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DISEASE RESPECTS NO BORDERS: GOVERNANCE, THE STATE, AND REGIONAL HEALTH SECURITY

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Disease outbreaks have threatened the stability of states and societies throughout human history as the constant companions of war and commonplace barriers to travel and trade. In the last century, steady advances in understanding the sources and spread of infectious diseases fostered increasingly successful public health interventions, culminating in the global eradication of naturally occurring smallpox in 1977. Although creating public health infrastructure—from water and sanitation systems to disease surveillance networks—requires significant resources and organization at every level of government, such efforts tangibly improve the quality and length of life for entire populations. Nations that have substantially reduced their infectious disease burdens have a powerful motivation to protect their vital interests against imported health threats. More than a century ago, the world's maritime powers negotiated the first international treaty to prevent the spread of infectious diseases at ports of entry without hampering free trade. Although the regime's emphasis on a few historically important diseases rendered it obsolete in an era of changing health risks, this demonstration of international public health cooperation for mutual benefit laid the foundations for the current global health regulatory framework and the creation of the World Health Organization (WHO).¹

Paradoxically, the low profile of successful public health programs often undermines social and political commitment to continued investment in their maintenance. With the eradication of smallpox and the restriction of once ubiquitous scourges such as cholera, polio, and measles primarily to the developing world, policy makers in resource-rich nations developed a sense of invulnerability about disease threats. The focus of international public health cooperation shifted from protecting national interests to providing development aid or humanitarian assistance, areas much more susceptible to budget cuts and political pressures. At the same time, structural adjustment policies imposed by the World Bank and International Monetary Fund as conditions for refinancing debts or obtaining new loans indirectly encouraged borrower governments to cut spending on public health and other social programs. Cumulatively, these conditions eroded the capacity of public health systems around the world to respond to unexpected threats.

The eruption of the HIV/AIDS epidemic in the 1980s hinted at the scope of this miscalculation. New economic theories looked beyond the humanitarian aspects of

the AIDS crisis to link poor population health, stagnant economic progress, and sociopolitical instability, suggesting that HIV/AIDS and other persistent health threats could undermine already fragile states and decimate forces responsible for maintaining regional security. The 2003 outbreak of SARS (severe acute respiratory syndrome) and the ongoing spread of an avian influenza strain with pandemic potential emphasized the vulnerability of even highly developed nations to emerging infections in an age of rapid travel and economic interdependence. Emerging and re-emerging infections include diseases that are newly recognized, have spread to new populations, or have acquired new traits (such as antibiotic resistance) that enhance their virulence. According to WHO, investigators discovered an average of one emerging infection of public health importance each year from 1973 to 2002.²

Policy makers and analysts increasingly include emerging infections and health status in critical regions in a growing list of nontraditional security challenges—threats to national political, economic, or social interests that require more than state-centered military solutions. Renewed awareness that individual nations, regardless of resources, cannot insulate themselves effectively against transnational health threats has encouraged governments to strengthen and expand mechanisms for supranational cooperation in detecting and containing potential crises. However, integrating public health issues—managed for decades by stakeholders almost entirely disengaged from national security mechanisms—into the security framework remains challenging. This paper examines health security issues in South Asia, Southeast Asia, and the Middle East. All three regions confront new public health challenges, such as disease outbreaks with pandemic potential and external pressures to avert such crises, against a background of extremely varied state capacities, past health governance failures, and ongoing tensions about the role of the state in providing basic public health services.

PUBLIC HEALTH: THE TRADITIONAL ROLE OF THE STATE

Public health interventions comprise efforts to promote health at the population level through measures such as sanitation, pest control, and vaccination rather than curative clinical care. Although public health research can improve the effectiveness and accessibility of health services, success in preventing diseases or injuries also relies on engineering, education, environmental safety, nutrition, and other nonmedical sectors. Even before the turn of the twentieth century, decision makers in growing US and European cities sought new tools to alleviate the periodically deadly epidemics that accompanied urbanization.³ Early successes demonstrated that basic public health services organized and supported by the state can mitigate the worst societal impacts of rapid economic change.

Most functional states now develop national public health policies, using external technical guidance to augment indigenous expertise. National policies consistent with international standards contribute to economies of scale for goods and services, reducing the costs of technologies such as vaccines and facilitating skills transfer.

