlying causes.[7] In this approach, health care workers can use their public credibility to highlight violations of economic, social, and cultural rights and the ways in which those violations increase a person's vulnerability to infection.

Historically, disease containment has been more associated with "coercion, compulsion, and restrictions" than human rights.[8] Reciprocally, diseases have not typically been the subject of human rights activism. Today's emphasis on human rights in HIV/AIDS treatment and prevention therefore represents a major and contentious shift in public health policy and human rights advocacy. Why did public health officials move away from traditional strategies and turn to human rights–based strategies for confronting AIDS? By examining these changes, we can see how the meaning of the area of human rights itself has evolved and how strong advocates in critical positions can catalyze change. It also shows how a human rights–based strategy attempts to balance the need for biopolitical surveillance for effective disease control with the desire to provide a GPG. It would far-fetched to argue that HIV/AIDS demonstrates the international community's wholesale embrace of human rights-based infectious disease control strategies, but it does demonstrate a marked shift.

Global health strategies that emphasize human rights as foundational seek to span the divide between a GPG provision and fears about biopolitical surveillance. They allow the international community to work together to combat the spread of infectious disease, but they also provide a modicum of reassurance to the people most directly affected by the accompanying surveillance measures. A human rights-based strategy lets everyone know the basic ground rules by which the programs will operate and offer some recourse if people believe a program violates those rights. It lets people know that they will be surveilled, but that the surveillers are under international legal obligations to follow certain policies and procedures that respect and reaffirm the basic human dignity of the surveilled.

HIV/AIDS control bridges all categories of public goods. Its containment would certainly be a public good. Many of the treatment strategies, though, rely on finding mechanisms for providing private good (in this case, antiretroviral drugs) in some more public, less market-based manner. This could be through reimagining these drugs as either a club good, where access to these drugs is restricted to certain groups of people, or as a common good, whereby the drugs themselves are freely available to all but in limited quantities. A common good approach could potentially provide more people access to these drugs, but quantity restrictions could inadvertently exacerbate problems of drug resistance. A club good approach, on the other hand, requires continued and reliable access to these medicines, which either requires costly outlays for a long period of time or a domestic pharmaceutical industry (and potentially violating the intellectual property rights of other drug companies).

This chapter begins by identifying three human rights approaches to AIDS. The next section examines how advocates began promoting rights arguments against the public health orthodoxy of the mid-1980s. This effort started at the national level, led by public health officials and domestic AIDS activists particularly in the United States. It gradually worked its way up to the international level, at which point the international community promoted it to national governments around the world. As discussed in the third section, a few well-placed individuals brought rights-based approaches to AIDS to international organizations, most importantly Dr. Jonathan Mann, initial director of the WHO's Global Program on AIDS (GPA). Mann's advocacy faced stiff opposition from WHO bureaucrats imbued with traditional public health attitudes, but the battle in this key international organization helped inform the world about the advantages of integrating human rights into AIDS policy. In this context and under pressure from their own AIDS advocates, key states began adopting their own rights-based policies concerning the disease in the early 1990s, as discussed in the following sections on Brazil and South Africa. By the mid-1990s, conventional human rights NGOs, initially reluctant to embrace AIDS as a rights issue, also began changing their attitudes.

EARLY RESPONSES TO AIDS

When AIDS emerged on the public health scene in 1981, many of the initial proposals and policy responses emphasized overt surveillance, ostracism of the infected and those perceived to be at risk, and the potential use of quarantine. Fear motivated many of these discussions, as scientists and doctors were initially uncertain as to the disease's cause and means of transmission. As a result, policy responses proceeded from a perspective of being "under siege by an unrelenting, devastating, and somewhat unfathomable enemy."[9] The American government introduced measures that required various groups to submit to mandatory HIV testing as a condition of employment—immigrants, ROTC students, Job Corps members, military personnel and recruits, Peace Corps members, and members of the Foreign Service.[10] Some states stipulated that applicants for marriage licenses take a blood test for HIV and test negative for it. Going to the extremes, U.S. Senator Jesse Helms proposed a bill in 1987 that would mandate widespread and mandatory HIV testing and require quarantine for HIV-positive persons. "We did it [quarantine] back with quarantine, did it with other diseases, and nobody even raised a question about it," he asserted during a television interview.[11] William Bennett, the U.S. Education Secretary, concurred with Helms and argued that HIV-positive prisoners "who make threats to spread the disease" should have their sentences extended indefinitely.[12] While neither proposal officially became law, at least a dozen state governments isolated people with HIV "whose behavior posed a risk."[13]

Such responses were not confined to the United States. European countries like Sweden, Germany, and France threatened HIV-positive persons with jail time for failing to disclose their status to sexual partners or for failing to adhere to treatment regimens.[14] The German state of Bavaria went even further, screening members of "high-risk groups" for AIDS simply by virtue of their group membership. This requirement initially targeted prostitutes and intravenous drug users, but later expanded to include applicants for civil service positions, foreigners from non-European Union countries seeking resident status, and prisoners.[15] Some countries specifically tested foreign scholarship students, deporting those who tested positive. Baldwin describes the logic of these tests: "to keep scarce resources for those most likely to make productive use of them."[16]

Oftentimes, these tests specifically targeted students coming from sub-Saharan Africa.

Authorities in Iceland and Switzerland could place HIV-positive persons under house arrest for engaging in unsafe sexual practices, and some Canadian provinces mandated the quarantining of AIDS patients (and, in some instances, their contacts).[17] The Cuban government instituted a formal quarantine program for AIDS patients[18]. The 1988 Public Health (Infectious Diseases) Regulations in the United Kingdom went so far as to ban wakes and open caskets for those who died of AIDS.[19] The Kenyan government, for example, rounded up 275 women in 1986 on suspicion of prostitution and forced them to submit to HIV tests. If the test came back positive, they were subject to criminal prosecution.[20] The South African government initially saw AIDS as a tool for furthering and legitimizing apartheid. In a debate in Parliament in 1990, a Conservative Party member of parliament alleged that the ruling National Party was telling white South Africans not to worry about majority rule because “AIDS will be responsible for the large-scale elimination of the Black population, to such an extent that Blacks will in reality become a minority in South Africa within five years.”[21] Dr. E.H. Venter, the Minister of National Health and Population Development, denied these accusations. She responded that it was actually the Conservative Party that was at fault. She quoted Conservative Party Member of Parliament Clive Derby-Lewis, who stated, “If AIDS stops Black population growth, it would be like Father Christmas.”[22]

Some African governments, while conducting their own surveillance programs, perceived an intense and prejudicial surveillance being used against them by Western states. In the late 1980s, Kenyan officials bemoaned the loss of foreign direct investment and tourism because of the association between Africa and AIDS.[23] Focusing surveillance efforts on Africa reinforced the perception that it was a diseased continent that others should avoid. This, in turn, further dampened their economies and drove them deeper into debt. Thus, from the perspective of the Kenyan government, international surveillance had a very real and tangible economic cost.

With these policies, surveillance specifically singled out those deemed to pose a risk to the greater community. They marginalized and stigmatized members of particular groups merely for their group membership regardless of individual characteristics. In so doing, they often discouraged open discussion about appropriate responses to AIDS and dissuaded people from seeking out whatever therapeutic services might have been available. Surveillance became a tool of oppression and persecution. Because of that, public health officials and policymakers lacked crucial information about the nature and scope of the disease's spread—information that could have assisted with crafting rational policy responses and encouraging people to seek out treatment options in a timely manner.

DEFINING A HUMAN RIGHTS APPROACH TO AIDS

What do human rights mean in the HIV/AIDS context? In the early days of the epidemic, advocates invoked human rights to argue against detention and isolation of those suffering from AIDS. Later, the rights frame was expanded to include equal access both to education about AIDS transmission and to palliative and later recuperative treatments. More recently, some activists have promoted a broader rights approach, demanding reductions in poverty and social inequality, which are seen as major risk factors for HIV infection.

These three approaches to human rights in the HIV/AIDS context are not mutually exclusive, but they have different policy emphases. The first two—opposition to detention and isolation, and equal access to education and treatment—reflect a pragmatic way of combating AIDS. Their advocates did not necessarily have an attachment to human rights per se. Instead, they saw rights norms as tools for effectively addressing the epidemic. For instance, when governments began placing HIV-positive persons into isolation and indefinite detention, advocates argued that such action frightened people away from testing and treatment, thereby spreading the disease.[24] To support these arguments, activists also appealed to human rights principles against arbitrary detention and restrictions on free movement, which are both part of the Universal Declaration of Human Rights (UDHR) and the International Covenant on Civil and Political Rights (ICCPR). Similarly, activists invoked the rights to information and education as a basis for disseminating basic facts about the disease, its spread, and treatment. Simple as these measures seem, implementing them often meant confronting deep aversions to openly discussing sexual practices (including homosexuality) and intravenous drug use. It also meant reaching out to marginalized communities such as commercial sex workers. Rights arguments provided an important basis for overcoming these societal taboos.

The third meaning of human rights in the AIDS context represents a further shift in thinking. Using rights language and treaties, it calls for fundamental socioeconomic changes to reduce vulnerability to exploitation and disease. For instance, instead of promoting informational campaigns about AIDS prevention and treatment, this approach seeks to alter the social conditions placing people in peril of infection. Dr. Paul Farmer, a physician and medical anthropologist who teaches and practices both at Harvard Medical School and in Haiti, is one of the most vocal advocates of this position. The NGO he founded, Partners in Health, uses human rights arguments to challenge the "structural violence" that increases individual disease risk. In this view, "HIV transmission and human rights abuses are social processes and are embedded, most often, in inegalitarian social structures."[25] Thus, human rights norms are not just tools for reducing AIDS but a foundation for achieving health for all.

In an essay published after his death in 1998, Jonathan Mann wrote, "[F]or the first time in history, preventing discrimination toward those affected by an epidemic became an integral part of a global strategy to prevent and control and epidemic of infectious disease."[26] With this recognition, international programs to combat the spread of AIDS paid special attention to issues of discrimination and social vulnerability. Instead of focusing solely on individuals, these programs began to integrate a social dimension. They looked at issues of vulnerability within a broader context. Instead of assuming that members of certain groups faced a higher risk of infection, they asked *why*. Traditional public health strategies often see disease epidemics as dynamic events within a static societal arrangement.[27] This new awareness of discrimination and human rights instead saw disease epidemics as dynamic events within potentially changeable societies and sought to understand the societal fault lines that allowed for the disease's spread.[28]

Proponents also argued that a human rights approach was superior to one based on individual behavior change because it better understood human motivations and realities. An exclusive focus on *individual* behavior obscures the role of social relations and forces that influence behavior in the first place.[29] Acknowledging the relationship between AIDS and human rights "means taking full account of the very real difference that shape our lives, while giving full respect to our common humanity."[30] Social factors so profoundly influence personal behavior that separating them is impossible. By the same token, any program designed to combat AIDS will be created within and constrained by larger social forces that inevitably influence their reception. Instead of focusing on personal behavior, we should understand societal vulnerability, or the contextual factors that define and constrain personal and programmatic vulnerability. We cannot understand "high-risk" behaviors or why some individuals engage in them without understanding the social context in people and groups find themselves. A human rights approach takes this into account by offering a framework for understanding expectations and deprivation. This recognition forced programs to shift tactics, broaden their scope, and reconceptualize how they approached risk reduction.

The question remains, why does societal vulnerability increase the risk of contracting HIV? Mann et al. argue that states rarely recognize health problems that afflict socially marginalized groups and offer these groups few (if any) health services.[31] What's more, violating the human rights of a group through discrimination or the denial of necessary information almost inevitably has a negative impact on health. The AIDS epidemic exposes the fractures and strains that exists within societies and demonstrates the links between poverty and disease. Denying the dignity of the members of a group also violates the standards set forth in the UDHR.[32] "The mutual interdependence of public health and human rights is becoming increasingly clear. Substantial progress in resolving public health problems will require improvements in respect for human rights and dignity. Similarly, improvements in health create conditions which favor the full enjoyment of human rights and dignity."[33]

Finally, some have argued that embracing a legalistic human rights framework reflected the political realities of the international community. Political discourse, especially those in the United States, does not offer much space for addressing questions of social and economic inequalities. However, space may exist for addressing these issues through the framework of human rights and the legal obligations established by signing various international treaties. Government leaders understand discourse about rights, though they may not understand discourse about structural violence and widespread inequality. In such a case, a human rights framework could provide a backdoor way to address issues of social vulnerability without explicitly acknowledging them.[34] However, the United States actively prevented the integration of human rights into AIDS prevention programs in early stages of such programs. In the late 1980s, American officials opposed what they perceived as the "politicization of UN specialized agencies, especially WHO."[35] For these officials, resolutions that specifically protected the rights of people with AIDS did just that. Rumors began to circulate that the United States would withdraw its financial contributions to the WHO if the GPA took too strong a stance on AIDS and human rights.[36] The United States and Saudi Arabia both vigorously opposed any resolutions, which would strongly condemn discrimination against people with AIDS because of fears that it would set a "dangerous precedent by linking health and human rights issues."[37] This early experience demonstrated some of the resistance to linking AIDS and human rights.

Over time, though, awareness of the links between human rights and AIDS grew, and international organizations started to explicitly recognize this connection. Many of these resolutions and actions were rooted in the UDHR. Though not a legally binding document, actions taken by international organizations and individual states have given it a great deal of international legitimacy.[38] The UDHR itself does not explicitly guarantee a right to health. Within the UDHR, though, many of the articles can be interpreted in such a manner that connects the provision of health care with human rights. Article 26, Section 1 of the document guarantees that everyone has the right to an education, whereas Article 19 states that everyone has the right to receive and impart information and ideas through any media. Many persons have seized upon the languages in these two articles, arguing that these include the public health information contained within AIDS education programs. AIDS prevention programs cannot effectively operate if governments restrict the information available to their citizens about disease treatment and avoidance. Similarly, many have argued that Article 9, which bans arbitrary detentions, directly contradicts the use of forced isolation or quarantine without recourse to the court system.[39] More significantly, advocates for connecting AIDS and human rights point to Article 25, Section 1 of the UDHR. It reads, "Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing, medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age, or other lack of livelihood circumstances beyond his control." This passage does not unambiguously argue that people have a right to *health* per se. It does, however, intimate that people require a certain level of health in order to appreciate and take advantage of their rights as humans. If human rights specify the minimum requirements for a satisfactory life, then this passage implies that health care is necessary for achieving those minimum requirements. Within these interpretations of the UDHR, the advocates for a more robust response to AIDS found support for their programs as basic human rights. Governments need to provide health care to HIV-positive persons, allow AIDS prevention education campaigns, and ensure access to information about transmission and protection—not as a matter of public health, but as a matter of human rights. In this view, failure to do so constitutes a human rights violation.

Building off the rights enunciated in the UDHR, numerous later human rights documents and international treaties explicitly guarantee the right to health. These include the 1961 European Social Charter, the 1966 International Covenant on Economic, Social, and Cultural Rights, the 1981 African Charter on Human and Peoples' Rights, the 1985 United Nations Convention on the Rights of the Child, and the 1988 Additional Protocol in the Area of Economic, Social, and Cultural Rights to the American Convention on Human Rights, among others. While these later treaties do call for an explicit right to health, prominent advocates of a human rights-based approach to AIDS like Jonathan Mann and Peter Piot, the executive director of UNAIDS from 1995 to 2009, identify the UDHR the foundation for their advocacy. The UDHR set the stage upon which these later documents were built, so they root their advocacy of human rights in this earliest document.

Between 1987 and 1990, nearly every UN agency took some action on limiting the spread of AIDS and its impact on societies and individuals.[40] These efforts ranged from eliminating HIV tests as a precondition for employment with the agency to calling upon governments to respect the human rights of those with HIV. The World Summit of Ministers of Health adopted the London Declaration on AIDS Prevention in late January 1988. The London Declaration calls on all states to educate their citizens about AIDS, facilitate the free exchange of accurate information about the disease and its spread, and protect the human rights and dignity of HIV-positive persons. This document explicitly recognizes the connections between human rights and AIDS and justifies the connection through international human rights treaties. The WHA, an annual meeting of WHO member-states, passed a resolution May 13, 1988 against discrimination against people living with HIV and AIDS. The United Nations General Assembly passed resolutions in 1990 and 1991 calling upon all nations to respect human rights as an integral aspect of their campaigns to prevent the spread of AIDS.[41] The UN Commission on Human Rights appointed a Special Rapporteur in 1990 to focus solely on issues of discrimination and human rights abuses related to HIV infection status.[42] These early actions all highlighted the connection between discrimination, marginalization, stigmatization, and a lack of respect for human rights on the one hand and heightened vulnerability to health problems like HIV on the other.[43]

In 1998, the United Nations' Office of the High Commissioner for Human Rights and UNAIDS released a set of 12 international guidelines for states for incorporating human rights into their national AIDS prevention strategies. These guidelines crystallize ideas about the connections between AIDS and human rights into concrete policy actions for governments to implement. The guidelines suggest that member-states:

1. Establish effective national frameworks to coordinate and implement HIV/AIDS policies and programs.
2. Develop community partnerships and consulting with community groups in all phases of policy design, implementation, and evaluation.
3. Ensure that national public health laws are consistent with international human rights law and not applied to HIV/AIDS in an inappropriate manner.
4. Ensure that national criminal laws and penal systems are consistent with international human rights law and not applied to HIV/AIDS in an inappropriate manner.
5. Enact and strengthen antidiscrimination laws to protect PLWHAs.
6. Regulate HIV-related goods and services to ensure high quality and affordable prices.
7. Implement legal support systems to educate people about their rights regarding HIV and develop expertise on HIV-related laws within appropriate government offices.
8. Promote a supportive environment for women, children, and vulnerable groups, and collaborate with them in setting and implementing policy.
9. Use creative education techniques and the media to change discriminatory attitudes and eliminate stigmatization.
10. Work with the private and public sectors to develop and implement codes of conduct regarding HIV/AIDS that put human rights principles into practice.
11. Monitor and enforce the protection of human rights for PLWHAs.
12. Cooperate through the United Nations and UNAIDS to share information and provide mechanisms for protecting human rights.[44]

This 12-point framework offers a comprehensive and wide-ranging set of recommendations, especially given the relative lack of experience of most international public health agencies and most international human rights organizations in working with one another. This framework went beyond simple resolutions and provided more concrete strategies for actually implementing the ideas contained in the various resolutions previously passed. It not only represented the collective will of the international community, but also offered the international community the necessary tools to put their ideas into practice. It provides for surveillance, but within limits that still allow for the provision of this global public good.

Crafting this framework was no easy task. Those advocating a link between AIDS and human rights faced intense skepticism from public health officials, who perceived human rights as irrelevant to health concerns and too far outside their realm of expertise, and human rights organizations, which lacked experience with health concerns and were unsure if it fell under their purview. To achieve successes like the 12-point framework above, advocates had to show that traditional public health strategies were actually counterproductive for treating AIDS, craft a convincing rhetoric to link two seemingly unrelated concepts, and demonstrate the efficacy of such a connection.

FAILURES OF TRADITIONAL PUBLIC HEALTH STRATEGIES

Public health strategies for containing communicable disease like isolation and quarantine traditionally placed little emphasis on human rights. Isolation refers to separating those who are exhibiting signs of illness from the rest of the population. Quarantine functions more as a preventative measure. It involves separating those exposed to a disease from the rest of the population, even though they may not be exhibiting any signs of illness. If individuals infected with or considered susceptible to a disease, they are separated from the rest of the population in hopes of preventing the further spread of the disease. Although such strategies have certain logic, their implementation has traditionally ignored individual rights. Fidler notes, "Historically speaking, infectious disease control measures have never been kind to individuals. Quarantine practices had long been notorious for their ill-treatment of and cruelty to travelers."[45] Quarantine strategies often reflected popular prejudices and were applied in an arbitrary manner. Dispossessed and "undesirable" groups were often blamed for the spread of disease, as they were thought to be "dirty."[46] This then gave officials license to forcibly remove groups from cities and institute discriminatory measures. Historically, for example, the spread of bubonic plague was blamed variously on Jews, Roma, Africans, and Asians. As a result, members of these groups were forced from their homes, had their possessions burned, lost their jobs, and were barred from traveling—all in the name of protecting public health.

During these early years of the AIDS pandemic, little international coordination on containing the spread of HIV existed. Most campaigns focused solely on informing the public how HIV was (and was not) transmitted. Widespread fear and misinformation inhibited international coordination, as few states were willing to take an active role on an issue that was largely framed as one of individual responsibility and morality. Human rights were not even on the agenda initially.

This changed in the mid-1980s as activists and officials started to argue that existing policies failed to stop the epidemic's spread and perhaps even exacerbated it. In this view, threats of quarantine, isolation, and discrimination made people unwilling to be tested or counseled.[47] In the United States in particular, activists took to the streets to challenge government policies that promoted stigmatization of HIV-positive persons. AIDS Coalition to Unleash Power (ACT-UP) took the lead in these demonstrations. Founded in 1987 in New York largely by gay activists, ACT-UP channeled the frustration many HIV-positive persons felt about the lack of public education and treatment options available to them. The group took nonviolent direct actions to call attention to the plight of those with AIDS and to humanize its victims.[48] ACT-UP sought to counter American politicians such as Jesse Helms, who introduced legislation to deny funds for safer sex education programs aimed at gay men, and journalists such as William F. Buckley Jr., who called for tattooing the buttocks of HIV-positive gay men and the arms of HIV-positive IV drug users.[49] ACT-UP charged that government policies failing to protect rights, provide accurate information, or offer effective treatments were genocidal.[50] The group also agitated for a quicker review process for AIDS drugs.

In response to this activism, public health policies in the United States and elsewhere slowly changed, with punitive and discriminatory elements replaced by policies that respected individual rights and liberties. Notably, however, this shift occurred for pragmatic reasons—to better stem the epidemic—not because of an ideological commitment to human rights.[51] Moreover, neither the public health nor the human rights communities uniformly welcomed this new approach. Elements within both communities greeted calls for connecting AIDS and human rights with skepticism or hostility. The next two sections highlight the battles within each.

PUBLIC HEALTH BATTLES OVER AIDS AS A HUMAN RIGHTS ISSUE

While traditional public health strategies do not necessarily emphasize respect for human rights, certain public health officials were among the most forceful proponents of integrating human rights into AIDS prevention work. This clash led to significant discord within the public health community. These disagreements played themselves out at the international level through the experiences of Jonathan Mann and the GPA.

The international community initially reacted to AIDS with apathy. Because it was first discovered in the United States and other Western states, many observers believed that AIDS was a disease of the rich and largely confined to these states.[52] Some in the international community even expressed relief that the disease emerged in these states. An internal WHO memo from 1983 on AIDS argued that the WHO did not need to involve itself in the issue. AIDS, its author noted, "is being very well taken care of by some of the richest countries in the world where there is the manpower and know-how, and where most of the patients are to be found."[53] Between 1981 and 1985, scientists scrambled to find the causative agent of AIDS and understand how the disease was transmitted, while paranoia and discrimination grew. Many public health officials saw AIDS as another infectious disease that could be addressed using traditional public health strategies for disease containment like quarantine and isolation.