Responsibility for implementing these policies varies with political system, cultural factors, and resources, but generally demands engagement by state or provincial and local officials. Effective public health systems promote economic growth directly by freeing human capital (reducing the numbers of acutely or chronically ill workers at any given time) and indirectly (avoiding the need to divert resources and human power to caring for ill dependents). Preventing rather than treating infections reduces the burden on the clinical health sector, which tends to benefit poorer communities and individuals disproportionately.

Nonstate actors play a significant role in shaping public health policies at every level. Bilateral aid, including funding and technical assistance with concomitant policy demands, comprises a significant portion of international public health cooperation. United Nations (UN) organizations, the World Bank, and other international development institutions support public health capacity-building efforts ranging from specific disease control projects to meeting the global health targets set by the Millennium Development Goals. WHO, a specialized agency of the United Nations dedicated to “the attainment by all peoples of the highest possible level of health,”⁴ marshals technical resources to develop the framework for global health campaigns, establish norms and standards, provide technical assistance to governments and other stakeholders, articulate a global health research agenda, compile data on disease incidence and health indicators, and coordinate international outbreak detection and response activities. WHO administers programs through six regional offices, which frequently divide geographically contiguous areas for historical rather than pragmatic reasons. International and local nongovernmental organizations (NGOs) provide public health services, policy analysis, and advocacy. Public-private partnerships supported partially by large-scale philanthropy, such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, have become increasingly important donors, steering public health policies by funding disease control projects through national or local governments. Recent unprecedented increases in funding for global public health have allowed governmental and nongovernmental organizations to tackle health threats on a level unimaginable only a few years ago. However, the proliferation of donors focused primarily on specific diseases, with distinct methodologies and accountability demands, creates new burdens and tensions for recipient nations.

PUBLIC HEALTH PROFILES: A REGIONAL OVERVIEW

Southeast Asia

For the purposes of this paper, Southeast Asia includes Burma, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. Unsurprisingly, differences in health status, accessibility and quality of health systems, and public health infrastructure mirror the wide variation in economic development among these nations. At the extremes, total life expectancy at birth in 2002 ranged from about 55 years in Cambodia and Laos to 79 years in Singapore.⁵

Malaria, tuberculosis, and other endemic infectious diseases remain a serious challenge in the less developed nations and in rural areas of the middle-tier economies. The densely populated urban centers face increasing rates of chronic noncommunicable diseases (such as cardiovascular disease), accidents, and water-, air-, and food-borne hazards.⁶ Both urban and rural areas throughout the region have seen a resurgence of the mosquito-borne dengue virus. Even in the middle-tier nations, where general health status has improved with economic growth, causes of morbidity and mortality vary widely with geography (especially in Indonesia and the Philippines) and socioeconomic status, particularly for migrant populations. The region faces a still evolving HIV/AIDS epidemic, with pockets of high prevalence among vulnerable, often highly mobile, populations. In Vietnam and Indonesia, nascent HIV/AIDS epidemics may still be contained before they explode from high-risk groups (intravenous drug users and commercial sex workers) into the general population, but internal cultural obstacles and conditions limiting “harm reduction” practices imposed on programs receiving US foreign aid complicate containment efforts. After a period of denial in the early 1990s, Thailand’s government launched a notable effort to reverse a burgeoning HIV/AIDS epidemic, reducing disease prevalence to less than 2 percent.⁷

Climate, economics, trade and travel patterns, and the resulting proximity of humans to animal and insect disease vectors combine to make Southeast Asia particularly vulnerable to emerging infections. Although the 2003 SARS epidemic affected East Asia more directly, its effects vividly demonstrated to policy makers in Southeast Asia that the impact of emerging infections cannot be measured in mortality alone. Despite causing fewer than 800 deaths worldwide, estimates place the cost of SARS to Southeast and East Asia at US\$18–60 billion in direct expenditures, lost tourism and business, and slowed economic development.⁸ The SARS outbreak created political momentum toward regional cooperation on public health emergencies within a comprehensive security framework, and this momentum has been maintained by periodic and economically disastrous outbreaks of highly pathogenic H5N1 avian influenza throughout the region. However, effective regional coordination strategies remain strained by wide variations in state capacities and by difficulties in reshaping institutions designed as tools for economic cooperation into conduits for sharing and responding to health data. Many regional diplomatic efforts have focused on limiting the cross-border movement of animal disease vectors. In contrast, questions of health security for highly mobile human populations (including large expatriate labor forces and displaced persons) continue to be addressed nationally or locally rather than regionally. Efforts to provide basic and emergency health services to these marginalized groups frequently rely on civil society.

WHO divides Southeast Asian nations between two regional offices (Southeast Asia and Western Pacific), reducing the efficiency of external coordination. The region has received large amounts of international public health aid to fight specific diseases (such as HIV/AIDS, tuberculosis, and malaria) as well as humanitarian aid

for the 2004 tsunami disaster. Recent external interest in strengthening regional capacity to detect and contain potentially pandemic influenza has prompted an outpouring of private and public sector resources for disease surveillance systems.

Middle East or Southwest Asia

The Middle East in this paper includes Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, the United Arab Emirates (UAE), and Yemen. The health profile of the region also reflects wide disparities in health status based not only on national capacities, but on socioeconomic class and immigration status. Tremendous resources allow the economically dynamic oil-producing Gulf states to import health expertise—or even outsource medical demand—without developing the local academic research and training centers necessary for self-sustaining public health systems. Nonetheless, steadily improving health indicators for citizens in these nations (with life expectancies commensurate with the rest of the developed world) evince the rapid development of adequate, if paternalistic, government-funded health systems.⁹ This stands in marked contrast to neighboring Yemen, where life expectancy at birth is less than 63 years.¹⁰ In the middle-income Levant states, severely uneven health systems and a paucity of sustainable, locally supported preventive public health services have fostered a growing private market for expensive curative healthcare, placing a disproportionate burden on the poor and leaving a gap to be filled by nonstate actors.

In 2006, total fertility rates in the region ranged from 2.5 children per woman in Bahrain to more than 6 in Yemen, where complications of pregnancy and childbirth remain a leading cause of death.¹¹ Although fertility has declined throughout the region in recent years, comparatively high birth rates in the Levant still contribute to a skewed age demographic, with large and relatively youthful populations whose needs exceed available labor opportunities and resources. Although reproductive health matters are among the most pressing public health concerns in the region, population issues continue to be addressed primarily through labor-export agreements and national measures, rather than through regional family planning campaigns. Health status indicator reporting throughout the region rarely reflects the dramatic variations in public health services and infrastructure accessible to urban and rural communities, to religious or ethnic minorities, and to the large expatriate labor populations in the Gulf states. Most of the Gulf states partially or completely exclude these migrants from government-supported health services.

HIV/AIDS prevalence remains low in the Middle East, especially when compared to the noncommunicable disease burden related to tobacco use, chronic diseases such as cardiovascular conditions and diabetes, and accidents.¹² However, trading patterns and uneven disease control measures at ports and borders render the region extremely vulnerable to imported animal diseases, including those that cross into the human population directly or via insect vectors. Saudi Arabia and Egypt have experienced outbreaks of H5N1 avian influenza in poultry, with dozens of

human cases in Egypt. Despite growing awareness of the problem, few states in the region have devoted significant resources to preparing for public health crises, and neither transparent sharing of health data nor pandemic planning have occurred beyond the subregional level. To date, regional cooperation on disease control has depended substantially on the expectation that wealthy nations will subsidize outbreak containment efforts to protect their own interests. For example, Saudi Arabia dedicates significant resources to preventing disease outbreaks during the annual Hajj. When the first epidemic of Rift Valley fever (a livestock disease transmissible to humans directly or via mosquitoes) outside Africa occurred on the Arabian Peninsula in 2000, the Saudi government conducted a cross-border vector control campaign in affected parts of neighboring Yemen. In 2007, the Saudi government pledged significant funds to Yemen's malaria eradication efforts and set about galvanizing the other Gulf states to contribute similarly.¹³ In contrast to Southeast and South Asia, the contiguous states of the Middle East (with the exception of Israel) fall into one WHO administrative region, allowing viable external regional health coordination.

South Asia

In this paper, South Asia refers to Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka. Health status in South Asia also varies widely based on socioeconomic, cultural, and rural-urban disparities. However, overall health indicators among nations in this region are almost identical. (The exception is Sri Lanka, where the total life expectancy of more than 70 years exceeds that in any neighboring nation by almost a decade. Sri Lanka's per capita total health expenditures also exceed any neighbors' two- to three-fold.¹⁴) Governments throughout the region face similar challenges, such as high levels of maternal and child mortality, endemic malaria and tuberculosis, food- and water-borne disease outbreaks exacerbated by urban crowding, poor nutrition, frequent natural disasters, industrial accidents, and an emerging problem with noncommunicable diseases such as diabetes and cardiovascular ailments.¹⁵ Both India and Pakistan struggle with profoundly uneven implementation of public health measures at the provincial and community levels, resulting in public perceptions of health governance failures and poor accountability. India, Bangladesh, and Pakistan struggle to ensure safe water supplies in rural and urban areas. Although statistics are unreliable, the proportion of the population with access to safe water appears to fall to 10 percent or less in remote provinces of Pakistan; the private sector has proved no more reliable, as testing has shown contamination in almost 40 percent of commercially bottled water in Pakistan's cities.¹⁶