Between 1985 and 1990, a shift occurred toward a period of "global mobilization."[54] The international community discovered not only how widespread the disease was but also how vital international cooperation was for effectively combating the disease. Instead of being associated with wealth, AIDS quickly became associated with poverty as more and more cases were discovered in developing states.[55] Discussions about an international response to AIDS formally began in April 1985 when the WHO held a special consultation about how best to respond to the disease. The following year, the WHO declared AIDS to be a global health priority and committed the WHO's resources to combat AIDS.[56] The WHO began some programs devoted to HIV and AIDS in the mid-1980s, but it quickly became obvious that an international response to the disease required a more coordinated effort. In February 1987, the WHO officially launched the GPA.

The GPA's initial approach to AIDS largely followed traditional public health approaches used to fight infectious diseases such as cholera and smallpox. It encouraged states to develop national AIDS programs and sought donations from developed states to target states that were especially in need of assistance. Within a year of the program's founding, 170 countries requested assistance in forming and coordinating the activities of their own national AIDS programs. The

GPA initially provided technical and organizational guidance and small amounts of funding (less than $1 million) to 151 countries.[57] Starting with a small budget and one secretary, Mann eventually turned the GPA into the WHO's largest single project with a staff of more than 200 persons under his leadership.[58]

The story of Dr. Jonathan Mann's tenure at GPA embodies the conflicts over how best to address the AIDS epidemic. Upon GPA's founding in 1987, Mann was appointed to lead the organization. Mann came to GPA after directing AIDS programs in Zaire and was widely respected for his medical skills and charisma. His experiences in Zaire convinced him that treating AIDS required compassion and respect, not discrimination and stigma. Upon joining GPA, Mann immediately started meeting with government officials and members of the press from around the world to raise the profile of GPA and encourage the active involvement of as many states as possible. Mann's personal diplomacy, for example, inspired the Swedish government to increase its voluntary donations to GPA from $1.8 million in 1986 to $10.5 million in 1987.[59] Mann's efforts received widespread praise not just for elevating AIDS to a high place on the international agenda but also for putting WHO back on the international map. While his actions won praise from many, Mann also invited jealousy among his colleagues in less well-funded WHO programs.[60]

Because GPA was housed entirely within the WHO, its approach initially adopted traditional public health strategies. These were the techniques with which the WHO was familiar, and few saw any reason to deviate from them. Mann, though, started to argue publicly that any AIDS prevention efforts needed to place respect for human rights front and center—even though this might deviate from traditional strategies. Tensions rose within the organization. The original three objectives of GPA's global AIDS strategy were to prevent HIV infection, reduce the personal and societal impacts of HIV infection, and mobilize national and international efforts to combat the disease. In 1991, GPA undertook an effort to assess the applicability of these objectives to the epidemic as it was then unfolding. While not rejecting its original objectives, GPA added six clarifying points: emphasizing adequate health care coverage, expanding treatment for STDs, reducing women's vulnerability to infection through increased education, eliminating cultural and social impediments to discussing matters of sexuality, planning for the anticipated socioeconomic impact of AIDS, and communicating the public health rationale for eliminating discrimination against those with HIV.[61] This list shows the tension between traditional public health strategies on

AIDS and new strategies that emphasize human rights. Traditional strategies focusing on individual risk reduction play a prominent role, but the GPA called for access to information and socioeconomic changes that allow people to realize their full range of human rights. The human rights framework was working into GPA's arsenal, but it uncomfortably shared space with other strategies. Mann's personal pragmatic interest in human rights as an AIDS prevention strategy often clashed with the WHO leaders who oversaw the program and believed in the traditional strategies.

Tensions over the appropriateness and relevance of human rights to AIDS increased in 1988 with the election of Dr. Hiroshi Nakajima as the director general of WHO. Nakajima had previously served as the regional director for the Western Pacific and the chief of Drug Policies and Management unit at WHO. He was also viewed as a more traditional and conservative leader—a contrast to his predecessor, Dr. Halfdan Mahler, an advocate of the "Health for All by 2000" strategy.[62] Nakajima and Mann quickly clashed over GPA's organizational autonomy vis-à-vis WHO and how best to raise and spend GPA's funds.[63] They disagreed about the prominence given to GPA relative to other WHO programs, GPA's embrace of nontraditional tactics, and GPA's embrace of projects that fell outside traditional public health bounds. Mann and Nakajima also clashed over access to AIDS drugs in developing states. Nakajima called for a retrenchment of GPA's budget and activities and cut the organization's budget by $35 million in 1990 when donations to the program fell short. He also resisted Mann's efforts to broaden the focus of GPA to encompass issues of human rights and delayed or cancelled joint initiatives between GPA and other UN organizations.[64] The constant squabbling undercut GPA's effectiveness, as outsiders could not be certain that GPA initiatives would actually be implemented.

The disagreements eventually became too much for Mann. In March 1990 he resigned as the head of GPA. In a strongly worded letter to Nakajima, Mann noted, "There is a great variance between our positions on a series of issues which I consider critical for the global AIDS strategy."[65] He lambasted Nakajima's attitude, stating, "Dr. Nakajima's attitude is that AIDS is not such a big problem. The figures say otherwise."[66] Mann's replacement, Dr. Michael Merson, had previously headed the Diarrheal Disease Control and the Acute Respiratory Infections Control programs of WHO. He, like Nakajima, was viewed as more of a traditionalist but was faulted for his lack of imaginative leadership.[67] His tenure at GPA's helm coincided with a period of complacency. Contributions to GPA, and AIDS programs in general, plateaued, as donor states showed little inclination to continue to support the efforts of GPA. Rumors also circulated during Merson's tenure that top WHO officials ordered GPA staffers to remove quotations from and references to Mann in its materials. The campaign, which Merson vigorously denied, sought to exorcise Mann's influence and bring the GPA back in line with other WHO programs.[68]

Many of the conflicts over the appropriate response to AIDS came to a head at the Eighth International Conference on AIDS, held in Amsterdam in 1992. Press reports noted a severe fissure between competing camps. On the one hand, Merson and his allies argued that the international AIDS control regime should focus its energies on promoting condom usage and treating venereal disease. By encouraging changes in behavior, they argued, the disease could be stopped. Mann led a competing faction, arguing that the fight against AIDS required an all-out assault on discrimination and inequality because it was these two factors that gave rise to the epidemic in the first place.[69] An emphasis on behavioral change assumes that those infected with HIV have willingly entered into the behaviors that exposed them to the virus. Those advocating a human rights-based approach countered that poverty and inequality put people in positions in which they could not freely exercise the choice to avoid putting themselves in harm's way.

In the 1990s, Mann and his followers continued their efforts through publishing, speaking, and lobbying governments to recognize the link between AIDS (and other health issues) and human rights. In 1993, Mann helped launch the Francois-Xavier Bagnoud Center for Health and Human Rights at Harvard University, the first academic center with such a focus. The following year, he cofounded *Health and Human Rights*, a journal that speaks to both academics and practitioners interested in the issue. These platforms allowed Mann to maintain his public advocacy, eventually winning over some of his foes. For instance, by 1993, Merson was calling for AIDS prevention programs that recognized and respected human rights.[70] In 1998, Mann died in an airplane crash en route to Geneva to consult with UNAIDS officials. Obituaries and remembrances highlighted Mann's efforts to call attention to human rights and public health. One noted that the Harvard School of Public Health gave its graduates a copy of the UDHR along with their diplomas at his suggestion.[71]

Ultimately, Mann's rights-based approach to AIDS prevailed at the international level. At the 1994 World AIDS Summit in Paris, delegates agreed to disband GPA and replace it with UNAIDS. This new organization combined the resources and expertise of various organizations within the UN system to coordinate international AIDS programs, with human rights approaches as a central strategy.[72] This rights-based approach remains dominant today.

HUMAN RIGHTS ORGANIZATIONS AND THE BATTLES OVER AIDS

Linking human rights and AIDS control was not easy. WHO traditionalists were not the only ones resistant. Major international human rights organizations such as Amnesty International and HRW initially expressed skepticism at including AIDS, or any international infectious disease control campaign, within the pantheon of human rights issues. Writing in 1992, Gruskin and colleagues, specifically chastised human rights NGOs for failing to involve themselves with HIV/AIDS issues. They argued that this undermined attempts by public health officials to encourage governments to take seriously the human rights of those with HIV. Without the public campaigns in which human rights NGOs frequently engage, international organizations lacked neutral, nongovernmental sources about country practices toward AIDS patients. Local AIDS service organizations tried to fill this gap, but they rarely had the resources or expertise to provide this information effectively.[73] Seeing little action on AIDS from established human rights NGOs, Mann called for the creation of "an Amnesty International-style organization for people who are discriminated against because they have [AIDS]."[74]

Major human rights organizations like Amnesty International and HRW initially shied away from HIV/AIDS because it was too distant from their previous campaigns and strategies. Amnesty International's mission, for instance, largely focused on political and civil rights violations against particular individuals. Protecting human rights in the context of AIDS fell too far outside its mission. Not only did AIDS affect large numbers of people, but also its human rights implications centered primarily on social and economic rights.

It was not until 2001 that Amnesty International broadened its organizational mission to include abuses of economic, social, and cultural rights. With this change, the right to information and freedom from discrimination came under Amnesty's purview.[75] Amnesty situated its AIDS efforts within its broader campaign to promote health as a human right. This includes instrumental efforts in linking human rights and AIDS, such as ensuring access to accurate information and expanding treatment options. It also includes broader efforts to combat social and economic disempowerment.

HRW has long focused its energies on major violations of established political and civil rights. Concerns about social vulnerability to disease did not fit within this framework. By 2002, though, HRW's attitude changed, and the organization established a program to document human rights violations based on HIV status, advocate for legal protections for HIV-positive persons, and produce research on AIDS-related human rights abuses.[76] Part of the motivation for instituting such a program arose from a new appreciation for the indivisibility of human rights. Though AIDS-related rights abuses generally arise from violations of economic, social, or cultural rights, HRW now holds that these rights are mutually reinforcing with the political and civil rights with which they have traditionally been concerned.[77] Violations of human rights fuel HIV infection and a person's HIV-positive status can lead to further human rights violations. Sexual violence and lack of information can spread the virus, and those infected with the virus may then be subject to discriminatory laws and social stigma. Joseph Amon, the head of HRW's AIDS campaign, writes, "Because human rights abuses fuel the HIV epidemic, HIV/AIDS programs must explicitly address, and find ways to mitigate, these abuses."[78] By drawing on its expertise documenting and exposing human rights violations, HRW has found a role for itself in combating HIV/AIDS.

Despite their recent inclusion of AIDS within their missions, human rights organizations have faced continuing criticism. Paul Farmer has been the most outspoken, excoriating NGOs such as Amnesty International and HRW for being too conservative. He calls their approach overly legalistic, ignoring the daily realities of the vulnerable populations whom they are trying to help. New laws or treaties are rarely enforced, and they cannot help people find jobs, take control of their bodies, or be integrated into the larger national community. Compiling reports and holding press conferences will do little to change the fundamental economic, political, and social dislocation that makes a population vulnerable to HIV infection in the first place. These tactics, Farmer explains, are too passive and do too little to reduce "structural violence" in societies.[79] To use a medical analogy, Farmer charges human rights NGOs with constantly treating symptoms without addressing the underlying disease.

Recent developments suggest that human rights NGOs may be heeding Farmer's criticisms. For example, Larry Cox, who took over as the executive director of Amnesty International USA in May 2006, has pledged to better integrate social and economic rights with the organization's traditional focus on political rights.[80] Farmer, for his part, seems cautiously optimistic about Cox's pledge, but he has also worked to empower new human rights NGOs.[81] He serves on the board of directors of the National Economic and Social Rights Initiative (NESRI), a new human rights organization that works to realize human rights to health and education. He sees NESRI as a tool for challenging the "orthodoxy in health and human rights" by fostering the development of a more expansive human rights culture.[82] As a new organization, NESRI may also lack the institutional structures of more established human rights NGOs and therefore be in a better position to adapt its programs to integrating health and human rights.

AIDS AND HUMAN RIGHTS IN PRACTICE

The international community transmits and diffuses its ideas to national governments. As international organizations came to see the wisdom of human rights-based strategies to combat HIV/AIDS, they encouraged national AIDS control programs to adopt this framework. Brazil and South Africa provide two examples in which organizations used a human rights perspective to encourage and promote provision of the GPG of AIDS control. In both cases, grassroots organizations rallied public support and attracted international attention by calling for their governments to respect human rights as part of the AIDS fight. Interestingly, AIDS activists in both countries had participated in national democratization movements and applied the techniques they had learned to their new cause. Both show how drawing on international human rights can strike a balance between providing public health services and maintaining oversight.

Brazil

After years of military rule, democracy returned to Brazil with the adoption of a new constitution in 1988 and the inauguration of a democratically elected president in 1990. One of the major players in the prodemocracy movement was the "sanitary reform movement." This loose affiliation of health care workers and academics promoted health as a human right. Thanks in part to this group's activities, Brazil's 1988 democratic constitution recognized health as a fundamental individual right and charged the government with ensuring it. The constitution also called for an active and ongoing dialogue between the government and civil society groups on how best to uphold human rights.[83]

Using this legal framework and the lessons learned through the prodemocracy movement, PLWHAs have formed numerous legal aid groups. These groups ensure that HIV-positive persons know their rights, how to obtain treatment, and where to go if they experience discrimination. The legal aid groups have also pressured Brazilian public health officials to treat AIDS as a human rights issue.[84] More broadly, Brazilian AIDS policy has moved beyond a focus on individual behavior to address the larger social context in which people make decisions about sexuality.[85] Many programs now recognize that the socially vulnerable may make different decisions regarding sexuality than the privileged. Finally, some of the local NGOs have been active in international meetings and networks.[86]

The success of local AIDS activists is most apparent regarding provision of antiretroviral drugs (ARVs). ARVs have shown remarkable promise in treating HIV-positive persons, prolonging and enhancing lives. However, these drugs are expensive. When first released in the 1990s, one year's supply cost more than $10,000—too expensive for most Brazilians. Activists pressed pharmaceutical companies to reduce prices and encouraged the government to produce generic versions under a compulsory licensing scheme. Significantly, the campaign framed access to ARVs as a human right. In this view, to uphold the constitutionally guaranteed right to health, the government needed to ensure that all Brazilians had access to these drugs, regardless of their ability to pay.[87] To make this argument, activists sued the Brazilian government for free and universal treatment. They achieved their goal in 1996, and the government has remained committed to providing ARVs ever since—despite pressure from the World Bank to abandon the policy.[88] This has had broader repercussions. Free AIDS treatment demonstrates to marginalized groups that the government cares about them, increasing their use of all forms of preventative health care.

South Africa

In South Africa, activists, most prominently the Treatment Action Campaign (TAC), have incorporated human rights into the AIDS fight. TAC was founded on December 10, 1998 (International Human Rights Day) with a mission of building a racially diverse, grassroots movement to gain greater access to ARVs. The group's founders initially believed that their primary target would be the multinational pharmaceutical companies that produce ARVs. However, after the government refused to make ARVs available despite a Constitutional Court ruling that compelled it to do so, TAC began to focus its energies on changing government policies.[89]

Many TAC activists derive inspiration from their backgrounds in the antiapartheid movement. Zackie Achmat, the group's founder and chairperson, cites Nelson Mandela as his model.[90] Prior to founding TAC, Achmat directed the AIDS Law Project and established the National Coalition for Gay and Lesbian Equality (NCGLE). Working with the African National Congress (ANC) in the early 1990s, Achmat helped ensure that sexual orientation would be included in South Africa's postapartheid Bill of Rights.[91] These experiences not only provided Achmat with knowledge of the antiapartheid movement but also fostered a network of committed activists who shared these understandings.

TAC draws heavily on the antiapartheid movement, using similar language, symbols, and songs.[92] The group uses such tactics as civil disobedience, mass protests, and litigation in an effort to put pressure on the national government. These public actions further TAC's mission of educating South Africans about their rights in the context of AIDS.[93] Drawing on the legacy of the antiapartheid movement also increases TAC's legitimacy and allows the group to counter accusations that it is unpatriotic or "un-African."[94]

With the ANC-led government being sensitive to charges of rights abuses, TAC has brought legal cases charging violations in such venues as the Constitutional Court, Human Rights Commission, and Commission on Gender Equity. The cases are grounded in part in the human rights guarantees contained in the South African Constitution and Bill of Rights. These documents charge the government with specific positive obligations to uphold a pantheon of individual rights, including the rights to equality, dignity, and access to health care.[95] TAC also draws on international human rights treaties to justify its positions. For instance, in criticizing the government for failing to implement a comprehensive AIDS program including access to ARVs, TAC cited Article 25 of the UDHR (on the right to an adequate standard of living for health and well-being), Article 16 of the African Charter of Human and Peoples' Rights (on the right to health and the government's responsibility to ensure it), the Rome Statute of the International Criminal Court (on crimes against humanity including the denial of medicine), and Section 27 of the South African Constitution (on the right to health care services and the government's responsibility to provide them).[96]

TAC does not limit its activities to South Africa. The organization has built alliances with AIDS service organizations (ASOs) and activist groups around the world, lending its credibility to these groups while presenting a united transnational front to the international community. Doctors without Borders, the Gay Men's Health Crisis of New York, and ACT-UP have collaborated with TAC to pressure both the South African and American governments.[97] Achmat calls on fellow activists to cajole wealthy governments around the world to provide monies for treatment and to ensure that human rights are upheld for all PLWHAs.[98]

CONCLUSION

The recasting of AIDS as a human rights issue, rather than simply a public health concern, is an important example of the struggle for "new" human rights. Initially, a pragmatic response to the epidemic's severity and the failures of traditional public health approaches, human rights approaches have become far more than that. Today, in fighting AIDS, access to information and treatment are central issues, underpinned by national and international human rights norms. Some advocates also raise broader human rights arguments about the pernicious effects of "structural violence" in creating social vulnerabilities to the disease.

Key players in this unprecedented transformation from disease to human rights issue include national-level AIDS activists, particularly in the United States. Well-placed individual advocates, notably Jonathan Mann, were also critical to raising international consciousness about rights-based approaches to AIDS. As a result, powerful organizations such as the GPA and UNAIDS promoted human rights approaches to AIDS and opened the door to broad acceptance of such policies internationally. In turn, this has affected local AIDS activists in the developing world, who drew on their own experience in domestic democratization movements to call attention to shortcomings in purely public health strategies to AIDS.

Major human rights NGOs such as Amnesty International and HRW have not been leaders in promoting the link between AIDS and human rights. Issues of disease and infection were too alien to the NGOs' long-standing focus on violations of civil and political rights. However, in the 1990s, the human rights NGOs came under pressure from national and international AIDS advocates. With this lobbying and with the United Nations' embrace of human rights approaches to AIDS, the human rights NGOs have recently begun to work on limited aspects of the AIDS issue. This has not satisfied those such as Paul Farmer who believe that tackling the disease requires fundamental societal change. But it does represent a significant expansion in the cultures and missions of these organizations, one that mirrors public health institutions' earlier and equally contentious move to adopt rights-based approaches to AIDS.

HIV/AIDS presents a case where a human rights-based approach has evolved, and continues to do so, to balance the competing needs of providing a GPG and biopolitical surveillance. Although this approach is not universally accepted, it does appear to be gaining increasing acceptance by the international community. The AIDS pandemic emerged almost simultaneously with the recognition of human rights as an essential element of international public health. The following chapter examines the SARS outbreak of 2002 and 2003 and shows how this framework operated when the human rights framework was more firmly entrenched within the international community.

5

SARS: COLLABORATION AND RESISTANCE

Severe acute respiratory syndrome (SARS) is a disease of many firsts. It was the first international disease epidemic of the twenty-first century. It was the first time this novel coronavirus had been found in humans. It was the international community's first true public health challenge in the new century. Finally, it was the first disease that globalization visibly both exacerbated its spread in a short period of time and contributed significantly to its end. Its emergence posed multiple, unique challenges to an international community still struggling to devise an appropriate response to the threat of epidemic diseases.

Because of the uncertainty surrounding this previously unknown disease, meeting the challenges posed by SARS required ingenuity. Time was not a luxury. As the disease spread rapidly and relentlessly, fear grew. Social dynamics changed. People took to wearing facemasks in public as a precaution. Scientists around the world scrambled to decipher the disease's seemingly mysterious origins, spread, and treatment.

Governments also struggled to devise appropriate responses. Surveillance systems played a large role, but critics called these draconian. States were called upon to impose voluntary or compulsory quarantine and isolation, but worries arose about their usefulness, their contribution to a sense of panic, and the potential for discriminatory application. With all of the scientific technologies available at the start of the twenty-first century, does a nineteenth century strategy like quarantine and isolation still play a role in preventing a disease epidemic? Concerns about human rights and civil liberties played a significant role in the debates over strategy, but many of the countries most affected by SARS lacked a strong tradition of protecting civil rights. Can states employ a quarantine and isolation strategy while still respecting the rights of individuals? Does the GPG of infectious disease containment override concerns about surveillance programs that infringe upon human rights?

SARS forced the international community to stop considering these questions in the abstract and address how they would play out in the real world. While definitive answers do not yet exist, the SARS epidemic between 2002 and 2003 gives us a look at how the international community's views on the role of surveillance in public health and its usefulness have continued to change and evolve. The SARS experience shows that the international community places a great deal of emphasis on surveillance and will use it to get around official stonewalling and denials from national governments. It also demonstrates, though, that serious questions remain about public health surveillance on an individual level. There appears to be a willingness among the general populace to accommodate some disruptions in their daily lives to stop the spread of an epidemic, but quarantine and isolation still provoke fear and opposition.

SARS has a unique place in the spectrum of public good. Some countries, like China, initially reacted to the disease's outbreak by trying to *prevent* it from becoming a public issue. They sought to shield it from the public, and therefore showed no willingness to share information that could have benefited the rest of the international community. At the same time, other states actively sought to foster information-sharing processes for collective benefit. However, their strategies for containing the spread of the disease, and thus realizing the public good of disease control, aroused suspicion and relied on methods viewed by some as overly restrictive and draconian.

This chapter begins by discussing some of SARS' epidemiological features before chronicling the history of its outbreak in 2002 and 2003. It then examines how various countries responded to the disease. The People's Republic of China initially denied reports of a new disease epidemic, thanks in part to institutional and political arrangements that discouraged such openness. As soon as it acknowledged the presence of SARS, though, it took aggressive actions to contain its spread. Various Southeast Asian governments imposed travel restrictions and implemented quarantines. Of these, the travel restrictions and quarantines imposed by Singapore were the most far-reaching and strenuous. Surveillance came to play an increasingly central role, but governments justified this by appealing to a greater good and sometimes implementing a complementary program to alleviate suffering. Finally, the chapter explores the effects of these strategies. Excesses certainly occurred, and some stigmatization emerged against particular groups, but the use of surveillance, quarantine, and isolation played a key role in preventing SARS from spreading even further and taking more lives.