Pakistan has reported the only case of human H5N1 influenza in South Asia to date, although poultry outbreaks have also occurred in Bangladesh and India.¹⁷ The region is certainly no stranger to periodic and devastating epidemics. Due to its geographical, political, and social complexity, India proved to be one of the most challenging nations to the WHO smallpox eradication campaign and remains

one of the few nations in the world with endemic polio and regular cholera outbreaks. A 1994 epidemic of plague in India precipitated the flight of hundreds of thousands of refugees (with subsequent border closings by neighboring nations), accusations of biological warfare against a local separatist group that exacerbated internal and external religious tensions, and estimated costs of US\$1.8 billion in lost trade and tourism. This incident illustrates obstacles to regional disease surveillance and response strategies stemming from weak intra- and international cooperation and unresolved intra-regional conflicts.

WHO divides South Asia among two regional offices, grouping Afghanistan and Pakistan with the Middle East and the other nations with Southeast and East Asia. The region has received relatively large amounts of external public health assistance for specific disease threats, as well as emergency and humanitarian aid in response to the 2004 tsunami, the 2005 South Asian earthquake, the ongoing conflict in Afghanistan, and numerous floods, cyclones, and other natural disasters in Bangladesh.

PROVIDING BASIC SERVICES—THE CONSEQUENCES OF FAILURE

The failure of states to confront endemic disease burdens and health crises effectively does not represent a new phenomenon. Such failures can result from absolute lack of capacity due to insufficient resources or technical capabilities, or from poor public health governance stemming from causes that range from mismanagement to corruption. However, globalization and increasingly broad access to information have changed the popular perception of state obligations to provide public health and other basic services. Put simply, populations appear far more sensitive to state failures to address social problems such as serious public health challenges and more motivated to migrate to areas where public health and other basic services appear adequate. Inadequate state reactions to public health demands fall into predictable patterns that cross all three regions:

- *Official unawareness of health threats.* Governments around the world (even those with adequate resources) tend to neglect health issues such as HIV/AIDS as long as the problem remains confined to marginalized populations and the direct costs of confronting the problem in the short term exceed political palatability. Thailand's early denial of its growing HIV/AIDS problem until the increasingly obvious epidemic threatened tourism and economic growth exemplifies a resource-saving mechanism not limited to the developing world. Characterization of both endemic and epidemic disease threats requires appropriate disease surveillance systems, which can be technically difficult to achieve even when costs present no barrier. Failure to collect data on disease prevalence can absolve governments—at least temporarily—of acting on disease threats until they become enormous in scope or cross borders. However, this failure also leaves governments open

to charges of lack of transparency and accountability once threats become obvious, as in the case of SARS in China. In developing nations, failure to detect health threats may result from a simple lack of state capacity rather than deliberate policy actions. For example, the inability to detect H5N1 avian influenza outbreaks in poultry in Cambodia, Laos, and rural areas of Indonesia before they spill over borders or into urban areas can be seen as the inevitable result of weak public health infrastructure. When disclosure will most likely lead to economic damage (such as bans of livestock imports), or in the absence of practical solutions to specific public health challenges (such as a comprehensive strategy and sufficient resources to compensate backyard-poultry owners for the loss of their flocks to preemptive disease control culling measures), governments have little incentive, aside from external pressures, to invest in disease surveillance infrastructure.

- *Urbanization of public health.* Governments in all three regions have pursued a strategy of consolidating basic services, including public health infrastructure, in urban areas to promote cost-effectiveness through economies of scale. This strategy can mitigate concerns about uneven public health program implementation in the immediate wake of decentralization of services (a common phenomenon throughout all three regions) to provincial or local governments. However, this strategy can perpetuate rural-to-urban migration stresses, intensifying social and economic dislocation of migrant populations that are frequently already poor and marginalized. Resulting urban growth can exceed economic viability, inflate joblessness, and exacerbate already difficult public health challenges in densely populated urban areas. Slums, where all the problems of poverty (e.g., poor access to safe water and food, high incidence of infectious diseases, and increased accidents and violence) are magnified, feature prominently in the metropolises of all three regions.
- *Reluctance to encourage individual risk management.* Successful disease prevention campaigns rely, at least in part, on education that empowers individuals to diminish their own health risks (e.g., by eliminating tobacco use, treating water to remove pathogens and impurities, using effective insect control techniques, and deliberately spacing childbirths). Authoritarian regimes, as well as politically or ideologically motivated nonstate actors determined to supply basic services when states fail in their obligations, may deliberately refrain from promoting public health measures that encourage self-determination, literacy, and increasing demands on government services. This averts the conflation of individual health awareness with issues of civil rights, freedom, and citizenship, especially for marginalized populations. Cultural factors, such as serenity or fatalism, may also play a role by diminishing public curiosity about emerging and existing public health issues.
- *Deliberate government ceding of the provision of basic services.* In all three regions, but particularly in South Asia and the Middle East, governments have increasingly abdicated the provision of basic goods and services, including education and public health, to nonstate actors. With the exception

of Sri Lanka, South Asian states tend to regard public health systems and safe water as services rather than basic rights, a paradigm reinforced by international institutions that frame public health as a commodity to be managed and distributed. Such policies ostensibly encourage more economically efficient provision of services by the private sector. Although the private sectors in less developed nations of both regions may be willing to exploit the commercial opportunities freely, they lack the capacity to deliver goods and services at necessary levels. Increasing government reliance on uneven private sector providers frequently exaggerates two-tiered health systems, in which the costs of curative care necessitated by inadequate preventive health services disproportionately burden poor and migrant populations. Both India and Thailand also manifest a variant of withdrawal from public services with the promotion of “medical tourism,” or the commercial provision of highly skilled medical care aimed almost exclusively at foreign consumers (including Gulf state residents). While these industries do not directly subvert health services intended as public goods, they do divert the limited resource of health expertise from the public sector into profitable private sector care that the majority of citizens cannot afford, effectively creating internal brain drain. Saudi Arabia intends to concentrate medical services for tourists in deliberately centralized entrepreneurial centers through its planned “economic cities” project.

Obviously, states in all three regions face complex health security challenges. Real or perceived failures in meeting health security needs can stem from lack of state capacity to provide necessary services, governance failures that impede effective delivery of services, or policies deliberately designed to evade costly measures that could spare relatively unvalued human lives. When state capacity (or will) to deliver basic public health services decreases as public awareness increases, concerns about governance can create serious tensions between the state and civil society. In the worst case, these deficiencies can exacerbate conditions in densely populated cities filled with displaced persons (whether internal migrants or immigrants) who perceive that they have been neglected or even abandoned by the government, and who are open to any promises of effective alternative leadership. History has demonstrated that these circumstances can foster instability and outbreaks of political violence, as during the cholera riots that once rocked Europe and Asia.

Disaster and Health Crisis Preparedness and Response

Public sensitivity to state failures also extends to concerns about disaster preparedness, mitigation, and response. In the past five years, South and Southeast Asian nations have experienced disasters ranging from the tsunami catastrophe and major earthquakes to smaller (but still deadly) incidents involving floods, landslides, industrial accidents, urban fires, and even the annual haze that drifts from controlled burns in Indonesia to blanket Malaysia, Singapore, and Thailand. These

incidents reveal weaknesses in state planning, response, and regulatory capabilities, usually rapidly and dramatically, providing citizens with direct evidence of governance failures at the community level.

Although disasters tend to motivate generous humanitarian responses from the international community, their impacts frequently persist long after donor commitments and the goodwill these commitments engendered among local recipients (the halo effect) have been exhausted. For example, many already marginalized people, including ethnic/religious minorities, displaced by the tsunami in areas of Thailand, Indonesia, and Sri Lanka remain dislocated years later due to the disproportionate loss of primary caregivers and essentially insurmountable legal and pragmatic barriers to restoring former livelihoods. As a result, community composition, demands on public services and resources, and productivity levels may have changed permanently throughout the regions. In Bangladesh, the confluence of geography and weather patterns exaggerated by climate change practically guarantees that natural disasters will occur with increasing frequency. In the absence of strengthened state capacity for managing the health and social aspects of disasters, and without national and regional approaches for accommodating the small but permanent changes in land habitability, social structure, and economic prospects likely to follow, each crisis is likely to ripple through the region in the form of refugees seeking jobs and basic public services. Refugee movements can only exacerbate existing tensions in India and other neighboring nations over irregular migration from Bangladesh, already framed as a national security problem, in an example of low politics becoming high politics.