THE EPIDEMIOLOGY OF SARS

When reports first emerged about a new respiratory illness that quickly and severely sickened its victims and did not respond to standard treatments, doctors were stumped. They initially suspected a new form of influenza, chlamydia, or pneumonia, but laboratory tests quickly ruled these out. Instead, researchers discovered that a previously unknown coronavirus was the cause of this new disease. While coronaviruses are not new to humans and frequently cause colds, no one had ever before seen this particular coronavirus in humans—or anywhere else, for that matter.[1] The discovery of the SARS coronavirus (SARS-CoV) required a great deal of detective work to find how this virus made people sick, and how it spread and emerged among humans in the first place.

Part of the difficulty in diagnosing SARS initially came from its seeming lack of standardized symptoms. The initial symptoms are indeterminate and closely resemble the flu: coughs, sore throats, gastrointestinal problems, muscle aches, shortness of breath, and lethargy. Chest x-rays fail to display any singular common appearance in the face of SARS. White blood cell counts may be low, too, but this is an unspecific symptom. When SARS first emerged, of course, no such diagnostic tests existed. Instead, doctors worked to rule out any other cause. SARS became a diagnosis by exclusion.

Since its first emergence, WHO has refined its diagnostic guidelines for SARS. A clinical diagnosis of SARS must meet the following four criteria:

1. A fever of 38 degrees Celsius or higher
2. One or more symptoms of a lower respiratory tract illness, like coughing difficulty in breathing, or shortness of breath
3. Chest x-ray evidence of chest infiltrates consistent with either pneumonia or respiratory distress syndrome
4. No possible alternative diagnosis that can explain all symptoms[2]

Definitive diagnosis comes through laboratory diagnostic tests, but these criteria provide health care workers with firmer guidelines for identifying suspected cases. While SARS remains to some extent a diagnosis of exclusion on a clinical level, improved laboratory tests allow for more rapid and accurate confirmation of cases.

Close personal contact appears to be the dominant mode of transmission for SARS. Respiratory secretions spread when an infected person coughs or sneezes, placing those who live with or care for SARS patients in particular danger of exposure. Some evidence suggests that SARS-CoV is present in urine and feces,[3] and the CDC admits that other yet unknown means of airborne transmission may exist.[4] It appears that persons are only contagious while they are exhibiting symptoms, particularly during the second week. Since the exact period of contagion is still uncertain, CDC guidelines recommend that SARS patients minimize their public excursions for at least 10 days after their fever breaks. Illness usually appears within 2 to 7 days after exposure.

Treating SARS remains difficult. A 2006 survey of research studies on SARS treatments glumly noted, "Despite an extensive literature reporting on SARS treatments, it was not possible to determine whether treatments benefited patients during the SARS outbreak."[5] Standard treatments for respiratory disorders show minimal efficacy; in fact, it was the failure of these standard treatments that first alerted doctors to the presence of a new disease. Ribavirin, a common antiviral treatment, initially received some attention as a SARS treatment, but subsequent research demonstrated that ribavirin offered little relief to most people and had significant side effects. The CDC suggests that doctors use "that same treatment that would be used for a patient with any serious community-acquired atypical pneumonia."[6]

A SARS TIMELINE

Rumors and reports about a new, potentially fatal respiratory illness in southern China first emerged in November 2002. The first case of atypical pneumonia, now considered the first case of SARS, was reported on November 16, 2002 in Guangdong Province. Some thought that the disease was a new variety of influenza, while others blamed pneumonia. More than anything, the new illness inspired fear. It came on quickly and caused severe symptoms. Furthermore, how it spread remained a mystery. Who was at risk? How could it be treated? No one knew. It later emerged that WHO's Global Outbreak Alert and Response Network (GOARN), a computer surveillance system designed to track and investigate reports of disease outbreaks around the world, did in fact pick up a report about the illness in Guangdong on November 27, 2002, but the report was never translated from Chinese into English. Because the alert did not point to a specific cause or illness, WHO officials did not initially consider it of high importance.[7] This oversight delayed the initial international response or even recognition of a new disease.

WHO officials first heard about this new illness in December 2002. Unconfirmed reports suggested that Guangdong Province was experiencing an outbreak of a new influenza variant. Guangdong Province lies on the southeastern coast of China and is the country's most populous and wealthiest province. It is home to two of China's most economically productive and important cities: Guangzhou and Shenzen. When asked about these reports, Chinese national health authorities replied that the illness was the standard Type A flu and that everything was fine. Despite the national government's seeming lack of concern, anecdotal reports continued to circulate about unexplained respiratory ailments.[8]

On January 2, 2003, a hospital in Heyuan, a prefecture-level city in northeastern Guangdong, faxed the province's health department about two cases of atypical pneumonia. Both patients had been admitted 2 weeks earlier, and neither was responding to standard treatments. More alarmingly, nearly all of the medical personnel who had come into contact with the patients were exhibiting similar symptoms.[9] Hospital officials had asked for some advice or any assistance, but had received nothing.

The following day, SARS made its first appearance in the press—though hardly in a comforting manner. That day, the *Heyuan Daily*, a newspaper owned by the Chinese Communist Party (CCP), published the following announcement:

> There is no epidemic in Heyuan. There is no need to panic. Regarding the rumor of ongoing epidemic in the city, Health Department officials announced at 1:30 this morning, "There is no epidemic in Heyuan." The official pointed out that people do n't need to panic, and there is no need to buy preventive drugs.[10]

One foreign reporter pithily suggested that this was "the least reassuring reassurance" he had ever seen.[11] After this report, the government imposed a ban on any reporting on the outbreak. Simultaneously, sales of preventive drugs and white vinegar (many believed its fumes could ward off respiratory illnesses) soared. Prices increased dramatically, and shortages became commonplace.

Despite the government's reassurances, this new illness continued to spread. Later in January, the illness spread to Zhongshan, a prefecture-level city in southern Guangdong. The outbreak occurred both within the community at large and among health care personnel in local hospitals. As reports of this outbreak circulated, the government issued a report that encouraged the use of strict infection-control measures on January 21, 2003. Unfortunately, the report was labeled "top secret."[12] This designation meant that only top provincial officials and hospital directors could read and discuss it; they could not even share the report's findings with others. The doctors and nurses who dealt with patients and fell ill with this mysterious disease were deliberately excluded from learning about the threat they faced. The "top secret" designation also prevented the WHO officials from reading the report.[13] Despite their best efforts, though, information from the report trickled down to the general public.

The rumors and unconfirmed reports hit a feverish pitch in February 2003. On February 5, 2003, the first (translated) report about a strange flu appeared in GOARN, and attracted the attention of WHO. A few days later, text messages about the disease swamped Guangdong's cellular telephone network. Over the course of three days, cell phone users sent the message "There is a fatal flu in Guangzhou" 126 million times—40 million times on February 8, 41 million times on February 9, and 45 million times on February 10.[14] Also on February 10, the first query about a new illness in Guangdong appeared on ProMed. ProMed—the Program for Monitoring Emerging Diseases—is a free Internet-based international surveillance system dedicated to sharing information about the spread of infectious diseases and exposure to toxins among humans, animals, and plants. Originally an initiative of the Federation of American Scientists, the International Society for Infectious Disease now operates the service and has more than 40,000 subscribers in 165 countries. Reports come from news sources, official reports, and local practitioners. This first report on ProMed asked about reports that had appeared on Chinese Web sites about a strange respiratory disease and an increasing number of deaths.[15] The report brought the disease to the attention of medical personnel outside of China for the first time.

That same day, WHO first approached the Chinese national government about the report. Not only had they seen the ProMed report, but WHO also received a call from an embassy in Beijing asking for more information about the rumors. WHO's office in China also reported receiving an increasing number of media inquiries about the epidemic.[16] They asked for information about the disease and offered their assistance to health officials to combat its spread. Guangdong provincial health officials held a news conference on February 11 to report that 305 people had contracted atypical pneumonia since

November 2002, and that five people had died from it. At the same time, though, they announced that the outbreak was under control and that residents need not panic. National authorities informed WHO that the number of cases was on the decline and that they did not need international assistance.[17] In fact, Guangdong's Provincial Health Bureau had issues diagnosis guidelines for the new disease a week earlier, but they did not provide this information to WHO until April.[18] The press conference neglected to mention that the illness was heavily concentrated among health care and food workers.[19]

The following week, the WHO's office in China made a proposal to the Chinese national Ministry of Health to investigate the atypical pneumonia outbreak. WHO requested permission to travel to Beijing and Guangdong to examine cases in these areas. As an international organization, WHO must rely entirely upon the good graces of national governments in order to investigate outbreaks and epidemics. It cannot violate state sovereignty unless it receives permission to do so. In this case, the Ministry of Health decided not to grant WHO the full access it sought and instead only permitted a WHO team to travel to Beijing. Though rumors suggested that Beijing was experiencing cases of atypical pneumonia, it was hardly the most afflicted city. The epicenter of the disease remained firmly in Guangdong at this point. Indeed, during the previous week's press conference, government officials suggested that this illness was almost entirely confined to Guangdong. On the one hand, the Chinese government allowed the international community to introduce some level of surveillance activities. On the other, though, the government only allowed this international public health surveillance to take place in an area where it was less critical. The government prevented WHO from establishing surveillance and investigative activities in the very region that needed them most. The WHO team arrived in Beijing February 23. It took nearly 2 weeks for the Ministry of Health to even begin discussing the possibility of WHO traveling to Guangdong.[20]

Although WHO and the Ministry of Health officials negotiated over travel access, the still unnamed disease took an international turn. Dr. Liu Jianlun, a physician from Guangdong, checked into his hotel room on the ninth floor of the Metropole Hotel in Hong Kong. He had traveled to attend his nephew's wedding—a respite after having spent much of the previous week treating patients with this new atypical pneumonia. By the time he arrived in Hong Kong, he was already feeling ill with fever, difficulty in breathing, and a cough. During his stay on the ninth floor, Liu had little interaction with other guests, and most of that interaction was in passing in the hallway.[21] Despite such limited contact, 12 people who stayed on that same floor contracted the disease that came to be known as SARS. It is at this point that the disease spreads internationally. Among those who contracted SARS was a Chinese businessman who was en route to Hanoi to visit a textile factory, a Singaporean woman in Hong Kong on a shopping excursion, and an elderly Toronto woman in China to visit friends and relatives. These three unwittingly took the virus with them as they traveled, introducing it in Vietnam, Singapore, and Canada. Researchers later traced over 100 SARS cases in Singapore and 132 cases (and 12 deaths) at Scarborough Grace Hospital in Toronto to the two women from the Metropole Hotel.[22] Liu entered the hospital on February 22 and died the next day. Four hospital workers and two family members later fell ill, and one family member subsequently died.

Reports of atypical pneumonia in China, Hong Kong, and Vietnam continued to emerge through official and unofficial channels to WHO throughout late February and early March. At this point, though, WHO officials could not definitively link the cases. Indeed, there existed no standard definition of the disease. They could not deny, though, that some new disease seemed to be spreading. Surveillance networks were picking up *something*; they did not yet know exactly what it was. They needed to alert public health officials, but they worried about inspiring panic about a disease that they little understood. On March 12, WHO issued its first global alert about atypical pneumonia in Vietnam and Hong Kong. They did not explicitly link the cases, but they did note similarities between the outbreaks and cautioned that health care personnel appeared to be particularly vulnerable.[23] This alert encouraged a resumption of discussions between WHO and the Chinese Ministry of Health over whether WHO teams could travel to Guangdong to investigate the outbreak there.[24]

Three days later, after receiving reports of illness in Singapore and Canada, WHO issued another global health alert. This time, they gave the disease its own name—severe acute respiratory syndrome or SARS—and called it a “worldwide health threat.” They also defined its symptoms as a fever, signs of respiratory distress syndrome, and travel to or living in an area with local transmission of the disease.[25]

The alert issued by WHO on March 15 was unique in that it included a warning about travel. It noted that people who had been in areas of the world with SARS cases should be on alert for symptoms of the disease for 10 days after their departure. While the alert did not explicitly restrict travel, it did encourage vigilance.[26] At this point, no one, including WHO, knew what the cause of the illness was or exactly how it was spread. However, China's Ministry of Health quickly announced that SARS was unrelated to the atypical pneumonia cases in Guangdong.[27] This was a stunning and unprecedented use of biopolitical surveillance by the international community. Instead of going through normal channels and waiting for state governments to implement policies, WHO itself came out publicly to call for people to change their travel plans to prevent the spread of an infectious disease.

Another unique innovation came on March 17. That day, WHO set up global networks designed specifically to share information about SARS. The network included multiple channels, facilitating the spread of essential information among the public and among scientists.[28] In its first report, WHO announced 167 active cases of SARS and four SARS-related deaths.[29] These channels sought to draw upon the global base of knowledge while encouraging the widest dissemination of information. It brought health care personnel and researchers around the world into the process of creating knowledge about this still unknown disease. Instead of centralizing all information and research in one location, the network put doctors and scientists all over the world on the case, keeping their eyes open. This tactic also allowed WHO to get around national health authorities who may have political or other incentives to withhold information. SARS surveillance moved outside official state channels. Now, it internationalized by individualizing its reporting.

Throughout this period, scientists around the world had been trying to uncover the causative agent of SARS. They tried to find evidence of any previously known virus or bacteria responsible for causing respiratory illness in tissue and septum samples. On March 19, WHO announced that these efforts had failed. They admitted that some sort of novel pathogen may be responsible for SARS. Five days later, scientists in Hong Kong and the United States jointly announced that they had isolated a new coronavirus in SARS patients.[30] Using this information, CDC scientists announced on March 28 that they could now definitively link at least 12 cases of SARS in Hong Kong to Liu's stay at the Metropole Hotel. It also helped convince Chinese Ministry of Health officials that Guangdong's atypical pneumonia cases were indeed SARS.[31]

The scientific progress had still not halted the spread of SARS. This led WHO to take an unprecedented step on April 2. It issued another global alert, this time explicitly warning people to cancel all but essential travel to Hong Kong and Guangdong. This was the first time in WHO history that it had ever introduced such a far-reaching travel warning.[32] Although WHO could not prevent anyone from traveling, its travel warning sent a strong message to the international community. Government officials objected that the warning would decimate the tourism industry. They further worried about the effect on business investment, as they feared that companies would be leery of investing in "sick" cities. Despite these genuine potential economic costs, public health need for increased biopolitical surveillance overrode these concerns.

The responses of the Chinese Ministry of Health and Hong Kong health officials in early April show fascinating contrasts. Hong Kong officials closed schools on April 6 and quarantined over 1,000 people. All household contacts of confirmed SARS cases had to enter quarantine for up to 10 days. They could receive no visitors, and police would conduct daily compliance checks. The quarantined did have some choice in the matter: "they were allowed to choose between confinement in their homes or confinement at holiday camps."[33] Surveillance and quarantine took a prominent role in the region's response. The Chinese Ministry of Health, on the other hand, announced that SARS was under control. They claimed to have established a reliable surveillance network and that there were only 22 cases of SARS in Beijing on April 9. They allowed WHO teams in Beijing to verify these numbers by giving them permission to visit any hospital in the city—except for the military hospitals.[34] Frustrated by the government's lies about SARS, a doctor at a Beijing military hospital went to international media sources. He said that, in contrast to the government's official numbers, he knew of at least 120 SARS cases just at Beijing's three military hospitals.[35]

By mid-April, WHO's frustration with China's inadequate response to SARS reached its peak. WHO lacked the ability to impose fines on a national government or violate national sovereignty, but it did have the power of shame on its side. By calling a government out for its failures, WHO could seek to change a state's behavior. On April 16, WHO took this step with China. It publicly accused the Chinese government of lying about the number of SARS cases and chastised it for implementing thoroughly inadequate surveillance measures. It further expressed concern about the overall state of public health in China.[36] Two days later, *Time* magazine joined the chorus. It published an article blaming the Chinese of trying to hide SARS patients. They recounted a story where hospital officials put SARS patients in ambulances that drove around the city while WHO teams visited the hospital.[37]

The shaming apparently had the desired effect, and quickly. The leader of the Chinese Communist Party, Hu Jintao, declared a nationwide war on SARS and demanded an honest accounting of both the number of SARS cases and the steps being taken to combat its spread.[38] The real turning point came on April 20. That day, the Information Office of the State Council held a press conference in Beijing. Uncharacteristically, China Central Television broadcasted the press conference live. Viewers noticed that the press conference was missing two expected participants; neither the Minister of Health Zhang Wenkang nor the mayor of Beijing Meng Xuenong was present. It quickly became known that their absence was because they no longer had their jobs. Both had been fired for "negligence in work" related to SARS. With this move, the Chinese government sent the message to the broader bureaucracy that covering up SARS cases would no longer be tolerated and that officials would be held accountable for their actions (or lack thereof) in combating SARS.[39] Officials also announced the imposition of new, stringent surveillance and quarantine measures to stop the spread of SARS. Vice Premier Wu Yi took over the Ministry of Health with special responsibility for overseeing the government's SARS policy. Widely viewed as a savvy politician with a good reputation, Wu Yi quickly established a SARS control center to coordinate activity and received a budget of 2.6 billion yuan to direct her programs.[40] Despite the previous denials and foot-dragging, the Chinese government put its full energies behind the containment of SARS once it got on board. It greatly increased the scope of its surveillance activities.

China's admission was encouraging, but SARS continued to spread worldwide. A new WHO travel advisory on April 23 extended the warning against nonessential travel to include Toronto. WHO included Toronto because of the magnitude of the city's outbreak (143 cases and 23 deaths), the presence of local chains of transmission, and fears over travel-related importation of cases.[41] The Canadian government reacted swiftly and angrily. They lobbied WHO officials to remove the city, arguing that the epidemic was largely under control and that they would take more proactive measures to screen travelers to prevent reimportation. The argument apparently persuaded WHO officials, as they lifted the travel warning only six days after issuing it. Others, though, saw this as less of a sign about Canada's commitment to surveillance and more a sign of international racism. Imposing a travel advisory against Asia was fine because it was the dirty and diseased "Other," but treating a white North American country in this manner was unacceptable because it was clean and modern, according to this argument.[42]

China's new commitment to fighting SARS quickly manifested itself. Surveillance systems dramatically improved. Quarantine and isolation measures became part of the country's public health arsenal. The government built a new, specialized hospital over the course of a weekend, and it specially designated particular hospitals for SARS patients. Suspected cases were transported to these hospitals, which were equipped to prevent nosocomial transmission. By May 7, all SARS cases had been moved to these facilities, and the government quarantined 18,000 people in Beijing. The following day, the number of SARS cases in Beijing peaked. As one commentator noted, "Traditional basic disease-control strategies of surveillance, quarantine, isolation, and infection control proved to be adequate to stop transmission."[43]

This commitment was evident in other ways, too. It allowed WHO officials to travel more freely, and it held its officials accountable. The same day that SARS cases peaked in Beijing, government officials announced that they had fired or reprimanded more than 120 officials for their "slack" responses to SARS. They mobilized 80 million people in Guangdong to clean houses and streets in an effort to prevent further transmission.[44] They also sought to control the dissemination of information about the disease. The *Beijing Morning News* published a report on May12 about new reporting regulations. The rules mandated timelier reporting about SARS and other infectious diseases through official channels, though they were silent about the requirements to share that information with the public. Under these new rules, spreading rumors about SARS could land the person responsible up to five years in prison.[45] During the second week of May alone, Chinese police arrested 107 people for rumor-mongering about SARS through text messages.[46] Greater cooperation with WHO even led to a joint press conference in Beijing on June 12. Two weeks later, WHO removed Beijing from its travel advisory.[47]

By July 5 when WHO declared SARS under control worldwide, 8,096 people had contracted the disease, and 774 had died. SARS had appeared in 29 different countries. Some countries, like Switzerland, South Africa, and Indonesia, had only one or two cases. China, with its 5,327 cases, had the most by far. Hong Kong, whose cases were reported separately to WHO officials, followed with 1,755 cases. Taiwan,[48] Canada, and Singapore rounded out the top five, each with more than 200 cases.[49]

CHINA'S RESPONSE TO SARS

China holds the dubious distinction of having had the highest number of SARS cases in the world. Huang comments, "History is full of ironies: the [SARS] epidemic caught China completely off-guard forty-five years after Mao Zedong bade 'Farewell to the God of Plagues.'"[50] What contributed to its high number of cases? Aside from epidemiological features that allowed SARS to first emerge in China, political and institutional factors both impeded and facilitated a rapid response to SARS. The Chinese government initially downplayed the severity of SARS and paid little attention to its spread. Once it committed to addressing the disease, though, its response was rapid and impressive. It sought to remedy its earlier failure to engage in needed biopolitical surveillance activities.

One significant factor was the deterioration of the country's public health system. In 1978, China's public health system was vaunted as a model for the rest of the world and helped to inspire the "Health for All by 2000" movement. It showed that governments could provide basic health care equitably. Twenty-two years later, China ranked 188th out of 191 for fairness in its financial contributions to health.[51] In the 1950s and 1960s, China gained international renown for its so-called barefoot doctors. These medical professionals formed the backbone of the public health system, particularly in the rural areas where the vast majority of the population lived. They traveled around, providing basic rudimentary care to all regardless of ability to pay. This system contributed significantly to the country's substantial increase in life expectancy. In 1949, average life expectancy was 37. In 1990, it had nearly doubled to 70.[52]

Over the years, though, the Chinese government reduced its commitment to public health. After Mao's death, the government shifted funds away from long-term infrastructural investments like public health and toward job creation. With the central government contributing less money to public health, local governments and individuals had to pay more, and the overall resources devoted to public health declined. The central government would still introduce public health mandates, but it rarely provided the funds to implement these mandates. As a result, services became increasingly sporadic.[53] The barefoot doctors disappeared, replaced by a privatized system of fee-based care. As a result, preventative care lost out, and immunization and outbreak–response programs received few funds. Infectious diseases that had nearly disappeared in the 1960s and 1970s like tuberculosis rebounded.[54]

The weakness of the country's public health system made it unprepared to respond to a novel emergency like SARS. It lacked the local surveillance capabilities that could identify the spread of a new disease in a timely and efficient manner. It did not have the resources to trace the contacts of SARS patients—a problem further compounded by rapid industrialization and migration to urban areas. Even if the government had wanted to implement a strong surveillance system when SARS emerged, it would have likely lacked the resources and personnel necessary to make that a reality.

Legal impediments also contributed to how China responded to SARS. The National Law on Communicable Diseases Prevention and Control governed infectious disease control and reporting in China, but its last updating had occurred in 1989. The law established various categories of diseases, based on their severity, and specified the level of government that was responsible for reporting on and managing of each category. It created timeframes for ensuring the timely reporting of diseases up the government hierarchy. In general, though, the law placed most of the emphasis for disease control and prevention at the county and provincial level. The central government was the last step in the reporting process, and it had little responsibility for carrying out control and prevention measures.[55] This law discouraged reporting and introduced structural impediments that made it difficult for provinces to share information with each other or to get the attention of national officials.