Political elites and an increasingly informed public in the more developed economies of all three regions have begun to demand government accountability for the management of public health crises, particularly those perceived as the predictable results of human behavior or environmental damage. In response, the governments of Singapore and Thailand have developed comprehensive all-hazards disaster preparedness strategies calculated to earn political capital as well as protect economic interests during emergencies. Far more concerted efforts and coordination will be needed to expand these plans into a network capable of promoting true regional resiliency, and South Asia and the Middle East lag in embracing resiliency concepts. In this age of globalization and interdependent economies, a lack of regional planning for the public health consequences of disasters may threaten global economic security.

FILLING THE GAPS: OUTSIDE ORGANIZATIONS AND EXTERNAL AGENDAS

State failures to provide basic public health services—whether the result of lack of capacity, governance deficiencies, or deliberate policy decisions—create opportunities for outside organizations to secure influence by filling previously unmet needs. Organizations that supplement or supplant state delivery of public health

services include other governments, local or international civil society (including politically or ideologically motivated organizations), and multilateral institutions. In the short term, nonstate actors can compensate for a lack of public health systems, alleviating suffering and averting potential health crises. In the long run, these actions can absolve governments of the obligation to provide services by obscuring governance failures and create self-perpetuating funding cycles that channel resources into NGOs or the private sector, resulting in permanent loss of state capacity.

Lebanon provides one example of how governance failures and lack of state capacity to supply basic public health services can result in an increasing receptiveness among disaffected populations to any organization capable of delivering critical services, even if that organization is motivated primarily by political or ideological goals. During the 2006 military conflict in Lebanon, governments and multinational and nongovernmental organizations pledged humanitarian aid, including public health services to support overtaxed local health systems. Most of these efforts were transient by design. In contrast, Hezbollah secures popular support and political advantage by supplementing public health services on an ongoing basis, while subverting opportunities for individual empowerment by encouraging behavior modification in the name of religion rather than education about personal risks. Examples of politically or ideologically motivated groups that have gained popular influence by organizing and providing basic public services no longer offered by the state can be found in all three regions.

Inescapably, donor governments or organizations set policy priorities that reflect their own agendas. These can affect national and regional efforts to build public health infrastructure and health systems both positively and negatively. International pressures can establish norms that promote improved public health services or strengthen civil society (e.g., encouraging accurate risk perceptions and humane treatment of HIV-infected individuals). In all three regions, NGOs provide direct assistance with noncontroversial public health challenges that nonetheless occupy tricky political spaces, such as containing and treating cross-border disease outbreaks in refugee, migrant, or stateless populations. Hands-on technical assistance can accomplish the transfer of desirable skills to local partners. In some nations, NGOs that provided community public health services during the transition to full or partial democracies helped pave the way for the further development of civil society. However, funding offered by NGOs, multilateral organizations, and partner governments can also skew local policy priorities to meet donor expectations, resulting in programs whose benefits cannot be sustained without a continued influx of outside funding. On a purely pragmatic level, donors often sponsor parallel programs in response to the same health threat, such as HIV/AIDS, presenting recipient nations with a poorly harmonized array of policy and administrative requirements that further strain scarce human resources. International NGOs are rarely locally accountable, enhancing concerns about transparency and fund raising “on the backs of the poor.”

Public health programs supported by bilateral agreements or multinational organizations also elicit criticism when local political elites and technical experts believe that they address the donor's political agenda rather than local priorities and needs. Reservations about the sustainability of such programs range from polite dismissal of their effectiveness to frank resentment about dedicating already scarce state resources to seeking and maintaining donor approbation at the cost of other urgent needs. The jarringly jubilant editorial responses to recently re-evaluated HIV/AIDS prevalence data from India illuminated the resentments engendered by externally driven public health campaigns. A 2007 study of HIV/AIDS in India's general population halved the estimated HIV burden in India, revising previous extrapolations based on studies in "sentinel" public clinics.¹⁸ Even though the new data still suggest that India may have 2.5 million HIV-infected adults, Indian government officials and policy elites seized upon the downward revisions as an opportunity to refute previous criticisms from WHO, UNAIDS, and other international organizations about India's reluctance to take prompt actions to avert a domestic HIV/AIDS epidemic.