An additional law played a significant role in explaining the government's initial silence on SARS. The Implementing Regulations on the State Secrets Law declared that any infectious disease outbreak was officially a state secret until the Ministry of Health or its designee officially announced the disease's presence.[56] This law traced its origins back to Mao, who feared that the United States and the erstwhile Soviet Union would use disease epidemics as propaganda tools to undermine the Chinese government.[57] Like the National Law on Communicable Diseases Prevention and Control, the Implementing Regulations established a rubric for classifying infectious diseases based on severity. SARS was *jia lei*, or in the highest level secret category because it was a new, widespread infectious disease. As such, it was a state secret. This significantly hampered efforts to learn about or disseminate information about it. Lower level officials could not disclose the disease's presence, or even its existence, until either the Ministry of Health or the State Council disclosed it first. If the central government did not admit the disease's presence, then no other body could do so. Any local official who did disclose it would be liable for prosecution for exposing state secrets.[58] In the meantime, local and provincial officials could not share information with each other. Each municipality where the disease appeared essentially operated in the dark, unaware of how the other municipalities were handling the disease—or even whether the disease had appeared in other places. With SARS, the Ministry of Health did not declare it a statutory epidemic until April 8.[59] In other words, the government essentially banned any discussion or information-sharing about the epidemic for nearly five months.

A third factor explaining China's SARS response was structural. Between November 2002 and March 2003, when SARS first began to emerge and spread, China was undergoing a massive political transition. Jiang Zemin had stepped aside, and Hu Jintao and Wen Jiabao had taken over. Ensuring an orderly shift of power and preventing political squabbling thus captured a significant amount of the political leadership's attention.[60] Huang observes, "To publicly acknowledge the outbreak at this crucial juncture [between November 2002 and March 2003] would not only risk causing socio-economic instability, but also sullying the party's image and legitimacy among the people."[61] Premier Wen Jiabao warned in April 2003 that SARS could affect the country's economy, international image, and social stability.[62] The Chinese government bases much of its legitimacy on its ability to provide both economic development and social stability. The outbreak of a new infectious disease, and the government's inability to do much about it, could challenge that legitimacy. This helps explain why WHO's public shaming of China was so effective; it called the government's legitimacy into question, and did so on the international stage.

Within the central government's bureaucracy, the Ministry of Health was a relatively weak player. Since it had few resources to offer provincial and local officials, it found itself largely subordinate to local health departments.[63] Its operations depended upon information trickling up from these lower levels. Perversely, though, the lower level officials had strong reasons *not* to share that information with higher authorities. The central government would reward and punish local offices based on their reports. Reporting a disease outbreak would reflect poorly on those local officials, as they would be blamed for not working hard enough to prevent the outbreak. An office could lose funds, and officials could lose their jobs. Conversely, hiding cases made a region appear healthier, and therefore could lead to more resources or a promotion. This meant that "bureaucrats at all levels [had] economic incentives to under-report SARS cases."[64] In such a situation, there exist powerful reasons to remain silent.

The government's official silence did little to squelch public discussion of the outbreak. Information and rumors about SARS spread through casual conversation and through text messages. Some claimed that the disease was an element of the People's Liberation Army's biological weapons program gone awry. Others blamed the U.S. government and said that it was testing a new chemical weapon on China.[65] Later surveys found that, during the months that the government maintained an official silence, 40.9 percent of China's urban residents had heard about SARS through unofficial means.[66]

SARS SURVEILLANCE IN PRACTICE

Controlling the world's first SARS epidemic was, in some sense, an experience in public health time travel. Sophisticated twenty-first century scientific techniques may have allowed researchers to identify the causative agent of SARS relatively quickly, but it did little to actually stop the disease's spread. To do that, the international community turned to distinctly old school techniques. Doberstyn reminds us, "Most important in controlling SARS were the 19th Century public health strategies of contact tracing, quarantine, and isolation."[67] In other words, public health surveillance ultimately saved the international community from dealing with an even more explosive SARS epidemic. At the same time, though, such surveillance provoked anxiety about its implications and applications. Overly broad application of quarantine orders and a lack of recourse or appeal for those quarantined made programs appear like arbitrary power grabs. Brookes notes, "Yet while this provision was giving the impression that those under quarantine were potential criminals, it was also clear that they were innocent of any wrongdoing."[68] SARS gives us an example of both the efficacy of surveillance and quarantine and its limitations when not combined with transparency and respect for human rights.

To stop the spread of SARS, officials needed to know who was already infected and with whom they had come into contact. The infected could be isolated—an especially important step when the exact means of transmission remained unknown. Those who had been in close contact with the infected could be monitored closely. Since SARS patients did not appear to be contagious until symptoms appeared, vigilant surveillance could prevent additional cases from appearing. The National Intelligence Council lauds the international community, particularly WHO, for its aggressive oversight for helping to arrest the spread of SARS. "The first line of defense in arresting the spread of SARS," the Council wrote in its 2003 assessment of the outbreak, "has been the success in identifying potential cases."[69]

Overly broad application of surveillance and quarantine techniques can have the opposite effect, though. It can drive people underground, fearful of the consequences. It can tar entire groups as diseased and unhealthy and foster discrimination. It can discourage rational thought and preparation. Wynia cautions,

> Quarantine done poorly can induce people to mistrust and avoid the public health system—and if this happens, then quarantine is not merely ineffective, it can actually feed the spread of the disease as frightened people break the quarantine, flee, and disperse into the population.[70]

If people feel that surveillance and quarantine is stigmatizing, they will avoid the system. Such avoidance makes it that much more difficult to find the very people who are at risk of spreading the disease.

Did this happen with SARS? Lawson and Xu suggest that it did. Surveillance and quarantine systems for this new epidemic, they argue, unnecessarily divided groups. Government officials used surveillance and quarantine as a means to separate groups by drawing upon and reinforcing exclusive identities. They assert,

> The stronger the individual's institutional ties, the greater certainty institutional leadership had that the affiliated individuals would be reliably compliant . . . "strangers"—those with fewer obligations—were unaffordable sociopolitical risks during an emergency like SARS, regardless of their apparent health.[71]

Surveillance and quarantine created insiders and outsiders, and officials drew upon those loyalties to encourage compliance. Insiders could be manipulated into allowing intrusive oversight or voluntary quarantine in order to maintain their status as insiders. Outsiders were dangerous because you could not be sure of their background or their loyalties.

In some quarters, concerns about surveillance and quarantine were more quotidian and practical. Surveillance and quarantine measures could signal to the rest of the world that there was something wrong in a particular place. Early warnings could have the perverse effect of scaring people into going underground and avoiding public health authorities. That signal could then in turn decrease enthusiasm for investing in or conducting business with a country. Investors could take surveillance and quarantine measures as a sign that their investments would not be safe and secure. Such decisions could have deleterious effects on national economies that are heavily dependent upon foreign trade and investment. "In a world where international trade and investment are the main engines of prosperity," Abraham reminds us, “a disease, or any other condition that discourages foreign traders and investors from visiting and doing business is a kiss of death.”[72]

Fears arose that those governments, once they acquired this sort of power, would loathe giving it up. Increased biopolitical surveillance gives the government a higher level of control over the citizenry and its actions. Critics wondered whether a government—any government—would willingly cede this increased power after it was no longer deemed “necessary.” Lawson and Xu ominously highlight, “Both countries [China and Canada] discussed making certain coercive emergency powers permanent. Some even played physical survival and public order against core political values.”[73] Government leaders could thus manipulate the political discourse to create a false dichotomy between civil rights and public health protection, arguing that they needed these rights-denying powers in order to keep people healthy.

Despite these arguments, the public is not uniformly opposed to surveillance and quarantine. Rather, their concern focuses on whether those people under surveillance and quarantine are being cared for and having their needs met.[74] Surveys in the United States and Canada found that people believed in the rationale for surveillance and quarantine during SARS and that they would comply with any such orders. Ninety-six percent of Canadians and 84 percent of Americans said that people with SARS needed to be quarantined, and 95 percent in both countries said that they would agree to be quarantined for 2 to 3 weeks if they were exposed to SARS. Among those who had been quarantined or under surveillance in Canada, approximately one-quarter called the experience a major problem because of its emotional toll and their inability to get paid while under quarantine.[75] Respondents in Singapore, one of the countries that had been hardest hit by SARS and had implemented some of the most stringent surveillance and quarantine measures, showed a similar willingness. More than 70 percent said they were willing to accept a quarantine of longer than 10 days after close contact with a SARS patient.[76] These findings reinforce the idea that people are willing to accept surveillance and quarantines if they feel they are justified, and if they will not be left to fend for themselves during quarantine.

To understand how surveillance and quarantine during the SARS epidemic balanced concerns about public health and human rights, we can look to the experiences of various countries in 2002 and 2003. Some countries took aggressive steps to introduce overt surveillance and quarantine measures and found a measure of success. Others resisted introducing these measures as long as they could. Some consciously strove to ensure respect for human rights; others considered human rights concerns subordinate to protecting community health. These experiences, and how the international community responded to various efforts, are instructive in showing both the efficacy of biopolitical surveillance and the need for respecting human rights.

People's Republic of China

China's initial response to the SARS epidemic was lackadaisical at best. Government officials imposed an official silence, banning media sources from reporting on the new illness and denying the disease's severity to international inquiries. With their televised press conference on April 20, 2003, the Chinese government's attitude and actions underwent a wholesale, radical change. Gone was the disinterested, secretive approach. In its place, the government introduced an active and overt surveillance and quarantine program to prevent the further spread of SARS. These programs operated at both the national and the local level, and engaged average citizens in the monitoring of their friends and neighbors for the dreaded disease.

At the national level, one of the government's first actions was to set up a national SARS coordinating center. The Ministry of Health sat at the center of the government's overall response to the disease. Provinces and municipalities also established their own local SARS headquarters.[77] These offices mobilized both bureaucrats and local residents to get involved in combating the epidemic.

Fever checks quickly became one key element of the government's surveillance program. Officials would require people at airports, train stations, bus terminals, and highways to have their temperatures checked.[78] A fever over 38 degrees Celsius, a key symptom of SARS, could lead to quarantining for up to 21 days.[79] Fever checks also occurred at hospitals for people coming to the facility for any reason.[80] Students had to pass daily fever checks in order to be allowed into their classrooms in some areas, while officials closed schools completely in heavily afflicted areas.[81] The government conducted more than 14 million fever checks, though they only discovered 12 new SARS cases in the process.[82]

Upon discovery, the Chinese government sought to prevent SARS patients from exposing others to the virus. Confirmed SARS patients were sent to specially designated treatment centers by ambulance, and those ambulances received intense disinfectant treatments repeatedly each day. Those who had come into contact with confirmed SARS patients found themselves quarantined in their homes for up to 21 days, and potentially exposed individuals received similar treatment.[83] Over the course of the SARS epidemic, over 130,000 were placed in quarantine. Of those, 133 eventually developed the disease. In other words, 1,000 people entered quarantine for every case of SARS found.[84] This led to charges of overkill and violation of the right to free movement.

Fear of quarantine and surveillance encouraged some people to subvert the system. Reports of people fleeing urban and industrial centers emerged, presumably believing that rural areas would not have the same level of intrusion and oversight. Quarantined patients and health care workers sought to escape from hospitals—the patients to rejoin their families and the health care workers to avoid contracting SARS. In response, hospital officials allegedly forcibly locked patients, doctors, and nurses in the facilities to prevent escape. They also imposed fines on those who broke the quarantine, and encouraged neighbors and community residents to report violations of quarantine.[85] Reports often came through a 24-hour phone hotline established expressly for people to report suspected SARS outbreaks. In some cases, people even turned themselves in by this phone line when they feared they had contracted the disease.[86]

These national-level policies had a dramatic effect on the country's social fabric and travel patterns. Travelers became suspicious individuals, as they could potentially bring the virus with them to previously unafflicted areas. Officials cancelled many public events, fearful that such gatherings would provide the virus with an ideal transmission environment. Perhaps most dramatically, the government cancelled the annual week-long May Day holidays. Some local events still took place as usual, such as the flag-raising ceremony in Tiananmen Square, but the number of attendees declined dramatically. Traditionally, many families traveled during the May Day holidays to visit relatives. In particular, urban dwellers would return to their rural homes and families. In 2002, an estimated 80 million people traveled during the May Day holidays.[87] Cancelling the holidays would decrease the number of people traveling throughout the country. It would also allow for more vigilant biopolitical surveillance, as it would be less likely that people would "disappear" during the week. Keeping people in their same location would make it easier for the government to check up on them.

The Chinese government also limited international travel. Authorities banned Chinese citizens from traveling to Thailand, Malaysia, and Singapore during the SARS outbreak. This had less to do with the epidemic's severity in these states and more to do with retaliation for these countries banning Chinese tourists.[88]

To encourage compliance with the SARS-related surveillance and quarantine measures, the Chinese government introduced severe fines and penalties for violations. Knowingly spreading SARS could lead to capital punishment. Breaking quarantine or evading mandatory medical examinations such as fever checks could lead to a seven-year prison sentence if convicted. Government authorities also found themselves subject to potential jail terms. "Insufficient vigilance in combating SARS" could be punished with a three-year prison sentence.[89]

Local communities sometimes added to the surveillance measures instituted by the government. These techniques generally allowed for a higher level of oversight and placed local citizens squarely on the frontline of monitoring their neighbors for SARS. In Shenzen, for example, city authorities shuttled beggars and disabled homeless persons to the outskirts of town.[90] They feared that those individuals were either more prone to harbor the virus and thus spread it throughout the community or that they were more susceptible to catching the virus in the first place and thus may provide a transmission route into the larger community (or both). Local SARS committees throughout China established roadblocks on the main streets leading in and out of their village or neighborhood.[91] Such efforts sought to keep SARS out of areas where it had not yet appeared, as well as playing on the fears that foreigners and strangers could bring the disease with them—perhaps even maliciously.

The Chinese government's response, once it got going, was fairly punitive. Decision-making processes remained opaque, offering the public little insight into who was making policies and why. Frequently changing policies also undermined public confidence and increased confusion. Also evident is a lack of respect for or consideration of human rights principles.

Hong Kong

Though part of China, Hong Kong's status as a Special Administrative Region gave its leaders extra flexibility in dealing with the SARS threat. In addition, Hong Kong had 1,755 cases of SARS—the second highest number of cases in the world. Given its high population density and its important role as a center for business and travel, stopping the spread of SARS quickly took high priority. As we have already seen, one SARS patient staying at a hotel in Hong Kong managed to infect 16 other guests, and those people spread the disease to Vietnam, Canada, and Singapore.

By late March 2003, Hong Kong officials recognized the severity of the SARS epidemic in their region. Hong Kong recorded its first case of SARS when a 26-year-old man checked into a hospital March 4 (though public health authorities did not receive notification of the case until March 10). Within 3 weeks, WHO officials had recorded 286 cases of SARS and 10 deaths, and local transmission clearly still occurred. Government authorities began toying with the idea of imposing a mandatory quarantine, an idea that became increasingly appealing after Singapore did so, but they lacked the political authority to enforce such an order. Hong Kong's public health laws did not make SARS a reportable condition, and existing legislation did not offer the government authority to detain people or restrict travel on the basis of infection.[92] Despite this initial limitation, many felt that they had no choice but to try.[93] The possible fallout from overstepping their political boundaries, they felt, would be outweighed by the positive protection of its citizenry from the largely mysterious new disease. Further, they believed that these measures would allow them to better provide care for those who needed it.

On March 27, the Hong Kong government took action. Chief Executive Tung Chee-hwa invoked the Quarantine and Prevention of Disease Ordinance after amendments added SARS to its list of reportable conditions.[94] The government went even further on April 15, when it amended the Prevention of the Spread of Infectious Diseases Regulations. This allowed public health officials to prevent travelers from leaving the area, perform fever checks, and inspect travelers entering the area for SARS. With these legal changes, the government had the authority to introduce more sweeping surveillance and quarantine measures for both SARS patients and their contacts. The government eventually placed 1,285 people under medical surveillance and in-home quarantine by the time the epidemic subsided. Of those people surveilled and quarantined, more than half the people received daily material and financial assistance from the government.[95]

The Amoy Gardens apartment complex was perhaps the most prominent site for Hong Kong's biopolitical surveillance and quarantine. This area alone was home to at least 321 cases of SARS—approximately 18 percent of the region's entire caseload. Of these cases, one apartment building known as Block E was responsible for over 40 percent of the complex's cases. As a result, the government announced in-home quarantine for all residents of Block E on

March 31. Under this order, authorities declared that residents could not leave their apartments for up to 10 days as epidemiologists and researchers sought to discover how and why so many cases spread throughout the complex. To assuage fears of abandonment and neglect, authorities promised to deliver three hot meals to each resident each day, ensure the adequate provision of any essential supplies, and care for any household pets.[96]

This strategy quickly ran into problems. Investigators soon discovered that the presence of Block E's residents in their apartments severely hampered their ability to track down the source of infection. The residents got in the way. The government responded by shifting course, removing all residents to an isolated holiday camp for the next 2 weeks.[97]

While the residents of Block E were in isolation, the Hong Kong government decreed that any and all contacts of confirmed SARS patients must enter a 10-day in-home quarantine. Responsibility for contact tracing fell to the police.[98] The government would make sure that the quarantined would have their basic needs met, but they would remain under constant surveillance for the development of any symptoms of SARS and were subject to daily compliance checks. Failure to comply with the in-home quarantine orders could lead to jail time. Indeed, officials sent official letters to 26 noncompliant Hong Kong residents, warning them of severe penalties if they failed to abide by the order. In the end, all did, and none were charged with a crime.[99]

In Hong Kong's case, we see greater transparency than in China. The government took more proactive measures to keep the public informed about its policies, though the policymaking rush rarely allowed for substantive input from the public. We also find the government seeking to ensure that the basic needs of the quarantined and surveilled people are met. It sought to reassure a nervous public that they would not be abandoned by the system if they were being watched. Such a strategy sought to encourage compliance without resorting to overly harsh measures.

Singapore

Singapore's political system approaches questions of political rights and privacy far differently than other countries. While Hong Kong authorities scrambled to revise their legal code to allow for more stringent surveillance and quarantine orders, Singaporean officials already possessed such powers. Indeed, the city-state's political traditions subordinated individual rights and liberties to promoting the greater good of the community. This allowed the government to introduce overt and potentially coercive surveillance and quarantine measures with haste when they first discovered the outbreak of SARS. The 238 cases of SARS rank Singapore fifth in the epidemic's severity, but its incredibly high population density stoked fears of an even more widespread epidemic if the virus circulated freely.

Foreign observers frequently noted the almost-complete disregard among Singapore's political leaders for individual rights in responding to SARS. A *Toronto Star* editorial is typical in this regard. It lamented that Singaporeans were living "under virtual house arrest" and subject to "even more intrusive surveillance" during the epidemic.[100] At the same time, though, many expressed at least grudging admiration for the government's ability to adopt effective measures quickly. Its means may have offended some sensibilities, but those means appeared effective. McCullagh reflects, "Singapore's nanny-state meddling and unabashed authoritarianism may have spared it the worst . . . [thanks to its] single-minded determination to take whatever steps necessary, with scant regard for such individual liberties as the right to travel and associate freely."[101] An article in Singapore's *Straits Times* largely agreed. "If this government chooses to be 'draconian,'" it observed, "so be it. Because all it takes is one person or just a handful to be blissfully ignorant or deliberately defiant, and we're down the slippery slope."[102] This article crystallizes the dominant belief among Singaporean authorities that the greater community good of stopping SARS through any means necessary outweighed individual concerns about freedom of movement and association, at least temporarily.

Interestingly, the concerns about privacy and human rights over Singapore's response to SARS were largely external. "A number of voices from other countries voiced the opinion that Singapore was behaving like a police state—though these opinions tended to originate from countries that had few or no SARS cases."[103] Singaporeans, on the other hand, largely accepted the necessity of the government's surveillance and quarantine programs. Nearly 72 percent stated that they would accept government-mandated 10-day quarantine after contact with a SARS patient, and two-thirds either agreed or strongly agreed that they had opportunities to share their opinions about the appropriateness of surveillance and quarantine with government officials.[104]

Singapore's anti-SARS strategy placed prominent emphasis on surveillance, isolation, and containment. Hospitals established isolation wards to keep the SARS patients from mingling with other patients. Visitors could not enter the isolation wards. To prevent health care workers from spreading the virus, doctors and nurses could only work at one hospital. Prior to the outbreak, many would work shifts at different clinics and hospitals over the course of any given week. The government established fever checks and set up thermal scanners throughout the island. Hospital workers had to have their temperatures taken at least twice a day to ensure they did not have a fever. Taxi drivers, government bureaucrats, food servers, and hotel staff did so once daily and wore stickers that ensured the public that they were free from fever.[105] Schools, markets, and public facilities closed. In response, the government set up two special television channels—one devoted to providing school lessons to children who could not attend classes, and the other to spreading information about SARS, and how to prevent it. Officials encouraged frequent hand-washing, the use of masks, and proper nutrition to prevent exposure and boost immune systems to fight off any infections.[106] They also distributed more than one million SARS toolkits, including thermometers and facemasks. Thermal scanners, modified military equipment designed to detect heat, went up at the airport to scan travelers for fevers too.[107]

Quarantine orders extended to more than just Singaporean citizens. Foreigners coming to Singapore for work found themselves subject to special requirements. These regulations took on a peculiar class dimension, though. Construction workers and manual laborers, many of whom were from India and Malaysia, were quarantined for 14 days on a remote part of the island. Foreign professionals, on the other hand, were merely asked (not required) to voluntarily quarantine themselves for 10 days.[108] The disparity in treatment angered some, but government officials showed little inclination to alter the policies already established.

The Singaporean government, like others, relied upon its public health legislation to justify its surveillance and quarantine programs. On March 17, 2003, it made SARS a notifiable disease under the Infectious Disease Act. This notification gave it the authority to mandate with government orders quarantine and isolation, compulsory fever checks and medical treatment for people, and cooperation among hospitals and clinics. A week later, it officially invoked the Act. Under its provisions, Singaporeans had an affirmative obligation to prevent the spread of SARS to others by not engaging in activities that may expose others to the virus.[109] This action allowed the government to place anyone exposed to an infected SARS patient in isolation for up to 10 days. It also introduced penalties for violating isolation and quarantine orders. Fines for the first offense reached as high as $5000, an amount doubled for the second offense.[110] They also threatened to require violators to wear electronic monitoring bracelets.[111] In April 2003, the government again increased the penalties for violating quarantine orders. The first offense of noncompliance could lead to a jail term of 6 months, a $10,000 fine, and seizure and destruction of personal property.[112]

When new SARS cases emerged, the Singaporean authorities responded quickly and aggressively. A few cases emerged among workers at the Pasir Panjang Wholesale Market. As a result, the government instituted two-week in-home quarantines for 2,000 people who worked at the market between April 5 and 19. During this quarantine, more than 50 nurses made house calls to monitor the health of the isolated workers. As compensation, the isolated workers received a daily allowance of $41.[113] In the end, the government ended up quarantining 5,798 individuals out of a total population of 4 million.[114]

While Hong Kong assigned the police to trace the contacts of SARS patients, Singapore gave this task to the military.[115] To check for compliance, Singaporean authorities installed cameras near the front doors of those quarantined. Government officials could require persons under a quarantine order to present themselves in front of the camera at any time.[116] Such a system allowed the government to keep tabs on the quarantined while minimizing the chance that someone would inadvertently pass the virus in the course of a compliance check.

Ironically, a government that many people perceive as hostile to individual human rights has one of the best records of incorporating human rights principles into its SARS-related biopolitical surveillance activities. It took an active role in ensuring that people under surveillance and in quarantine still had their basic needs met. It offered a small stipend to those who could not attend work. It also introduced a very active information-sharing program, kept citizens up to date on prevention techniques and tried to allow life continue as normally as possible in the face of a new epidemic.

THE COSTS OF SARS SURVEILLANCE

SARS was costly on many fronts. It exacted a steep economic toll, particularly on a region of the world just then finally recovering from the devastation of the Asian financial crisis of the late 1990s. More than that, though, critics charge that SARS led states to abrogate fundamental rights, overextend their power and oversight into the personal lives of their citizens, and disrupt the social flows that make society flourish in a coherent manner. Governments used the specter of an infectious disease threat to grab power. Though they alleged that these measures were temporary, critics of biopolitical surveillance see little evidence that governments are willing to cede their powers once the outbreak passes. Instead, they seek to convince people that they must constantly be on guard and subject to these extraordinary powers because we can never know when the next epidemic will emerge.

On a financial level, the cost of SARS was indeed high. The National Intelligence Council estimated that the outbreak cost ASEAN countries (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam) upward of $30 billion. Most of this came from severe declines in the tourism, service, aviation, and restaurant industries. In China, Hong Kong, Singapore, and Vietnam, the decline in tourism alone totaled $10 billion and 3 million jobs.[117] The Asian Development Bank estimated that SARS cost the Asia/Pacific region $59 billion. For China alone, the figure was $17.9 billion, and Hong Kong's economy lost $12 billion.[118]

More consequentially for critics, though, SARS disrupted political and social flows and gave some governments far more intrusive power over their citizens. Rightly or wrongly, state authorities perceived SARS as an existential threat to their very being. In response, they instituted extraordinary measures designed to protect and extend their authority. Basic expectations like freedom of movement and freedom from intrusive examinations fell by the wayside. Governments took advantage of fear and told citizens that only by *ceding* their rights would they be safe. Caballero-Anthony writes,

> Within a short but significant period, SARS had drastically altered many lies. People's mobility within their environment, normally take for granted, suddenly changed as the psychological fear of possible exposure and infection in public places loomed . . . This concern prompted governments to take drastic steps to stem the tide of panic that threatened to disrupt public life.[119]

The chaos associated with uncertainty and tumult surrounding a previously unknown disease gave states the opportunity to further their power while most citizens were too distracted to notice.

To make matters worse, critics allege, the governments made citizens complicit in the loss of their rights and freedoms. By appealing to the greater good and framing SARS as this existential threat, they convinced people that it was in their self-interest to give up their rights. The larger community demands that you cede your individual concerns and needs. Health care facilities became holding cells. Travel was now a danger, and strangers elicited fear and suspicion. Submitting to spot fever checks became a patriotic duty, not an awkward intrusion by the government literally into the bodies of its citizens. SARS "require[d] one to contribute to the eventual containment of the epidemic by checking oneself into the isolation wards of the hospital, an institution of both cure and imprisonment."[120]

Such complicity makes it harder for citizens to object later to the loss of their rights. After all, their rights have not been stolen or lost so much as donated or ceded. Frequently, nationalism played a significant role in the framing of these appeals. Critics charged that authorities twisted the logic and language such that giving up your rights became part of your patriotic duty. Singapore exemplifies this case:

> In the past, Singaporeans were urged by the People's Action Party to submit to state policies as they were for the common good of the people. Ethnic, religious, and class differences were put aside so that all can reap the benefits of economic progress in the nation-state. The "war" rhetoric used on SARS echoed a similar approach to galvanize Singaporeans to work toward a common goal during this period of "crisis."[121]

This is not a rhetoric of overt coercion or mandatory changes. It is instead a rhetoric that seeks to appeal to our "better nature." If the nation is in crisis, then who *would not* want to help, even volunteer to do so? It takes on a morality dimension. Individual sacrifice of rights for the populace's collective good becomes a moral obligation of the citizenry. The "healthy body" becomes the measure of an individual's moral worth within the polity.[122] Your political standing within the government depends crucially upon your willingness to forego your rights to combat SARS.

This raises the question, though, of why the state is taking on this responsibility. What is it about SARS that necessitates the expansion of *state* power? There is no inherent reason why nongovernmental bodies could not organize some sort of response. They could appeal to the community's higher morals, organize to prevent the spread of disease, and distribute information and resources to the public. Many of the responses to outbreaks of polio and influenza in the United States during the twentieth century, and often the responses that elicited the most cooperation, came from religious groups, private charities, and civil society organizations.[123] These groups can offer services and encourage cooperation without requiring, or even desiring, citizens to give up any of their rights.

Huat offers two answers. First, he argues that the state is the only body with the power and resources necessary to carry out the seemingly essential elements of a SARS containment strategy—contact tracing, enforcing quarantine, detaining travelers. Nonstate entities may be able to carry out one or two of these functions, but the state alone has the ability to coordinate these activities and carry them out in a holistic fashion. These actions, in turn, make the state even stronger, and the rights of the citizens become weaker. Second, only the state can create new laws and amend existing ones.[124] By relying on these laws, the state can naturalize its response; it is simply carrying out its legal responsibilities. When it amends laws, it claims to do so only in response to unforeseen consequences. No one could have anticipated SARS, so existing laws on the books do not include the disease. Therefore, the state argues, we are simply updating our regulations so as to apply *existing* ideas to a *novel* situation. In this way, the state can portray its actions not as a power grab, but rather as a reaffirmation of existing powers that the citizens have already granted to the state.

Together, these two reasons allow the state to burnish its credentials as the protector of citizens. The government is simply doing what it must in order to satisfy its most basic responsibility—the protection of its people.[125] Few people would want to give up the protection of the state or feel vulnerable, so they cede their rights without thoroughly considering the consequences. They get duped into allowing the state to get stronger while they get weaker. The state deploys a rhetoric that makes a disease like a SARS a threat to national security—just like nuclear proliferation, terrorism, and weapons of mass destruction. Caballero-Anthony writes, “Given the multidimensional threats to national security posed by infectious diseases such as SARS, it is imperative that states treat these diseases within a security framework.”[126]

It is because of the nationalist and patriotic fervor that goes along with many of these appeals that xenophobia begins to play a role. Foreigners are not part of “our” community; therefore, we cannot guarantee that they are not dirty and diseased. Instead, we must assume that the “Other” brings illness and disease until it is proven otherwise. This, critics charge, is a necessary corollary to increased biopolitical surveillance and quarantine. If you make surveillance so central to your protective strategy, you heighten suspicions about those who cannot or will not submit to surveillance. You raise doubts about the ability of outside actors and foreign states to properly keep an eye on their own citizens.

During the SARS epidemic, ethnic Chinese around the world found themselves suspected of carrying the virus. The Chinese themselves became "risky," regardless of any actions that they may or may have not taken.[127] In Canada, and especially in Toronto, Chinese-Canadians reported being shunned. Chinese restaurants and Chinatown neighborhoods in large cities saw steep declines in business, and schools and trade fairs sought to ban Chinese nationals from attending—even when those individuals agreed to submit to surveillance or provide medical records to attest to their health.[128] At the University of California at Berkeley, officials refused to admit students from Asia out of fear of SARS. They announced this policy while cities in both China and Canada were under WHO travel advisories, yet they never sought to extend the ban on students from SARS-afflicted regions in Canada.[129]

This stigmatization was not limited to heavily SARS-afflicted regions. The United States recorded fewer than 40 cases of SARS during the outbreak between 2002 and 2003, yet ethnic Chinese in New York, San Francisco, and other communities throughout the country reported discrimination and harassment. Eichelberger's investigation in New York found that much of the discourse directed toward the Chinese mirrored that of the late nineteenth century, when Chinese immigrants were blamed for influenza.[130] Baehr found that the martial language used against SARS, with governments claiming to engage in a "war" against the disease, contributed to stigmatizing ethnic Chinese.[131] These people, far from being victims of a natural process, were enemies to be fought and defeated. For critics, these processes merely further reinforced the growth of the government's power by misdirecting the attention of the masses.

SARS AND THE BENEFITS OF BIOPOLITICAL SURVEILLANCE

Critics of the role of biopolitical surveillance and quarantine as applied to SARS rightly note that extensions of state power could threaten to become permanently entrenched. They direct our attention to the dangers of overzealous use of these techniques, and they raise important questions about the relationship between the government and the surveilled (and potentially surveilled). By focusing on the extremes and worst-case scenarios, though, critics miss the crucial role that surveillance and quarantine played in stopping the spread of SARS. Surveillance and quarantine entered the state's arsenal not out of a mere desire to extend their reach, but rather because the scientific necessities of confronting a hitherto unknown virus demanded it. Critics also fail to demonstrate that states have continued to employ more stringent surveillance and quarantine measures postepidemic.

On June 17, 2003, Gro Harem Brundtland, the director-general of WHO, praised the "remarkable speed and sweep of achievements of the global SARS efforts" that allowed the international community to stop SARS "dead in its tracks in some of the worst affected areas." Those efforts focused on three key components—surveillance, isolation, and quarantine. These elements were the main tools of infectious disease control in the historical era before the development of the arsenal of vaccines and antibiotics.[132] Despite all the scientific and technological advances of the previous 200 years, the control of SARS relied on traditional, old-school public health strategies.

Fidler rightly reminds us, "Globalization provides infectious diseases with opportunities to infect human populations across the planet almost as easily as infecting the family next door."[133] This is exactly the situation the international community faced with SARS. Indeed, researchers can directly trace the disease's travel across the globe with the easy and rapid movement of individuals. SARS did not appear in Singapore and Canada spontaneously; it inadvertently hitched a ride in the lungs of travelers.

For any public health strategy to be effective, especially one that seeks to understand the contours of a novel pathogen, authorities must know as much about the situation as possible. They need to know who is infected. They need to know who is at risk for infection. They need to know how and when people develop new infections. That information comes from surveillance. "Surveillance provides the baseline information public health officials need to respond to infectious disease threats and to assign priorities to prevention and control efforts concerning different diseases."[134]

This strategy was particularly important for SARS. Existing treatments for respiratory ailments showed little efficacy. Instead, public health authorities had to draw upon other public health strategies, hoping that they might provide some insights and be effective in combating the virus' spread. The only way to know if that was the case, though, was to implement significant international surveillance systems that could draw upon state and nonstate sources of information.

Such surveillance, rather than being imposed upon an unwilling populace, depends crucially upon the consent of the governed. Effective biopolitical surveillance flows from a recognition of a state's sovereign and legitimate power. Neither WHO nor any individual state could monitor the health of a given population without the consent and cooperation of that population.[135] A population that rejected a state's claimed need for surveillance could certainly thwart those efforts. Throughout the SARS outbreak, the international community witnessed people breaking quarantine or resisting surveillance when they considered it unwarranted or found it overly intrusive.

The international community played a particularly important role in establishing surveillance and quarantine systems. Remember, until late April 2003, the Chinese government rejected claims that a new disease was spreading within its borders. National health authorities repeatedly rejected offers of assistance from the international community, and the government banned journalists from reporting on any unusual disease outbreaks. Laurie Garrett, the American journalist and public health expert, tells of her Chinese journalist colleagues being harassed by and facing severe repression from government officials for inquiring about the disease or trying to inform the public about the outbreak.[136] All this happened while China had the highest number of SARS cases in the world and was the global epicenter of transmission. The only reason that any sort of surveillance system came into existence and could start to monitor the situation in China was that the international community could rely upon information from non-state sources. Though decidedly nontraditional, WHO officials received reports from local doctors, contacts scattered throughout the country, disgruntled health care workers, and even rumors. Instead of waiting for government authorities to admit to the scope of the problem, WHO surveillance started earlier.

China's initial refusal to participate in the global SARS surveillance systems had a negative effect on its standing within the international community. It made China look like a bad international citizen—unwilling to cooperate with others on matters of life and death.[137] It isolated the country at a time when it increasingly sought greater integration with international political and economic structures. Participating in these cooperative surveillance systems has become a marker that a state is cognizant of and concerned with ensuring the health of all and not just its own citizens.

It also bears mentioning that the repression of punishment of dissident voices in China, the ones that wanted the international community to know the true scope of the problem, occurred primarily *before* the Chinese government acknowledged that a problem existed. Repression was not part of surveillance; it largely *predated* the surveillance and was used to *prevent* calls for surveillance. Once the government opened itself up to the international community and allowed for effective surveillance, the repression declined.

It is undoubtedly true that cases of arbitrary detention took place. Foreign nationals often found themselves subject to extraordinary quarantine and isolation, and ratio of those quarantined to the actual cases of SARS discovered was quite skewed. These are unfortunate and point to the fact that international human rights norms have not yet been fully inculcated within the international public health system. However, it is significant that no evidence demonstrates that any of these detentions or policies continued beyond the outbreak itself. States may have been overzealous in their application of surveillance and quarantine policies in some instances, but they did not take SARS as a license to permanently extend their power over those within their borders. Indeed, most health officials expressed reluctance to use their powers in too sweeping a manner out of fear that it would drive people further underground, and tracing individual cases may make more sense from an epidemiological sense.[138]

Instead, these responses helped reinforce the importance of the international community to explicitly integrate human rights principles into its surveillance systems. Surveillance and quarantine may be important, but so were human rights. The lapses in their application convinced many that they needed to take steps to ensure that they would have a role in the future:

> SARS was a novel pathogen for which no adequate diagnostic, vaccine, or therapeutic technologies existed. SARS containment depended on isolation and quarantine in many countries, which raised questions about the precautions required to ensure public health while protecting human rights. The concerns expressed about human rights in connection with SARS isolation and quarantine would not arise under traditional horizontal governance.[139]

This new pathogen put the international community and individual governments on notice that they needed to do a better job of striking a balance between surveillance and human rights. However, these evince a growing acceptance of importance of protecting and recognizing human rights while still utilizing biopolitical surveillance and quarantine.

CONCLUSION

SARS provided the international community to renew its commitment to integrating human rights principles into its public health surveillance strategies. Stopping the spread of SARS depended crucially upon the zealous use and application of biopolitical surveillance, isolation, and quarantine. However, we increasingly witnessed efforts to ensure that human rights received protection and respect. Governments sought to ensure that children could receive an education that men and women could still receive an income, and families would meet their basic needs. They sought (and received, in most cases) the consent of the governed in cases where they did violate standard notions of human rights in some manner. This was not done perfectly, and struggles over the relative worth of human rights in the face of a new disease epidemic remained a common feature of the international community's SARS strategy.

Although we see a growing recognition of the role of human rights as a tool to balance the GPGH and the need for biopolitical surveillance, the exact nature of this balance remains elusive. One tool that the international community has used to strike the proper balance over the past century is the International Health Regulations (IHR). This treaty, the only element of international law explicitly and exclusively devoted to public health, has evolved over time to reflect the fears and hopes of the international community in the face of the spread of infectious disease. Explicit recognition of the role of human rights is a new element of the IHR, but questions exist as to whether that recognition is sufficient and appropriate. The next chapter examines the evolution of the Regulations.

6

THE INTERNATIONAL HEALTH REGULATIONS

The International Health Regulations (IHR) is the only international legal treaty that explicitly regulates a state's obligations to the international community on the spread of infectious diseases. The IHR empowers the World Health Organization (WHO) to act as the central repository of all required disease surveillance information, and it details the circumstances under which states have a legal obligation to report disease outbreaks to the rest of the world.

The IHR, whose lineage can be traced back to 1897, has undergone radical revisions since 1995. Its most recent iteration, passed in 2005 and entered into effect June 15, 2007, offers a wholesale redefinition of the nature of this obligation and the requirements placed upon the 193 WHO member-states. It vastly increases the scope of reporting requirements and greatly increases the surveillance systems necessary for states to be in compliance with the Regulations. In so doing, it also broadens the number and type of actors who can report information about infectious disease outbreaks to the WHO.

These updated Regulations, referred to as IHR (2005), substantially increase the level of biopolitical surveillance in the name of protecting international public health and identifying diseases before they pose threats to the international community. They also provide a stronger, more explicit recognition of human rights. Critics allege, though, the increased attention to surveillance threatens to diminish individual rights and impose inappropriate structures on countries that often struggle to provide a basic health care infrastructure in the first place. While human rights might play a role in the new IHR, that role is largely passive and indeterminate in the eyes of some.

As with the other case studies presented in the book, the successful implement of the IHR rely upon the use of biopolitical surveillance strategies in order to provide their public good—in this case, the sharing of information and knowledge to address disease epidemics in a timely manner and prevent new epidemics from emerging. However, it is that very surveillance element that raises concerns. Amendments to the IHR have sought to allay fears by incorporating human rights into their provisions, but there remain questions about the efficacy and appropriateness of this approach.

To understand the newest iteration of the IHR, we need to understand the treaty's origins. Over the past hundred years, the underlying motivation for such rules has shifted as the nature of international public health governance has shifted. This chapter will trace the historical development of the IHR from its origins as the International Sanitary Convention of 1897 to its contemporary manifestation. It will also examine how and why various actors called for a massive reorganization of the IHR. Finally, it will turn its attention to the IHR (2005) as they currently exist in international law, paying special attention to potential benefits and problems associated with it.

THE EMERGENCE OF THE INTERNATIONAL SANITARY CONVENTION

Fear of cholera prompted the first efforts at creating international public health governance. Cholera spreads via a bacterium, *Vibrio cholerae*, through infected food, water, or bodily waste. Symptoms frequently occur within two to three days of exposure. These include a bloated feeling in the abdomen, generally with no accompanying fever, that quickly gives way to very watery stool. Cholera can cause severe dehydration and kidney failure, leading to death in as few as 18 hours. Without treatment, mortality rates can range from 50 to 90 percent. Its high mortality rate has made cholera one of the most feared diseases throughout history.

Many experts believe that cholera was endemic to and largely confined to India prior to the 1800s. The disease did not emerge into the international consciousness in any real way until the mid-1810s. Around 1817, an outbreak in Calcutta occurred in the midst of a Hindu festival. The festival drew pilgrims from throughout India during its three-month duration, and the attendees helped transport cholera with them to their home communities. During this outbreak, British ships and troops were present in and around Calcutta. Their presence and subsequent movement allowed cholera to move beyond its traditional endemic zone and into the rest of India, Russia, China, and Iran. The outbreak could have potentially spread even further, but a particularly severe winter in 1823–1824 likely prevented cholera from reaching western Europe.[1] Even though cholera itself did not reach Europe, reports of the disease did—and these reports terrified government officials and the general public alike. Reliable mortality figures do not exist for this first international cholera outbreak, though British Army officials reported losing 10,000 troops to cholera in India alone. McNeill estimates that upwards of 1 million Indians perished from cholera by the time the epidemic ended around 1827.[2]

A second global cholera epidemic began around 1829, and Europe no longer found itself spared. The disease reached Poland between 1830 and 1831, and, following shipping traffic routes, it appeared in London and Paris in 1832.[3] Over 6,000 Londoners died of cholera that first year, and Paris lost approximately 7,000 of its 650,000 residents.[4] As the disease continued to spread throughout Europe between 1830 and 1847, tens of thousands of people lost their lives.

To prevent cholera's spread, governments imposed quarantines on goods and peoples from cholera-infected regions. The efficacy of such measures is highly questionable. Goodman calls successful applications of quarantine "largely fortuitous" and highlights that "in any case, not only were these measures of quarantine generally useless, but they were exasperating, obstructive, oppressive, and often cruel to the point of barbarity."[5] Police would arrest anyone who looked "suspicious" of carrying the disease, forcing them into squalid, isolated hospitals.[6] Aside from the human costs, quarantines undermined the growing commercial ties developing in Europe during the mid-1800s. Increasing commercial interdependence made the uneven, uncoordinated use of quarantines increasingly problematic.[7]

Peoples and governments feared cholera, but they also bemoaned the impediments to trade and travel that quarantines imposed. This combination prompted the first calls for international coordination for addressing a public health issue.

> What governments found most irksome were the often disastrous hindrances to international commerce, and it was this concern that finally prompted the European nations to meet to discuss to what extent these onerous restrictions could be lifted without undue risk to the health of their populations. If, in the old colonial days, it was true that "trade follows the flag," it was equally true that the first faltering steps towards international health cooperation followed trade.[8]

Calls for an international conference on cholera control emerged as early as 1834, but it was not until 1851 that twelve European governments agreed to meet in Paris. Conference participants initially endeavored to regulate the use of quarantines in a uniform manner and to discuss the feasibility of establishing an international sanitary board to oversee maritime activities.[9] This first conference eventually produced a convention with 11 Articles and 137 Regulations covering cholera, plague, yellow fever, and other diseases "reputed to be importable."[10] In the end, though, only three governments eventually ratified the convention—and two of those states, Portugal and Sardinia, later withdrew their ratification in the face of logistical difficulties in implementing the regulations.[11] The agreement essentially ended up being followed by no one, hardly the sign of an effective regime.

What prevented agreement during these initial efforts toward international cooperation on a public health issue? All parties recognized the dangers of cholera and the need for coordination, so it would seemingly be in all parties' rational interest to come to some agreement. Some of the disputes arose from commercial and geographic interests. Nations with significant trading interests showed strong resistance to any quarantine measures, since they impeded the free flow of goods. Countries bordering the Mediterranean Sea and Ottoman Empire tended to favor quarantine, as they perceived cholera coming from the East and felt themselves in greater danger from its arrival.[12]

More importantly, disagreements persisted as to cholera's cause and spread. Three theories dominated. One camp subscribed to the miasma theory of cholera. Its adherents believed that weather, climate, and "pestilent air" caused cholera.[13] This meant that cholera was *not* a contagious disease. If the disease was not contagious, then quarantine made little sense. The miasmists instead called for improved sanitation and environmental conditions as the key to alleviating cholera. British officials most forcefully advocated this theory, recommending the abolition of quarantines and the "substitution of sanitary regulations" instead.[14] This theory implied little role for biopolitical surveillance. It was not individuals that spread cholera; miasmists blamed the environment in which those individuals existed.

The second theory, contagion theory, argued that cholera was transmitted from person to person via some sort of infectious agent.[15] If cholera was contagious, then quarantines could potentially prevent the disease from entering a country. The infected could be separated from the healthy. Tesh notes that this theory often interacted powerfully with prevailing social prejudices and was employed to justify the widespread detention of ostracized groups, such as Jews, women, and foreigners. In Russia, rumors spread during the cholera epidemic that the wealthy classes had created the disease specifically to oppress the poor.[16] Spanish, Greek, Tuscan, and Russian delegates played a key role at the first conference in promoting this view.[17] Contagion theory gave biopolitical surveillance a large role to play, as they saw usefulness in tracing how the disease spread from person to person.