In South and Southeast Asia, concerns about the supply and cost of pharmaceutical products and health technologies—both the transfer of materials, knowledge, and ideas applicable to innovation out of the region and the intellectual property and costly trade protections imposed by developed economies—have become issues with an increasingly prominent public profile accompanied by politically popular resentment. In 2007, the government of Indonesia elected to withhold viral isolates from suspected human cases of H5N1 avian influenza rather than share the specimens with WHO for confirmatory testing and genetic analysis. Indonesian officials, with the support of their Thai counterparts, argued that the isolates would be used by Western pharmaceutical companies to manufacture vaccines or develop treatments solely for the profitable US and European markets, with no direct benefits to Indonesia or other vulnerable Southeast Asian populations presumed to be at the epicenter of a potential pandemic. Although WHO convened a meeting to forge acceptable alternatives, including a commitment to share any hypothetical therapies with developing nations in Southeast Asia during an actual pandemic, the standoff continued for months. Potential consequences go beyond just slowing pharmaceutical or vaccine development; in the absence of genetic analysis performed at one of WHO's influenza collaborating centers, neither Indonesian nor foreign experts can track the evolution of genetic markers associated with increased virulence or drug resistance of H5N1 influenza, which may be critical in forestalling or at least foretelling a pandemic.

An internationally acceptable standard of fairness in acknowledging ownership of materials, knowledge, and ideas applicable to innovations that benefit humankind might prevent such concerns from becoming a permanent feature of global health security negotiations. The current intellectual property framework does not favor nations that collect and share clinical specimens with research partners in developed nations. With the exception of Singapore and India, few nations in the three

regions have developed adequate technical capacity to conduct such research locally. With increasing pressures on all nations to collaborate transparently in global disease surveillance and response, questions of how to share specimens and knowledge as a global public good, while developing local technological capacity appropriately, will need to be addressed.

MECHANISMS FOR REGIONAL COOPERATION

As described above, each region has pursued varying effective strategies for coordinating cross-border responses to endemic and epidemic disease challenges. For obvious reasons, already unfolding disasters and epidemics motivate supranational cooperation more effectively than planning exercises or endemic diseases, even when these endemic diseases present more than a theoretical risk of spread through highly mobile or displaced populations. In all three regions, shared public health efforts have grown largely out of existing mechanisms for regional cooperation and coordination, rather than being developed *de novo*.

In South Asia and the Middle East, efforts at regional health coordination have been limited by the paucity of effective and broadly inclusive regional organizations. The South Asian Association for Regional Cooperation (SAARC) includes health and population activities in its Social Agenda, but the organization has been hampered by interregional hostilities and the exclusion of civil society and technical expertise from its decision-making processes. While the Middle East boasts a number of regional and subregional organizations, most cooperation on health issues has occurred on an ad hoc basis, impelled by specific crises. The Gulf Cooperation Council (GCC) recently agreed to support a Saudi-led plan to achieve malaria eradication in Yemen and announced plans to develop a pandemic influenza strategy. Although GCC's commitment to security issues bodes well for implementing an effective supranational strategy for sharing health security information, the effort would necessarily be limited to the six member states; Egypt (the only nation in the region with endemic H5N1 avian influenza) is not a GCC member. Outside of the GCC, political pressures within and among Middle Eastern regimes limit transparent health data sharing. The Arab League initiated some pandemic preparedness meetings and funding plans following avian influenza outbreaks in Egypt but catalyzed little obvious regional action. Similarly, the Organization of the Islamic Conference (OIC) has a health mandate but has made little apparent progress on disease surveillance and response activities.

In contrast, several regional cooperation mechanisms in Southeast Asia have been pressed into service to coordinate disease detection and response efforts. In the wake of the SARS outbreak, the member states of the Association of Southeast Asian Nations (ASEAN) issued a series of health-related agreements, dedicated an annual meeting to health themes, and developed a technical working group to strengthen regional capacity for coordinated outbreak responses. Actions included

assigning responsibilities for overseeing specific technical tasks, such as strengthening regional laboratory capacity, to particular member states. Because WHO divides the Southeast Asian states between two regional offices, the governments involved deliberately selected ASEAN over WHO as the organizational mechanism for information sharing. The pan-Asian East Asia Summit (EAS) also adopted an avian influenza prevention strategy. Under the aegis of the larger Asia-Pacific Economic Cooperation (APEC), a standing Health Working Group addresses endemic diseases as well as preparedness for emerging infectious diseases. Subregional organizations include the small Mekong Basin Disease Surveillance project (Cambodia, Laos, Myanmar, Thailand, Vietnam, and the Yunnan Province of China), an organization founded with support from NGOs to address HIV/AIDS and other emerging health concerns; the Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS), covering Cambodia, Laos, Thailand, Myanmar, and Vietnam, has pledged mutual support for avian influenza preparedness. The challenge for achieving regional coordination on disease issues through these organizations is twofold: First, these potentially redundant cooperation mechanisms themselves require coordination. Second, most of these organizations were founded to promote economic cooperation and market integration, not to coordinate disease detection and response. Some technical efforts have met with false starts, and others elicited resentments about the disproportionate burden on and influence of more technologically advanced states. Maintaining momentum and making the initiatives work effectively remain daunting tasks.