The third theory about cholera's spread was the supernatural. Illness was a sign of God's displeasure with an individual or a community. Transgressing God's law provoked His wrath in the form of a highly fatal disease. Churches would hold special prayer services, encouraging worshippers to repent their sins and ask to be spared from the ravages of cholera.[18] According to this belief, government interventions and quarantines would have little effect; the only way to defeat the epidemic was to please God through prayer. The head of the Austrian delegation went even further, arguing that the cholera epidemic benefited society. Widespread illness and death punished the "dregs of society" and encouraged survivors to recommit themselves to a more pious life.[19] The supernatural theory saw some role for surveillance, but it was more focused on keeping people in line morally.

These competing theories about cholera's origin and spread prevented the international community, such as it was in the mid-1800s, from coming to agreement about the appropriate steps to take to prevent cholera (or if it even should take such measures).

During the forty years following the first attempt to craft international health regulations to prevent cholera's spread, five more conferences were held (1859, Paris; 1866, Constantinople; 1874, Vienna; 1881, Washington, D.C.; 1885, Rome). These conferences failed to produce any agreements. Severe divisions remained over the science of cholera and other infectious diseases and the effectiveness of quarantines. "The anarchy of existing quarantine regulations" remained intact.[20]

Successful efforts at crafting an international agreement on infectious disease control began in 1892 in Venice. Robert Koch's work on cholera had largely settled the scientific questions about cholera's spread, and scientific opinion came to see the widespread imposition of quarantines as only marginally effective. The convention that emerged from the 1892 conference was extremely limited in scope; it allowed only for limited quarantine measures and medical inspections for ships passing through the Suez Canal going to and from Mecca for the annual *Hajj*.[21] That said, the International Sanitary Convention (ISC) proved incredibly significant to launching further efforts toward international coordination and cooperation on infectious disease control. Such efforts relied on surveillance as key to stopping the spread, as they connected the spread of disease with the movement of particular bodies.

The following year, in 1893 at a conference in Paris, the assembled states expanded the limited 1892 agreement to cover movement by land and allowed greater use of medical inspections. A subsequent revision in 1897 added plague to cholera as a reportable disease subject to the Convention.[22] As Howard-Jones acknowledges, "That such a declaration [on the cause of cholera] should have been generally accepted and that the conference resulted in the first International Sanitary Convention are landmarks in the history of international cooperation in matters of public health."[23] Over time, the ISC was expanded to include diseases such as yellow fever, smallpox, typhus, and relapsing fever.[24]

The International Sanitary Convention of 1892, and its subsequent revisions over the next fifty-eight years, focused its efforts on protecting states against the spread of infectious disease while minimizing interference with international trade and travel. Indeed, the Convention's Preamble expressed that the signatory states had "decided to establish common measures for protecting public health during cholera epidemics *without uselessly obstructing commercial transactions and passenger traffic*."[25] To achieve these goals, the ISC created international legal obligations that required states to notify one another about outbreaks of specific diseases (initially, cholera, but this was later expanded) and to establish and maintain adequate public health capabilities at ports of entry and exit (such as sea ports and airports). The ISC also limited the measures that states could impose to prevent the importation of infectious disease. The rules required under the ISC were the maximum measures allowable under international law.[26] This clause sought to ensure that states would not impose overly burdensome regulations that could impede trade. It allowed for surveillance and encouraged states to share information with one another.

When initially adopted, the ISC lacked any sort of formalized mechanism for coordinating the Convention's surveillance and reporting requirements. The absence of a central international health organization hampered communications and made surveillance and communication difficult. During the first decade of the twentieth century, two organizations emerged to fill the surveillance coordination need. In 1902, the International Sanitary Bureau (ISB) (later the Pan American Sanitary Bureau, and today known as the Pan American Health Organization) was established to implement the ISC in the Americas. Five years later, European states created the L'Office

International d'Hygiene Publique (OIHP) to play a similar role.[27] While in many ways complementary (ISB focused specifically on regional issues in the Americas, while OIHP was central to implementing the ISC revisions on an international level), the two organizations did not specifically coordinate their activities or share their resources with one another. Their foci protected individual state sovereignty instead of focusing on the larger global efforts to implement infectious disease control.[28] The creation of the Health Office of the League of Nations (HOLN) in 1923 further added to the confusion and overlap.

The proliferation of international health organizations coincided with the emergence of a variety of sanitary conventions and agreements. Bilateral and limited multilateral agreements, combined with frequent revisions of the ISC, made coordinating a global effort against the spread of infectious diseases difficult to impossible. Some states were bound by agreements and treaties largely regarded as obsolete or with competing demands, while others were not bound by any such obligations.[29] The regulations that emerged were less about promoting global health writ large and more about "the desire to protect certain favored (especially European) nations from contamination by their less-favored (especially Eastern) fellows."[30] Thus, we see how the coordination and surveillance that did exist during this chaotic period largely targeted its oversight efforts toward "less-favored" states believed to be the source of the infectious diseases that threatened Europe. The ISC's "fundamental concern was lessening the burden on European and North American trade created by national responses in those regions to the threat of the importation of 'Asiatic diseases.' "[31]

FROM INTERNATIONAL SANITARY CONVENTION TO INTERNATIONAL HEALTH REGULATIONS

When the World Health Organization Constitution came into force in 1948, one of the organization's first orders of business was to coordinate the hodgepodge of international sanitary conventions and treaties. Article 21(a) of the WHO Constitution specifically empowered the World Health Assembly, the annual meeting of all WHO member-states, to adopt regulations regarding "sanitary and quarantine requirements and other procedures designed to prevent the international spread of disease." Article 22 of the same document specified that any such regulations and requirements would be binding on member-states of the WHO unless they specifically opted out of them.[32] By requiring states to specifically opt out of any resulting international health requirements, the WHO made it easier for the organization to adopt just one set of international legal rules to replace the panoply of conventions and ease the process of revising those regulations in the future.[33] This, delegates hoped, would ease the surveillance process.

In 1951, the Fourth World Health Assembly adopted the International Sanitary Regulations (ISR), replacing 12 existing international health conventions. On October 1, 1952, the ISR came into effect.[34] This established one set of international rules to guide infectious disease control measures, and it firmly entrenched the WHO as the lead international organization on health-related matters. The revisions, it was hoped, would streamline international infectious disease control measures and clarify lines of responsibility.[35]

The ISR laid out five broad requirements for all member-states to follow. First, the Regulations designated six diseases as notifiable: smallpox, cholera, yellow fever, typhus, relapsing fever, and plague. Second, governments were required to notify the WHO of any human cases of the notifiable diseases within their territory. The government subsequently needed to follow up with the WHO when the area was free from infection. Third, countries had to implement hygiene measures at border crossings, ports, and airports to screen international cargo and personnel. Fourth, states could, at their discretion, require travelers to present health and vaccination certificates prior to entering their territory. Finally, the measures declared that the ISR were the maximum measures permissible under international law.[36]

Revisions in 1969 renamed the ISR as the International Health Regulations (IHR) and removed typhus and relapsing fever from the list of notifiable diseases. Later revisions amended the procedures for dealing with cholera (1973) and removing smallpox after the success of the global eradication campaign (1981). These changes were relatively minor, largely leaving intact the basic requirements to which all member-states were subjected to. IHR (1969) became the basis of international cooperation on controlling the spread of infectious diseases.

In the 1980s and 1990s, the IHR (1969) became the subject of controversy and acrimony. Critics called it anachronistic and irrelevant to the infectious disease situation facing most countries. The criticisms proceeded along five main lines. First, the IHR's disease-specific approach was increasingly viewed as too narrow. Most WHO-sponsored programs through the 1980s focused on technical solutions for discrete diseases.[37] This approach spurred the development and promotion of techniques like spraying DDT to control malaria and developing vaccines to treat diseases like smallpox. As WHO's membership grew throughout the 1960s and 1970s thanks to decolonization, though, member-states increasingly questioned this strategy. Walt notes, "Health policies shifted from a technological, disease orientation to a more development, multisectoral primary health care approach in the late 1970s."[38] Governments and their citizens were less interested in protecting themselves from specific diseases and more interested in promoting their overall health in a holistic sense. They took seriously the Preamble of the WHO Constitution and its assertions that "health is a complete state of physical, mental, and social well-being and not merely the absence of disease or infirmity . . . the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being."[39] They rejected the previously dominant notion that health is separable from broader social and economic structures. Achieving health, therefore, was not simply about eliminating discrete disease; it involved widespread economic, political, cultural, and social changes.[40] Surveillance was occurring, but it was surveilling the wrong things.

This same discomfort with the orientation with disease-specific strategies helped give rise to the Health for All movement. Health for All, encapsulated in 1978's Alma-Ata Declaration, spelled out eight essential components for basic health care as a human right: education on health concerns and how to treat them, promoting proper nutrition, ensuring adequate supplies of clean drinking water and proper sanitation, providing maternal and child health care, including family planning, immunizing populations against major infectious diseases, preventing and controlling local endemic diseases, providing appropriate treatment for injuries and illnesses, and providing access to essential drugs.[41] The postcolonial governments that initially took over power from colonizers frequently promised better health care for all of their citizens. While many of these new governments did take steps to improve health care initially, often with the support and aid of Western states, services tended to be overly concentrated in urban areas, failing to reach into rural areas.[42] At the same time, an increasing number of studies criticized the idea that improved health in developing states was simply a matter of transferring Western technologies and health care systems to new places. These studies called for a more holistic approach to health care that emphasized integrating health care into overall social development over technology transfers.[43] Researchers and activists increasingly called for a "bottom-up" approach to health care that focused on local needs and ensuring equitable access without an emphasis on large hospitals or expensive technologies.[44] China, Tanzania, and Venezuela, among others, successfully instituted programs that offered basic, yet comprehensive, health care services to rural areas. They trained local personnel to provide essential basic health services.[45]

Inspired by those examples and drawing upon his own experiences with health care policies in developing countries, WHO Director-General Halfdan Mahler of Denmark called upon the international community in 1973 to learn the lessons from these cases and apply them throughout the world. He urged WHO and UNICEF to ensure "health for all" by changing both the provision of health care in developing countries and the role of developed states in ensuring this aim.

First, the Health for All movement fundamentally challenged the notion of international cooperation on infectious disease control. Perhaps most significantly, it rejected the myopic focus on specific diseases, embracing a more wide-ranging definition of health. It also called upon the international community to take a far more proactive approach to ensuring the health of those living in developing countries. Cooperating on international health issues should no longer be driven simply by economic interests, as the ISR and IHR had been. Instead, Health for All called for a radically new understanding of health, disease, and the international community's obligations to ensuring health.[46] Gostin describes the fundamental oversight in the IHR thus: "The IHR do not recognize the hard tradeoffs between the intercourse of people and goods and the spread of infectious disease . . . [there exists a] need for decisive public health action in the face of scientific uncertainty, sometimes at the expense of commerce and trade."[47]

Second, developed states increasingly took less of an interest in the IHR and infectious disease control in general. Industrialized states had largely eliminated the IHR's notifiable diseases from their borders prior to 1969, and public health officials in some countries had declared the era of infectious disease to be over. Humanity has won the battle against microbes, they argued, and so we should focus our attention on chronic disease like heart disease.[48] This decrease in interest from the industrialized states led to a concurrent decline in available funds and personnel. Fidler writes, "Neither WHO nor developing countries had the interest or incentives to replace or overhaul the engine."[49] The states that could contribute the most to international infectious disease control efforts lacked the interest or desire to do so, and the countries that stood to benefit the most from such efforts lacked the resources to make it happen on their own.

Third, states were not complying with the IHR's reporting requirements. Some states failed to report outbreaks to the WHO in a timely manner, or they deliberately underreported the number of cases of a particular disease. Others failed to maintain the public hygiene measures required at ports of entry and exit. Governments also required health certificates from travelers for non-notifiable diseases, particularly HIV/AIDS. In other cases, states exceeded the measures allowable under the IHR, such as outright bans on travelers or goods, without sufficient scientific justification for their actions.[50] These failures to adhere to the basic tenets of the IHR sent a clear message to the international community that the Regulations were failing to meet their stated objectives.

The cause of these failures is multifaceted. In some instances, states lacked the resources and personnel necessary to conduct the required surveillance. In countries where even basic health services were largely absent, it is unsurprising that government officials would find the reporting and surveillance requirements of the IHR difficult or impossible to satisfy. Surveillance resources often competed with primary health care resources in a zero-sum game.[51] Some states may also have objected that reporting requirements violated their sovereign right to handle health matters within their own borders. More often, though, states feared the consequences of reporting human cases of cholera, smallpox, yellow fever, or plague. Failing to report an outbreak could lead to disapproval or even condemnation from the WHO.[52] Acknowledging the presence of these feared diseases within its borders could have a devastating effect on a country's economy, tourist industry, and general standing within the international community. Potentially compounding the situation, the IHR lacked any mechanism to prevent such overreaction.[53] Proper surveillance thus led not to praise, but sanctioning and ostracization. Velimirovic sympathized with a state's decision not to report outbreaks to the WHO:

> This failure to report promptly need not be an arbitrary measure of a sign of misunderstanding the concept of surveillance; it is sometimes an unfortunate but necessary means of self-protection against irrational requirements imposed by other countries, which bring on the reporting country a severe penalty through loss in trade, tourism, etc.[54]

No state wanted the stigma of being called out within the international community as diseased or unable to handle its health problems. A cholera outbreak in Peru in 1991 cost the country an estimated $700 million in lost trade and travel embargoes. A plague outbreak in

Surat, India, three years later cost the country an estimated $1.7 billion in lost trade and tourism revenues.[55] In both cases, the national governments of the afflicted states did their utmost to prevent information from getting out or downplayed the situation's severity—not out of malice, but out of fear of the consequences.

The IHR offered little incentive for states to report. After all, the WHO served as a central repository of information, but it lacked the resources to do much beyond data collection. It lacked the ability to implement programs or send additional personnel to address the outbreak. Reporting human cases of one of the notifiable diseases may give the feeling that "something is being done," but the reality was that little happened beyond collecting the report.[56]

Fourth, the IHR relied on a completely passive surveillance system focused solely on government sources. The WHO essentially waited for reports to trickle up from member-states. The IHR did not require, nor did it necessarily encourage, member-states to implement proactive surveillance measures that would allow for the timely notification of any human cases of the notifiable diseases. Article 3 of the IHR required the following of member-states:

> Each health administration shall notify the [World Health] Organization by telegram or telex within twenty-four hours of its being informed that the first case of a disease subject to the Regulations, that is neither an imported case nor a transferred case, has occurred in its territory, and, within the subsequent twenty-four hours, notify the infected area.[57]

This arrangement respected the sovereignty of the individual states, but it did little to encourage assertive actions to detect or combat the disease. The IHR offered little semblance of structure to these surveillance efforts. Who would or should report diseases to a state's health administration? Who within that health administration should transmit the information to the WHO? Do reports or rumors from nonofficial sources count? The IHR is silent on all of these important questions. By not spelling out a framework for reporting, the Regulations allowed states to skirt their responsibilities and added to confusion. The WHO, in this arrangement, is wholly dependent upon official government sources—the same government officials who, as noted above, may have a very real incentive *not* to report cases.

Passivity enters the system at both the national and international level. The surveillance systems described in the IHR wait for reports; they do not necessarily conduct ongoing surveillance. Encouraging such passive surveillance systems did little to encourage the development of any surveillance capacities in many WHO member-states.[58] They rely upon reports from local health workers or some other more local-level entity to find their way to some element of the national health administration, and then some representative of the national administration needs to contact the WHO. Such passivity meant that states or the WHO could easily miss outbreaks. Further, since information coming from nonstate sources had no formal standing within the WHO, the Organization could not act upon reports—no matter how credible—that bypassed the formal structure.[59]

Finally, the IHR no longer reflected the health problems that afflicted the world. After the 1981 revisions, the IHR only covered three diseases: cholera, yellow fever, and plague. These diseases surely caused significant morbidity and mortality every year, and it was certainly worthwhile to prevent their spread. That said, they were hardly the most pressing infectious disease concerns facing the international community—nor were they even during the various revision processes. The IHR's narrow focus on three specific diseases undermined its effectiveness. It instead became "a glorious monument and a self-serving ritual as much as a measure of protection, collective or individual."[60] The IHR said nothing about infectious diseases like tuberculosis, malaria, or dracunculiasis that caused significant suffering and death worldwide. They were putting people under the proverbial microscope, but their narrow focus obscured them from seeing the full picture.

More importantly, the microbial world around us had changed since 1969. Diseases previously unknown in human populations or those widely believed to be under control through prophylaxis burst onto the scene with a vengeance that startled public health officials worldwide. Since 1975, American public health officials have identified at least 33 new pathogens that negatively affect human health.[61] The IHR were completely useless for addressing these diseases. When states would attempt to use some of the IHR's measures to prevent the spread of these new diseases (such as requiring health certificates for travelers coming from infected regions), they would be found in violation of WHO rules and, by extension, international law. The Regulations proved far too inflexible to adapt to the changing realities of human health and disease around the world. Some felt the need for another round of revisions, but most officials were of the view that solving the underlying structural flaws within the IHR required a wholesale rewriting of the Regulations. Fidler observed, "Merely adding diseases to, or removing them from, the IHR's list of diseases was no long an option. WHO was not at a proverbial crossroads with the IHR because continuation of the status quo, with only slight modifications, was not realistic."[62]

REVISING THE INTERNATIONAL HEALTH REGULATIONS

Frustration with the IHR produced tangible changes in 1995, when the World Health Assembly passed WHA Resolution 48.7. This resolution requested the Director-General of the WHO to undertake a massive revision of the IHR to make the IHR more relevant and effective in responding to the threats posed by new and reemergent infectious diseases.[63] Passing this resolution, the World Health Assembly acknowledged that the IHR failed to accomplish their fundamental goals—providing maximum protection from the international spread of infectious diseases while causing minimal interference with global travel and commerce.[64]

Initial reform attempts sought to move from a disease-specific to a syndrome-specific reporting system. A 1998 Provisional IHR proposed notification of six acute syndromes: hemorrhagic fever, respiratory, diarrheal, jaundice, neurological, and others with a presumed infectious origin.[65] By emphasizing syndromes rather than specific diseases, the WHO hoped that the Regulations would be more broadly applicable. They also hoped it would lead to more timely reporting of outbreaks; states would need not wait until they had a specific diagnosis to make an official report to WHO. The revisions also proposed to only make outbreaks reportable if and when they constituted "an event of urgent international importance."[66] Under the 1969 IHR, *any* human cases of the notifiable disease required communication with the WHO. With this shift, reporting outbreaks of endemic diseases, even those that fell under the aegis of IHR's notifiable conditions, would not occur. States would only face a reporting obligation if the disease posed a significant threat of spreading internationally, had an unusually high fatality rate, represented a previously unrecognized condition, or threatened to require trade or travel restrictions. Under these revisions, though, the committee leading the rewriting process affirmed its continued belief that reports to the WHO should only come from national governments.[67]

While an improvement, these proposed revisions did not meet with widespread acceptance among WHO member-states. They objected that the reforms did not go far enough; they still relied too heavily on a passive surveillance system and focused on particular ailments. They presented the international community with some tinkering around the edges, not the restructuring called for in WHA Resolution 48.7.

Over the next five years, revising the IHR took a less prominent role on the international health agenda. The international community focused more on trade-related intellectual property rights and access to vital medicines, deflecting attention away from the IHR revisions. Initial hopes for completing the revisions by May 1998 got pushed back to May 1999 and later until the World Health Assembly passed Resolution 56.23 in 2003 requiring the revisions be completed in time for its 2005 meeting.[68]

The outbreak of severe acute respiratory syndrome (SARS) in 2003 gave a new impetus to revising the IHR to make them more directly applicable to microbial world in which we live. Here was a previously unknown disease whose spread could be clearly and definitively linked with international travel, and the resulting trade and travel restrictions clearly cost the affected countries billions of dollars. Some states recognized the value and importance of sharing information, while others (most notably, China) refused to acknowledge the extent of SARS' spread within their borders. It saw the WHO clearly emerge as the central repository of information and analysis. It presented the world with, in the words of one writer, "an opportunity to develop new governance structures between multiple actors as infectious diseases continue to interact with humans in the national, international, and global contexts."[69] The WHO received widespread praise for its handling of and response to the SARS outbreak,[70] but it took all of these actions outside of any specified international legal obligation. This disjuncture lit a fire under the committee revising the IHR, encouraging them to present a document to the World Health Assembly quickly.

In January 2004, the first full draft of the revised IHR appeared.[71] Negotiations over the proposed revisions began in November 2004 and continued through May 2005. On May 14 2005, the assembled delegates reached agreement on the proposed IHR and sent it to the World Health Assembly meeting in Geneva for its approval. On May 23, 2005, the World Health Assembly passed Resolution 58.3 and called upon states to ratify and implement the revised IHR.[72] Two years later, on June 15, 2007, the revised IHR formally entered into force as a legally binding agreement under international law.

The revised IHR, often referred to as IHR (2005), have the same basic purpose as the previous versions of the IHR—"to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade"[73]—but it seeks to achieve these goals in very different ways. Four key differences exist between IHR (2005) and earlier versions, and these differences get to the heart of surveillance, human rights, and the provision of public goods.

First, the scope of diseases that fall under the IHR's purview has vastly expanded. Previous versions focused on discrete diseases long associated with trade and travel. The IHR (2005) jettisoned that model. The new Regulations encompass an "all risks" approach.[74] Instead of specifying particular diseases, the IHR (2005) requires states to report "all events which may constitute a public health emergency of international concern within its territory" (Article 6). It further defined a "public health emergency of international concern" as "extraordinary event which…constitute[s] a public health risk to other States through the international spread of disease and…potentially require[s] a coordinated international response" (Article 1). This could include infectious diseases as well as radiological or chemical incidents. National governments must assess the severity of any such outbreak within 48 hours of initial detection and send a report to the WHO within 24 hours of confirmation.[75] This report should include case definitions, laboratory findings, morbidity and mortality incidents, risk factors, and initial public health responses.

Given the extensively broadened scope of IHR (2005), how can states assess whether a particular incident constitutes a "public health emergency of international concern"? Annex 2 of IHR (2005) provides states with a decision-making instrument (see Figure 6.1). Human cases of smallpox, polio caused by wild-type poliovirus, SARS, and influenza of a new subtype are immediately reportable to the WHO. Diseases that have historically demonstrated an ability to cause national and international concern (such as cholera, pneumonic plague, yellow fever, and viral hemorrhagic fevers) and other illnesses that could constitute an international public health concern (particularly unknown illnesses or whose cause or source is unknown) are subject to four questions:

1. Is the public health impact of the event serious?
2. Is the event unusual or unexpected?
3. Is there a significant risk for the international spread of the disease?
4. Is there a significant risk of restrictions on international travel and/or trade?

If public health officials answer "yes" to at least two of the above four questions, then they must be reported to the WHO.

Under this new notification rubric, cases of endemic diseases, such as cholera in parts of Mozambique, would not necessarily be notifiable *unless* they threatened to cross borders. New and novel diseases would automatically be reportable. The IHR (2005) focus their energies on the unexpected and the potentially widespread.

Second, the IHR (2005) significantly changes the surveillance structures to be established at the national level. Each state is required to designate a National IHR Focal Point that will be accessible at all times for communicating with the WHO (Article 1). The National

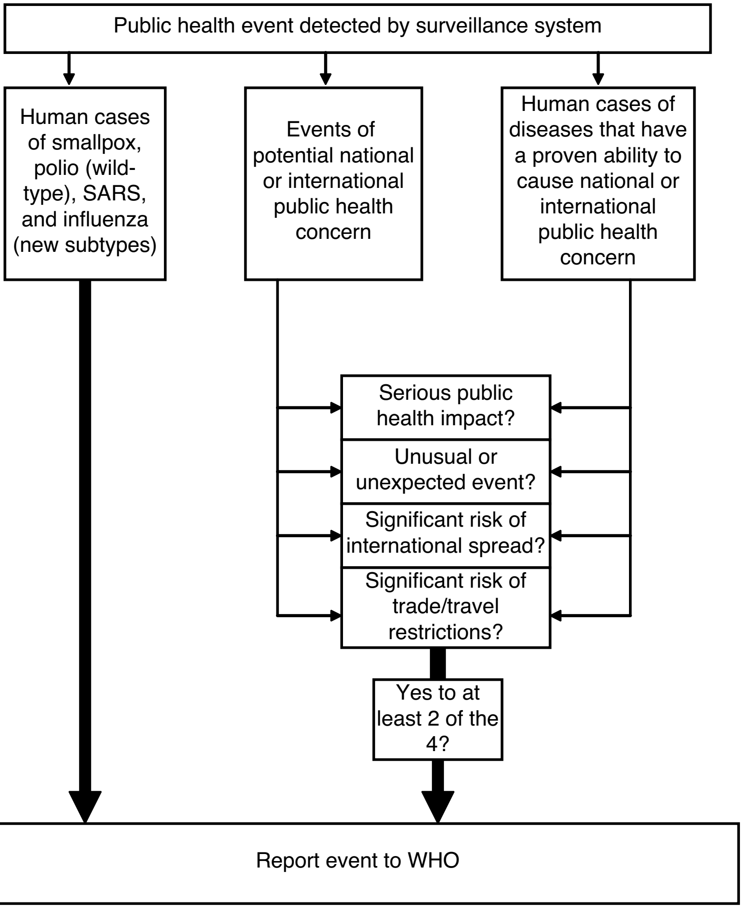

Figure 6.1 Decisionmaking instrument for IHR (2005), adapted from Annex 2.

IHR Focal Point must take responsibility for sending communication required by the IHR (2005) to the appropriate contact at the WHO. It must further collect and disseminate information from various sources within the state relevant for monitoring potential public health events of international importance (Article 4).

The national surveillance structures must also take a proactive role in monitoring the public health situation within their borders. Instead of waiting for reports, these Focal Points are responsible for "develop[ing], strengthen[ing], and maintain[ing] . . . the capacity to detect, assess, notify, and report events" (Article 5). A state's public health surveillance system must have the capability to find problems without waiting for other sources to pass the information along to it. It requires "establishing strong technical leadership during field responses, building local capacity for future epidemics, and ensuring respect for legal, human rights, and cultural sensitivities."[76] States must develop basic core surveillance capacities to detect unusual public health events, report vital epidemiological information to relevant authorities, and immediately implement control measures.[77] The IHR (2005) does not specify the exact structure of the national surveillance systems, but they do tell states what results those surveillance systems must produce. These structures must be in place by June 15, 2009 to comply with the IHR. Nearly all WHO member-states had designated National IHR Focal Points by mid-March 2008, but this fact gives us little indication of the other steps that states have taken toward satisfying the other surveillance requirements.

These changes give far more guidance to states. Previously, the IHR left questions about surveillance relatively unspecified. With its focus on a few specific diseases, it encouraged passive surveillance systems. In order to adequately address the greatly expanded realm of potentially relevant public health events, the IHR (2005) require a far more proactive and expansive notion of surveillance.

Third, the IHR (2005) broadens the scope of relevant parties that can provide information to the WHO about public health emergencies. Previous versions of the IHR were wedded to the idea that national governments were the only allowable sources of information to and communication with the WHO. No systems existed to allow nonstate sources to make disease outbreak reports. This sole reliance on official sources created a bottleneck in the reporting system. If a state chose not to report an outbreak because of fears of retaliation or lack of surveillance capacities, there existed no alternative means by which the WHO could learn about and act upon human cases of a notifiable disease. Earlier versions of the IHR also failed to make allowances for substate structures to bypass national officials and report cases directly to the WHO.

Under the IHR (2005), the WHO can “take into account reports from sources other than notifications or consultations” from official governmental sources (Article 9). Upon receiving reports from these nongovernmental sources, the WHO may request, and the member-state is obligated to provide, verification of the alleged public health event (Article 10). Article 11 obligates the WHO to share any information it receives about public health events with the national government in whose territory the events allegedly are occurring, though it need not disclose to national authorities the source of the WHO’s information. These nonofficial reports could come from other states, subnational agencies, nongovernmental organizations, individuals, news reports, or Internet sources, and the WHO is empowered to act upon these nonofficial reports as it sees fit.[78]

With these changes, the IHR (2005) transforms public health surveillance into a collective responsibility. Everyone is responsible for maintaining a degree of vigilance over the health of everyone else. More eyes are keeping tabs on unusual outbreaks, new illnesses, and the reemergence of feared diseases. By allowing more parties report public health events to the WHO, the system also aims to encourage governments to maintain their national surveillance systems. National governments now know that others are checking to ensure that the state is living up to its international legal surveillance obligations.

Moves to broaden reporting sources draws upon the WHO’s experience with the Global Outbreak Alert and Response Network (GOARN). GOARN is “a technical collaboration of existing institutions and networks who pool human and technical resources for the rapid identification, confirmation and response to outbreaks of international importance . . . [it] links this expertise and skill to keep the international community constantly alert to the threat of outbreaks and ready to respond.”[79] An earlier form of GOARN began in 1997, with its current version being unveiled in 2000. GOARN monitors local media reports, existing health networks, and other nonofficial sources in an attempt to learn of outbreaks from the earliest possible moment. It takes largely unstructured data and tries to “connect the dots” to find new outbreaks and new diseases.[80] This means that it explicitly went beyond the notifiable diseases listed in the IHR—even before the IHR was rewritten and expanded.[81]

GOARN also represents a move away from a state-centric model of public health surveillance toward a more decentralized, electronically based approach. GOARN relies heavily on reports received through online sources and distributes information to its partners electronically instead of relying on more traditional means of diplomatic communication.[82] Fidler sees this change as a significant improvement: "This transformation strengthened WHO's role vis-à-vis its Member States because GOARN allows WHO to collect surveillance information from a wide variety of sources on a large number of infectious diseases."[83]

GOARN quickly demonstrated its usefulness. WHO officials identified and investigated 538 outbreaks of international concern in 132 countries between January 1998 and March 2002 alone.[84] GOARN's success and the Chinese government's reluctance to acknowledge its SARS outbreak in face of overwhelming information to the contrary convinced many that the IHR (2005) needed to vastly expand its information sources.

Finally, the IHR (2005), for the first time, explicitly recognized the need to consider and respect human rights in the context of dealing with public health emergencies. Earlier versions of the IHR made no mention of human rights. This potentially posed problems, as biopolitical surveillance techniques and responses to public health emergencies often ignored existing human rights standards. Gostin notes, "Infectious disease powers curtail individual freedoms, bodily integrity, and liberty. At the same time, public health activities can stigmatize, stereotype, or discriminate against individuals or groups."[85] Governments would implement trade and travel restrictions in an arbitrary manner. Some would impose quarantine or isolation policies.[86] Though the IHR specified that its policies were the maximum allowed under international law, states often chose to violate this provision knowing that the WHO lacked the legal mechanisms to punish them for such transgressions.[87]

Between 1969 and 1995, public health officials came to recognize the importance of human rights in implementing effective disease control strategies. This growing acceptance of human rights as an integral part of a public health strategy led those rewriting the IHR to explicitly include human rights provisions in the new Regulations. Article 3 proclaims, "The implementation of these Regulations shall be with the full respect for the dignity, human rights, and fundamental freedoms of persons." Further, implementing the IHR should "be guided by the Charter of the United Nations and the Constitution of the World Health Organization"—both of which protect human rights and offer some guidance in doing so.[88] States are not allowed to implement measures more intrusive or invasive that reasonable alternatives would allow for the level of health protection desired

(Articles 23, 31, and 43). They must also apply any and all health measures in a transparent and nondiscriminatory manner (Article 42). Government officials need to obtain informed consent for searches of travelers (Articles 23 and 31), and they must endeavor to protect confidentiality (Article 45). Any public health measures that restrict civil or political rights must comply with the International Covenant on Civil and Political Rights (ICCPR). Under the ICCPR, in which the Fidler and Gostin note applies to the IHR,[89] the measure in question must respond to a pressing social need; pursue a legitimate aim; be proportionate to that aim; be no more restrictive than necessary; implemented in a nondiscriminatory manner; and treat the effected individuals with the respect inherent in human beings.

By making human rights as a clear and important element of the document, the IHR (2005) attempts to avoid the punitive sanctions that would make people unwilling to report a disease outbreak. People can feel secure knowing that they will be treated with dignity and respect—even if the government deems it necessary to temporarily restrict their civil or political rights to combat an outbreak. The inclusion of human rights also signals to governments worldwide that their obligations to their citizens (as well as those temporarily within their borders) extend into all realms—including public health and infectious disease control.

CRITICISMS OF IHR (2005)

Despite all of these potential benefits, the IHR (2005) does not completely resolve the tensions between biopolitical surveillance and providing a global public good—though its inclusion of respect for human rights is an important step forward. Genuine fears continue to exist about how these new Regulations will be applied, whether they truly will do what their supporters promise, and whether the resources to implement the IHR (2005) will be forthcoming.

First, the vast expansion of surveillance systems under the IHR (2005) raises concerns about the nature of these programs and their implementation. The structure of the surveillance systems themselves is potentially problematic. It represents a heretofore unseen expansion of international oversight into the domestic policy realm. The IHR (2005) requires states to report events that *may* constitute an international public health problem. Mack points out, "Such intrusive duties on member states have never before appeared in the traditional law on infectious disease control."[90] These revised Regulations essentially give the WHO direct influence over how public health data collection systems operate at the domestic level. It is true that the IHR (2005) do not specify the exact form of these surveillance structures. By mandating the results they should produce, though, the IHR (2005) introduce a new level of international involvement in domestic public health programs. A system that fails to produce the desired results violates the IHR (2005) and thus technically means that a state is in violation of international law. Indonesia, in particular, has reacted negatively to this international oversight. This state specifically premised its refusal to share avian flu samples with the WHO on rejection of this surveillance. The WHO, Indonesian government officials claim, wanted to come in and take samples for drug and vaccine development, but the Indonesians themselves would not see the benefits of any such research.[91]

Logistical difficulties exist for states that want to fulfill the IHR (2005)'s requirements. The Regulations offer no resources for actually implementing these more-demanding surveillance requirements. It requires states to substantially upgrade their surveillance capabilities, yet many countries lack the resources to fund basic public health services. Noncompliance may thus be less a matter of intransigence and more of resource absence. "Some nations are poor and cannot afford sophisticated public health systems, whereas others are failed states in the midst of civil strife, war, or other natural disaster."[92] Moves toward Internet-based surveillance reporting systems may seem less expensive and therefore more accessible, but expanding Internet access to local communities in many developing countries is currently considered prohibitively expensive.[93]

By not offering commensurate resources for this surveillance expansion, fears exist that states will not be able to proactively screen for the wide range of conditions that could fall under the IHR (2005)'s purview. The IHR (2005) implicitly assumes that states *already* have a relatively well-functioning public health infrastructure upon which these additional surveillance systems can be attached. It also assumes that the trained personnel needed to administer the programs are available.[94] These assumptions are problematic. Further, the lack of explicit guidance for the development of their surveillance infrastructure could discourage political leaders from investing resources in the project. Passive surveillance systems, the same ones disfavored by the IHR's reformers, may be all that some states can manage.[95]

Second, while the expanding realm of notifiable infectious diseases is beneficial, it keeps the notion of global public health mired in an "absence of disease" framework. The IHR (2005) does not address the broader determinants of health or susceptibility to disease. It fails to acknowledge how structural violence conditions a person's vulnerability to infectious disease or access to treatment.[96] Indeed, it is silent on *health* itself as defined by the World Health Organization. Instead, the Regulations still focus their attention on diseases that may prove to be an impediment to international travel and trade. A disease or syndrome outbreak within a particular country's borders does not necessarily constitute a reportable condition under the IHR (2005). In such an instance, the WHO resources available under the IHR (2005) would not necessarily be available to the state. National authorities would be under no obligation to report the outbreak to WHO officials, and nonstate actors would themselves have little or no standing to independently report the outbreak to the WHO.

Some might argue that it is unrealistic to expect a single treaty, especially a single treaty that comes with no financial resources, to undertake a project so grand as the provision of health as a global public good. It took the international community nearly 150 years just to get to this point, after all, so we would be better served by seeing how this massive revision works for the world.

That objection makes some sense, but also paints a disturbing picture. The IHR (2005) is still the only international treaty that explicitly focuses on health-related matters and has a near-universal membership. It reflects the international community's understanding of health, disease, and obligations to one another. Calls for revising the IHR found their voice in countries that recognize the need for an expanded notion of health and disease. The final treaty, though, continues to rely on a narrow notion of health as the absence of disease and does nothing to support the underlying factors that support health. This does little to advance the notion of health as a human right or promote an interpretation of health as more than the absence of disease. It does not move the international community toward the provision of health as a global public good.

Third, the force of the human rights protections included in IHR (2005) leaves something to be desired. The Regulations do call upon member-states to respect human rights, but they do so in a relatively passive manner. Only two articles explicitly reference human rights. Article 3 calls upon states to implement the IHR (2005) "with full respect for the dignity, human rights, and fundamental freedoms of persons," and Article 23 notes the importance of extending these same rights to travelers who may be subject to search or investigation. Article 2 does not directly mention human rights, but it reminds states to implement the Regulations in accordance with the Constitution of the World Health Organization (which calls "the enjoyment of the highest attainable standard of health" a fundamental right) and the Charter of the United Nations (which "reaffirm[s] faith in fundamental human rights").[97] These three articles are certainly an improvement over previous versions of the IHR—IHR (1969) contains no mention of human rights, freedom, or dignity—but their mention of human rights lacks much muscle behind it. There is little substance in the IHR (2005) beyond informed consent prior to medical procedures or examinations—and those measures focus almost exclusively on travelers. Indeed, Plotkin's review of human rights in the IHR (2005) shows that the most explicit human rights protections are guaranteed for travelers.[98]

It is curious that IHR (2005)'s references to human rights fail to highlight any human rights treaties. This is especially curious in light of the trend during the 1990s and beyond toward greater acceptance of universal human rights and increasing internalization of those norms.[99] The Constitution of the World Health Organization and the Charter of the United Nations acknowledge the importance of human rights, but they provide little in terms of a framework or structure for their implementation—certainly far less than the myriad of subsequent human rights treaties that have emerged since then. The interaction between the IHR (2005) and existing international human rights treaties remains largely unknown.[100]

Two possible defenses exist for the lack of specificity on human rights. Some might argue that the IHR (2005) do not go into more detail on human rights protections in an effort to protect and respect state sovereignty.[101] Since human rights are largely implemented and defended at the national level, the IHR (2005) leave it up to individual states to determine how best to respect human rights in the face of an infectious disease outbreak within their own political and legal structures. That would follow the Regulations' approach to surveillance structures; they do not dictate the form, but rather the outcome. This argument makes less sense when placed in a broader context. The IHR (2005) already calls for a substantial increase in the international community's intervention into an area that has long been the sole province of the state. The Regulations require states to vastly expand their health surveillance capabilities, yet they are largely silent about how to do so with respect for human rights—even though human rights are supposedly central to the IHR (2005). Further, while the IHR (2005) does not require states to adopt particular surveillance structures, it does give states substantial guidance about how to achieve the required end. States know that they must designate a National IHR Focal Point, that this Focal Point must communicate with the WHO in a timely manner, and that it must report particular pieces of information when requested. States also know that nonstate actors may circumvent official structures and make reports directly to the WHO if and when necessary. The IHR (2005) offers no such guidance when it comes to human rights.

A second argument is that states already know what they need to do to respect human rights. Human rights norms have already become so inculcated within the international community that there exists no need to be any more explicit than the IHR (2005) already are. If this were true, then it would make sense for the IHR (2005) to reference existing international human rights treaties—ones that explicitly spell out rights and how states can satisfy those obligations. Neither the Constitution of the World Health Organization nor the Charter of the United Nations explains what human rights consist of. Donnelly identifies 38 human rights included in at least one international human rights treaty, but many of these remain subject to contentious debate.[102] The Constitution of the World Health Organization does identify health as a basic human right, but it says nothing about rights of movement, education, information, or privacy. All four of these, among others, interact powerfully to satisfy any right to health. Assuming that all states understand what human rights are, and share compatible methods for realizing those rights, is dubious at best.

Being more explicit about human rights protections within the IHR (2005) would be beneficial for three reasons. First, greater explicitness would encourage states to integrate human rights thinking into their use and application of the Regulations. Unfortunately, respect for human rights does not always follow automatically from public health regulations. "Making the new IHR's human rights elements effective will require commitment and vigilance."[103] A more forceful declaration about the importance of human rights and its applicability to human rights would allow the IHR (2005) to move from a "generalized, oversimplified" to one that makes it clear in no uncertain terms that human rights are integral to the protection of the public's health.[104] This is not to deny that there may be certain instances in which it might be useful to temporarily restrict rights in order to stop a disease's spread. In such extraordinary circumstance, though, it would be useful to emphasize respect for human rights and the need to restore these rights as soon as practicable.

Second, a number of commentators have noted that federal states may have additional difficulties in implementing the surveillance requirements of the IHR (2005).[105] In federal systems, health services are generally the domain of local or provincial authorities. This can lead to greater diversity in how health services are provided and how policy directives are implemented. This can also lead to inconsistent applications of human rights protections. More explicit guidance on human rights protections can encourage standardization across the country and make sure that health officials understand their role in respecting human rights.[106]

Finally, respect for human rights encourages compliance. People are more likely to report disease outbreaks if they know that they will not face punitive measures. If fears exist that expanded surveillance measures threaten to abrogate the rights of individuals or will be applied in a discriminatory manner, then it is vitally important that the increased surveillance comes with a vigorous and overt acknowledgement of the role of human rights. People need to know that limits exist on what the state can force them to do, and the state needs to acknowledge that it is subject to such limits. It would be naïve to assume that a greater focus on human rights within the IHR (2005) would stop all human rights abuses and ensure respect for human rights,[107] but it would also be naïve to assume that states will respect human rights in the absence of any pressure or public acknowledgement of its willingness to do so. The work of Jonathan Mann and others described in Chapter 4 demonstrates how human rights perspectives can bring people out of the shadows and into treatment. The spread of infectious diseases can only be contained if we have information about them. Respecting the human rights encourages the sharing of this information.

BENEFITS OF IHR (2005)

The IHR (2005), in many ways, offers the international community a dramatic step forward in addressing the spread of infectious diseases and responding to the health needs of the majority of the world. Perhaps most importantly, the move away from naming specific notifiable diseases toward a focus on any conditions that threaten international public health allows the IHR to respond and adapt. While we may have a sense of the most important diseases today, recent history shows that we cannot predict which diseases will emerge or reemerge in the coming years. Greater flexibility allows the international community to respond to these emerging situations, firm in the knowledge that all the WHO member-states have already agreed to this expansive approach.

Along similar lines, the expanded IHR give the WHO a clear grounding in international law to operate to contain the spread of infectious diseases. Outside of cholera, plague, and yellow fever, the WHO found its responses to disease outbreaks hamstrung by its ambiguous legal status. Its response to SARS, while largely commended and effective, did not result from its legal obligations or status. Instead, it happened almost more by accident. The organization lacked the ability to compel the Chinese government to share data and information about SARS because it had no legal right to do so. The IHR (2005) give the WHO the legal rights to require states to provide needed information and cooperation. Similarly, GOARN has operated for nearly a decade in this murky netherworld of ambiguous legality. The Executive Director of Communicable Diseases for the WHO claimed in 2002 that GOARN operated "within the framework" of the IHR,[108] but international legal scholars generally dismissed this position as wishful thinking.[109] Under the IHR (2005), GOARN clearly fits within a framework that allows it draw upon official and nonofficial sources for a wide range of potential health threats.

Second, the IHR (2005) recognizes the usefulness of expanding public health surveillance beyond the state. National government officials may lack the awareness of disease outbreaks, or they may have incentives for concealing that information. Nongovernmental organizations, local health clinics, local media sources, and individuals seeing changes in their communities may be better positioned to witness and understand that a problem is emerging. It can take time for information to trickle up to national health officials in the old passive surveillance systems. The more proactive, diffuse surveillance encapsulated in the IHR (2005) streamlines the process of getting necessary information to the WHO in a timely manner.

Third, the IHR (2005) encourage states to engage in active surveillance. They should constantly be on the lookout for new outbreaks and new diseases. They need to implement structures that would allow them to quickly recognize problems. Passive surveillance provided states with a measure of plausible deniability; they did not report a particular outbreak because they did not know about it. With active surveillance and designated offices to gather information, communicate with the WHO, and disseminate the reports received, governments are in a much better position to act.

Fourth, the IHR (2005) provide a better foundation for the provision of a global public good like infectious disease control. Previous versions tried, but their restricted set of diseases and inadequate responses shortchanged this vision. The international community as a whole benefits from the expanded definition of notifiable conditions because it responds to changing needs. It meets the needs and concerns of more of the world's people. The revisions in the IHR (2005) represent a step forward toward the realization of providing health as a global public good—much more so than the Health for All movement attempted in the 1970s and 1980s.

Finally, the IHR (2005)'s emphasis on human rights adds a useful counterweight to the increased surveillance measures. More surveillance for more diseases and from more sources may certainly engender suspicion and anger, but the IHR (2005) provides the suspicious with an out. They know they have certain rights that must be respected, and the state knows that it must respect those rights. The Regulations provide the aggrieved with a framework for demanding their rights. All parties understand what the state owes its citizens and travelers within its borders. Surveillance is tempered by the promises of the UN Charter and other human rights documents. The IHR (2005) offers "explicit protections of the interests of individuals"[110]—something completely absent from previous versions.

CONCLUSION

The IHR, the only international treaty that explicitly deals with controlling infectious diseases across international borders, illustrates the shifting balances between biopolitical surveillance, the provision of global public goods, and respect for human rights. The treaty emerged out of concerns that "others" were going to infect Europe with dangerous diseases and threaten the exchange of people and goods. It brought biopolitical surveillance into international law, but focused on just a few diseases. It included no protections for human rights aside from a brief mention that health measures should be applied without discrimination. During the revision process between 1995 and 2005, the IHR vastly increased the range of illnesses that fall under its purview and required states to significantly expand their surveillance capabilities. At the same time, it included more references to human rights and the need to respect them in order to provide this global public good.

The IHR show the challenges in trying to balance these competing demands. The international community needs greater surveillance capabilities if it is going to identify potential threats in a timely manner, but increased surveillance raises fears about violations of human rights. Moving away from a disease-specific model and toward one that focuses on the public health threat of a given illness better allows the international community to provide this public good, but it runs the risk of requiring too much surveillance. Human rights and public health have a long, uneasy history with one another.

Despite these tensions, the most recent iteration of the IHR demonstrates how the international community continues to seek resolutions to these potential difficulties. The current IHR are by no means perfect, but they do move the international community closer toward realizing effective control of infectious diseases while still respecting the humanity and dignity of all persons.

CONCLUSION

BALANCING GLOBAL PUBLIC GOODS AND PRIVACY: A HUMAN RIGHTS APPROACH TO BIOPOLITICAL SURVEILLANCE

Surveillance is of vital importance if the international community wants to achieve global public good through infectious disease control. Governments, working in concert, need to collect information about how a disease spreads, who has the disease, and who might be at risk for contracting it in order to prevent an epidemic from getting out of control.

This reality, though, raises the specter of government intrusion and biopolitical citizenship. Do the extensive surveillance requirements of international public health programs lead to a situation where governments can abrogate individual rights in the name of health? What can be done to prevent a government from abusing its power and claiming the mantle of disease control to grab power and use it against "undesirable" elements of society?

The concerns about biopolitical surveillance and its potential for nefariousness are real and worth considering. The reality of the necessity of surveillance for effective international infectious disease control programs is also real and worth considering. In this conflict, we see the biological imperatives of disease control coming into conflict with the social and political concerns about individual privacy and protection against unwarranted government intrusion.

Throughout this book, we have seen a variety of examples of how governments have sought to strike a proper balance between the global public good of international infectious disease control and the fears of biopolitical surveillance. We have witnessed public health programs violating individual rights, disrespecting local beliefs, and ignoring community needs. However, we have also seen examples where governments took special care to limit their intrusions as much as possible, to keep their citizens fully informed of the situation, and to ensure that people had their basic needs cared for while they were under surveillance or isolation. Authorities, instead of getting drunk with this power, often consciously sought to limit biopolitical surveillance activities. This was not always possible, and they sometimes got the balance wrong, but we do see clear evidence of some growing level of respect for individual rights in the face of increased surveillance.

Over the years, from the efforts to eradicate struggle through the 2002–2003 severe acute respiratory syndrome (SARS) epidemic and the rewriting of the International Health Regulations, we have witnessed the international community incorporating more human rights protections into their biopolitical practices. We are seeing fits and starts toward creating some sort of human rights standard as part of public health surveillance programs, but this remains scattered and ad hoc. The argument of this book is more forceful in that an explicit individual human rights standard needs to become a vital element of international infectious disease control programs. Only by doing so can we strike the proper balance between a global public good for health and the need to protect people from unwarranted and overly intrusive biopolitical surveillance.

Arguing for such a standard raises obvious questions. What would this individual human rights standard look like? How would it be implemented? Who would be responsible for it? In this concluding chapter, I want to sketch out a vision for a more explicit individual human rights standard as a part of future international infectious disease control programs. Some of these elements are already part of the existing practice, while others incorporate new ideas. Taken together, they offer a new vision for how the international community can seek to reconcile the imperatives of global governance in an era where states remain the dominant actors and policy implementers.

A HUMAN RIGHTS FRAMEWORK FOR BIOPOLITICAL SURVEILLANCE

Recognizing the connection between health and human rights is, fortunately, no longer so radical. Peter Baldwin, Paul Farmer, David Fidler, Sofia Gruskin, the late Jonathan Mann, and Daniel Tarantola, among others, have taken the lead in recent years in explicitly linking health with human rights and arguing for health as a fundamental human right. Their works demonstrate that infectious disease rates are often higher among marginalized and disadvantaged populations, that lack of health and health care prevents people from realizing their political, economic, and social goals, and that recognizing the basic right to health is part of the progressive realization of an expanded notion of human rights.[1] Their passionate, persuasive arguments have helped shift the terrain of the debate about international health care. Instead of arguing *whether* there exists a right to health, most of the contemporary debates focus on *how* to provide that right. These debates are critically important and will continue to resonate throughout the international community for years to come.

When it comes to the intersection of biopolitical surveillance and human rights, though, the issues are somewhat different. The concern is less about providing access to health care services, which is where much of the discussion about health as a human right focuses. Instead, the issue here focuses more on the incorporation of human rights principles into a wide array of programs. Infectious disease control programs do not provide the sort of comprehensive health services that are at the heart of discussions about health as a human right. These programs tend to be more passive than those that actually offer access to the health care system. This different nature of the programs shifts the issues that arise from trying to integrate human rights.

More importantly, incorporating human rights principles into international infectious disease control programs blurs the lines of responsibility between national and international governance forces. Infectious disease control programs and biopolitical surveillance largely emanate from the international level. The World Health Organization oversaw the efforts to combat smallpox, acquired immunodeficiency syndrome (AIDS), and SARS. It has responsibility for implementing the International Health Regulations. It operates the Global Outbreak Alert and Response Network (GOARN) that relies on official and unofficial sources to discover disease outbreaks before they spread too far. The directives for these programs thus largely occur at a global governance level.

Implementing the programs, though, happens at the national level. The World Health Organization cannot explicitly force any state to implement specific programs, nor can it directly compel cooperation with any of its mandates. It does have the power of naming and shaming, as we saw with its response to the Chinese government's intransigence in acknowledging the scope of the SARS epidemic. However, as the smallpox eradication program highlighted, WHO officials do more oversight than program implementation. Each country working on the smallpox eradication program established its own framework for eradication and provided most of the funding for the operation. WHO provided personnel and expertise, but they did not directly operate the programs in any country. The same would be true of incorporating human rights standards into biopolitical surveillance practices. WHO can seek to do this, but it cannot necessarily force their implementation.

In essence, incorporating human rights standards into biopolitical surveillance practices requires us to disentangle the relationship between national and international governance structures. It needs to find a way to compel states to incorporate the ideas generated at the international level into their national policy practices. It needs to encourage the adoption of an international norm into a state's practices to the point that it becomes second nature.

Adopting a human rights framework has positive spillover effects too. There exists a growing belief in the existence of an international human right to health. The nature of this right remains highly contested, as does the meaning of health itself. Evans offers one useful perspective. He defines the right to health as "what we do collectively to ensure the conditions necessary to be health."[2] Understanding and attempting to realize this right becomes all the more important because health is a necessary precondition for the fulfillment and enjoyment of other rights.[3] People cannot realize, say, a right to education, equality, or even freedom of assembly if they are not healthy enough to leave their homes or pose a health threat to others. Infectious disease surveillance programs help people to realize better health. This improved collective health status, in turn, promotes national development in a wide array of other areas.[4] Furthermore, focusing on surveillance systems and making sure those systems operate in ways that benefit people provide a concrete manifestation of the right to health. O'Neill lamented, "What is the point of having an abstract right, unless you also have a way of securing whatever it is that you have a right to?"[5] Surveillance systems are something concrete that moves the abstract notion of a right to health into something more tangible and accessible. It is a concrete manifestation of the attempt to secure that right.

Below, I offer five principles of incorporating human rights into biopolitical surveillance programs as a way to balance privacy concerns with the imperatives of providing a global public good like infectious disease control. These principles draw from the experiences in the case studies presented in earlier chapters, existing regulations, and current thinking about international human rights. They seek to ensure that human rights are respected in any biopolitical surveillance program, which in turn furthers the right to health. They provide assurances to individuals that their collective rights are respected.

PRINCIPLE #1: TRANSPARENCY

Secrecy works against successful infectious disease control programs. It stokes fears that such programs have nefarious purposes. It keeps the people most affected by these programs in the dark as to their purpose and their rationale. It discourages information sharing domestically and internationally. It encourages the spread of rumors and engenders public distrust of the government. Transparency, on the other hand, allows people to know what the problem is, how the government is attempting to solve it, why they have selected a particular program, and how that program will be implemented. It encourages governments to level with their people and the citizenry to cooperate with the programs. It facilitates sharing vital information that can be crucial to preventing a disease's further spread. It makes fear mongering less likely.

Transparency, of course, is not a panacea. Some will accuse the government of overstating the nature of the threat in order to grab power. Others may assert that the proposed program is either overly burdensome or inadequate. Rumors may still spread, and people may still believe them. Individuals may have other reasons to distrust the government—reasons that may be completely unrelated to infectious disease control. Transparency offers the people who are being surveilled an insight into the how and why of that surveillance program. That does not necessarily mean that people will agree with the surveillance program, but it does mean that they will know the nature and conduct of the program with which they disagree. Instead of relying on rumor and innuendo, they can get information directly.

The historical experience clearly illustrates the importance of transparency. Smallpox eradicators gained greater support and had fewer conflicts with local communities when they took care to explain what they were doing and why to residents. Early human immunodeficiency virus (HIV)/AIDS programs found themselves hobbled when government leaders allowed rumors to spread. This promoted stigmatization and encouraged a response based on fear. SARS offers contrasting images of government transparency efforts. Singapore took a very aggressive but very forthright approach to combating the disease. The government quickly established a television channel to share information about SARS, its spread, and how to avoid infection. China, on the other hand, denied reports of a disease epidemic, but these denials directly contradicted the lived experiences of thousands of Chinese. The resulting secrecy inspired panic buying of supposed folk remedies. Once the government did admit to presence of SARS within China, its lack of transparency led to confusion over its SARS control program.

With transparency, people can know what their government is doing. This then allows the citizens to evaluate whether the government's programs are in line with both their expectations and their human rights principles.

PRINCIPLE #2: WORK WITH LOCAL AND EXISTING RESOURCES

Human rights may be an international principle, but their guarantee and provision comes at the state and substate level. At the same time, infectious disease control programs originate at the international level, but it is up to state and local officials to actually carry out the necessary programs. Gaining the support of the local officials who are going to carry out these programs to integrate human rights into the infectious disease control programs is crucial. These local officials and the already-existing resources at the community level can be the bridge between international aspirations and local implementation.

By recruiting local officials and drawing on existing resources, infectious disease control programs become less scary and foreign. They are less likely to be seen as irrelevant impositions. Instead, they rely on these local resources to essentially translate these international ideas into practices that make sense to communities on the ground. These are officials that community members presumably already know and trust. The community members might believe that local officials who they probably know would not intend to put their friends and neighbors in harm's way. They can make sure that the rights and needs of the local community receive the respect and attention they deserve.

When outsiders come into a community to introduce an infectious disease control program, it is natural to doubt them and their motivations. Who are these outsiders, and why have they suddenly appeared *here*? What do they know about us, our traditions, and our beliefs? Local officials can provide necessary reassurance. Residents may still be wary of outsiders, but they may be more willing to accede if they know that these local officials who have their rights and interests in mind vouch for the strangers. Further, employing existing resources means that residents do not have to navigate some new bureaucracy.

Many of the most disheartening episodes of the smallpox eradication campaign came when outside vaccinators did not use local employees, did not gain the trust of local officials, and did not demonstrate a respect for local beliefs and customs. Their hubris led them to denigrate local traditions and the importance of local leaders. Residents responded by hiding or attempting to barricade their doors. Often times, such resistance continued to occur until local officials (often religious leaders) spoke on behalf of the vaccinators. Not until the vaccinators drew on the existing local resources did community members believe that their rights were protected.

On the other hand, the revised International Health Regulations explicitly seek to build local resources and incorporate local-level officials in disease reporting to ensure both timely reporting and quick responses. Instead of having to wait for information to pass up a bureaucratic chain—leading to a delayed response and possible feelings of mistrust of the government's actions—the international community can start to respond more quickly precisely because they are drawing on these local resources. These local resources can also provide more reassurance to residents. Instead of having outsiders snooping around for diseases, local officials who are more likely to have the best interests of that community are taking the lead in making sure that infectious disease control programs take place in a timely manner.

PRINCIPLE #3: ADDRESSING PRACTICAL NEEDS

Objections to biopolitical surveillance are not solely rooted in privacy concerns. In many instances, the objections arise from more practical fears. If I am unable to go to work for a period of time, how will I support my family and myself? Who will take care of me? How will I go grocery shopping or take care of other necessary errands? Violations of quarantine orders often arise from such seemingly mundane concerns. People want to know that they and their families will be taken care of when these biopolitical surveillance programs come into operation. They want to know that their basic subsistence rights will be guaranteed.

Depending on the nature of the surveillance program, mobility may be restricted, public places may be closed, and individuals may be restricted from having close contact with friends and neighbors. These all severely undermine a person's ability to address their basic needs and fulfill their basic rights. The government can demonstrate its respect for such basic rights by guaranteeing the fulfillment of basic rights and needs. The Singaporean government provided those under surveillance and quarantine during the SARS epidemic a small stipend, three hot meals daily, care of their pets, and health care workers who could handle basic errands. It made it such that those under quarantine could not plausibly claim that they were violating a measure designed to stop a disease's spread out of necessity. They had their needs take care of. They could get access to food, care, and an income—three fundamental rights spelled out in international human rights treaties like the Universal Declaration of Human Rights and the International Convention on Economic, Political, and Social Rights. At the same time, officials in Hong Kong found themselves fighting to ensure compliance with surveillance and isolation orders *until* they could guarantee these basic rights and needs to those affected.

Some may note a cruel irony here. Governments may fail to live up to these rights under normal circumstances, yet they seek to ensure them during a disease epidemic. This is worth noting, but two important points should set this concern aside. First, there is nothing about ensuring the basic rights of individuals during surveillance and quarantine programs that absolves a government of the same thing during other times. This is not a call for ensuring basic rights *only* at these times. Second, biopolitical surveillance programs, especially when coupled with quarantine or isolation, are extraordinary measures. The government is explicitly restricting the movement of individuals, thus limiting their rights in certain respects. In exchange for accepting these temporary limitations, it behooves a government to ameliorate the complications that may arise from these limitations. If a government is not going to allow people to move freely to carry out their daily business necessary to sustain their lives, then the government has an obligation to ensure that those rights can still be met. This may also have the positive spillover effect of encouraging governments to ensure that these basic practical needs are met even when no epidemic threatens a state.

PRINCIPLE #4: INTEGRATION WITH THE HEALTH CARE SYSTEM

Effective biopolitical surveillance requires some sort of infrastructure. Systems must exist that can collect and analyze data, as well as work with international officials to implement effective programs. As surveillance programs increase in size and scope, it becomes increasingly important for governments to develop local health care systems that can capture this information.

At the same time, building up the health care system to improve surveillance capabilities can also help expand basic health care services. If you already have clinicians in place to alert WHO officials about an outbreak of SARS, you can use those same clinicians to provide basic treatment services and preventative care to the community. Developing surveillance systems can thus help people to realize their right to health and health care. Instead of being the enemy of human rights, surveillance can be at the vanguard of expanding those rights.

By integrating biopolitical surveillance with basic health care services, governments can demonstrate to their citizens that these surveillance programs are about protecting health, not about grabbing power. It provides a more holistic, integrated approach to health and assists with the progressive realization of an expanded notion of human rights.

During the smallpox eradication campaign, supporters argued that the campaign would have significant positive spillover effects for public health systems. The eradication campaign would build up the health care infrastructure, and then that infrastructure could continue to promote and provide basic health care even after the smallpox campaign ended. In fact, one vaccinator tells of an older woman in India who refused to get vaccinated because she did not see the point if she did not also receive basic health care services.[6] Vaccinators in Ethiopia sometimes provided basic health services as a condition for getting residents to agree to vaccination.[7] In interviews with leaders of the campaign after its success, they pointed to the development of local health care systems as one of the crowning achievements of the quest to end smallpox.[8]

By partnering biopolitical surveillance with the public health system, people get a tangible payoff from these surveillance programs. Preventing the spread of a disease epidemic is highly important, but it is not terribly visible. Biopolitical surveillance can be relatively passive and hard to prove its efficacy in the absence of an outbreak. A public health system that can provide basic health care services, though, is something that people can experience and utilize directly. They can directly see the benefit to themselves and their families. This may make up for any lingering suspicions about the nature of the biopolitical surveillance or any temporary inconveniences.

PRINCIPLE #5: PROVIDE A MEANS FOR APPEAL

Biopolitical surveillance systems are not infallible. Governments make mistakes. Officials overreach with their programs. Rights get neglected in the confusion arising out of the occurrence of a disease epidemic. For these reasons, it is vitally important that any international infectious disease control program provide an avenue for people to challenge the system. Any person who has their mobility restricted or comes under surveillance should have the right and opportunity to question these regulations. This appeal process may not come out in the petitioner's favor (just like in the judicial process), but there needs to be someone that individuals can question about the specifics of their case.

The court system may be one potential avenue for appeal, but it is unlikely to be a satisfactory one when it comes to disease epidemics and surveillance. Court cases may take a while to make their ways through the system. They may also require filing fees and access to lawyers that could put them out of reach for many potential petitioners.

Instead, the International Health Regulations may provide an appropriate appeal venue. Under the International Health Regulations, each country must designate a National Focal Point. This focal point is responsible for conducting all communications with WHO and disseminating information from WHO to state governments.[9] It serves as the intermediary for international and domestic officials, making sure that communications flow between both parties and that policies get implemented in a timely manner.

Because the National Focal Point plays such a vital role in ensuring the smooth operation of surveillance systems during infectious disease outbreaks, this same body could play a crucial role in determining whether a government's response has been appropriate. It could hear appeals because it is uniquely placed to understand both what the government is doing and what the international community is recommending as an appropriate response. Furthermore, they would likely have the most access to the most up-to-date information and could play a crucial role in ensuring that these surveillance programs change and adapt as circumstances warrant. Biopolitical surveillance, after all, is hardly a static idea, but rather an evolving response as knowledge about a disease epidemic accumulates.

These five principles will not magically eliminate all objections to biopolitical surveillance, nor will they necessarily address all concerns that may exist about such programs. Instead, they provide an honest attempt to balance the scientific imperatives of biopolitical surveillance and its vital role in infectious disease control with the very real and understandable concerns about privacy violations and the expansions of state power. They seek to ensure that people still have their voices heard while public health officials implement programs necessary to stop an epidemic's spread. They integrate basic human rights principles into international public health programs. They also assist with integrating the right to health more firmly into international thought and practice. The steps necessary to ensure adequate public health surveillance allow the international community to realize the promise of the right to health by strengthening the very public health structures that provide basic health care.

CONCLUDING THOUGHTS

It is not uncommon to hear people talking about humanity being "overdue" for a disease epidemic. We read claims that we should expect a terrible influenza epidemic at any time because it has been "too long" since we last had one. In one respect, this argument is correct. It is incredibly likely that we will face a worldwide influenza epidemic again, and it may be in the not too distant future. It is also likely, though, that humanity's next big disease epidemic will come from a disease completely unknown at the current time.

We have no way of predicting when or where the next disease epidemic will emerge. We cannot know whether the next big epidemic will come from a disease about which we already know or if a new pathogen will emerge to sicken us. Given all this uncertainty, it is of crucial importance that the international community establish disease surveillance systems and work toward controlling the spread of infectious disease in a global partnership. Infectious disease control is a global public good, something that benefits all humanity.

We must remain cognizant, though, of the very real and justifiable fears that exist over governments implementing surveillance systems. People fear that these structures could be used to gather arbitrary information, strengthen the state's grasp on power, or deny rights to particular individuals. As the case studies presented in this book have shown, governments have sometimes used these surveillance programs in a capricious manner.

How, then, can we balance the scientific imperatives of effective international infectious disease control programs with respecting the privacy concerns of the people most affected by these surveillance programs? I put forward the argument that a thorough integration of human rights principles can allow surveillance programs to operate while still allowing people to have their voices heard and their concerns respected. It can encourage cooperation at all levels, which may in turn minimize the length of time in which these programs must operate.

Humanity officially won the struggle against smallpox in 1980. Since that time, new infectious diseases have continued to emerge, and the international community has redoubled its collective efforts to keep people safe from disease epidemics. Incorporating human rights principles into biopolitical surveillance and international infectious disease control programs can go a long way toward ensuring that these efforts against disease epidemics receive the cooperation they need to succeed.

NOTES

INTRODUCTION

1. Ali Maow Maalin, a hospital cook and volunteer in the eradications efforts in Somalia, was the last person diagnosed with a natural case of smallpox on October 26, 1977. Janet Parker, a medical photographer in Birmingham, England, was the world's last smallpox victim. Parker worked in a darkroom above a lab where experiments with live smallpox viruses were conducted. Though the exact route of transmission remains unknown, investigators demonstrated that Parker's infection came from the lab and not through any other means.
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1 BIOPOLITICAL SURVEILLANCE IN THE INTERNATIONAL ARENA

1. For an excellent overview of public health surveillance in the American domestic context, see Amy L. Fairchild, Ronald Bayer, and James Colgrove, *Searching Eyes: Privacy, the State, and Disease Surveillance in America* (Berkeley: University of California Press, 2007).
2. Mark B. Salter, “The Global Visa Regime and the Political Technologies of the International Self: Borders, Bodies, Biopolitics,” *Alternatives* 31 (2006), 178.
3. Foucault discussed biopolitics in a number of his writings and lectures, but never fully developed the concept in any single work. Elements of it can be found in Michel Foucault, *The History of Sexuality, Volume 1*, Robert Hurley, trans. (New York: Penguin, 1990); “The Birth of Biopolitics,” in *The Essential Foucault: Selections from the Essential Works of Foucault, 1954–1984*, Paul Rabinow and Nikolas Rose, eds. (New York: New Press, 2003), 202–207; “The Politics of Health in the Eighteenth Century,” in *The Essential Foucault: Selections from the Essential Works of Foucault, 1954–1984*, Paul Rabinow and Nikolas

Rose, eds. (New York: New Press, 2003), 338–350; and "Lecture 17 March 1976," in *"Society Must Be Defended": Lectures at the College de France, 1975–1976*, David Macey, trans. (New York: Picador, 2003), 239–264. Elbe brings together many of the strands of Foucault's arguments about biopolitics together. See Stefan Elbe, "AIDS, Security, Biopolitics," *International Relations* 19 (2005), 403–419.

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10. Padovan, "Biopolitics and the Social Control," 473.
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3 SMALLPOX: DEFEATING THE SCOURGE AND PROVOKING RESISTANCE

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4 HIV/AIDS AND HUMAN RIGHTS AS AN EVOLVING STRATEGY

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CONCLUSION

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