Public-private partnerships and other nonstate actors play a role in regional coordination of public health efforts, most obviously by directing funding into specific programs or through WHO initiatives. However, nonstate actors can also catalyze cooperation at the local and regional levels through matching services to population needs. As an example, the Thailand Business Coalition on AIDS (TBCA) offers a program to create a quality standard similar to ISO (International Organization for Standardization) for good management practices to deal with HIV-infected employees. At the beginning of the HIV/AIDS epidemic in Thailand, even large multinational businesses found few resources for context-sensitive approaches to the disease's increasingly obvious impact on human resources. Throughout Southeast Asia, the extremely uneven patchwork of worker protection laws allowed, or even encouraged, employers to dismiss migrant and local employees with HIV or other medical conditions. The AIDS-response Standard Organization (ASO), developed through collaboration between the nonprofit coalition and the Thai government, entices commercial enterprises to participate by providing them with guidance on practices that increase efficiency and improve business outcomes, while simultaneously increasing human security for HIV-infected individuals. This approach has already expanded beyond Thailand and offers one avenue for promoting the concept of human security, protecting the development of social capital, and creating awareness of the nexus between labor, migration, and health.

FROM “THE HIGHEST ATTAINABLE LEVELS OF HEALTH” TO “INTERNATIONAL HEALTH SECURITY”

In 2007, revised International Health Regulations entered into force, expanding WHO’s authority to detect, report, and respond to transnational health threats.¹⁹ This framework dramatically expands global data sharing and cooperation, requiring nations to strengthen core capacities for detecting health threats such as disease outbreaks at the local level, determine whether the incidents constitute potential “public health emergencies of international concern,” and, if so, report them to WHO in a timely way. If experts judge that these crises pose authentic threats, WHO will notify all necessary stakeholders and coordinate any international assistance. Compliance currently depends on “shaming” nations that fail to disclose health catastrophes.²⁰ No funding has been made available to assist nations with capacity building; the cost of full implementation is unclear. These regulations reflect a renewed commitment by developed nations to international public health cooperation as a tool for protecting national interests, fueled by concerns that China’s lack of transparency during the 2003 SARS epidemic prevented interventions that might have limited the epidemic.

Increasingly, the language employed by WHO and its partner organizations mirrors the securitization of health issues by the United States and the G8 nations, driven by fears of bioterrorism before the more recent focus on pandemic planning. In all three regions, this shift has affected local perceptions of disease and disaster, allowing avian influenza and other outbreaks to be framed as security concerns instead of humanitarian concerns. Based on levels of supranational engagement, the concept has gained the most traction in Southeast Asia, where the 1997 economic crisis and environmental concerns fostered a more general spirit of cooperation on nontraditional security issues and receptiveness to a human security framework. Public health experts in the region have characterized the securitization of disease as an opportunity to normalize the concept that security and development are “two sides of the same coin,” and that nations are not secure if their citizens are not healthy. The security focus allows mobilization of resources and political will at levels necessary to effect real change but carries the possibility of backlash from stakeholders in the security and public health communities. This could be a particular problem if funding targeted at developing disease surveillance capacities throughout Asia results in redundant networks poorly integrated into national health systems. A possible compromise to unite the two paradigms is the promotion of a broader application of the responsibility to protect doctrine: the concept that sovereign states and the international community are responsible for protecting vulnerable populations from foreseeable catastrophic health threats as well as crimes against humanity.

Although the new international health security framework describes the need for all states to build public health infrastructure in the name of mutual protection, the scope of the demands may also be perceived as an enormous obligation for devel-

oping nations assumed primarily for the benefit of wealthy states. While the international community shows little hesitation in mobilizing massive amounts of humanitarian aid in the wake of health catastrophes, assistance in preparedness remains limited primarily to transient bilateral agreements. Integration of global health security into the broader paradigm of reciprocal responsibility could conceivably include the following concepts:

- All nations have an obligation to share health information and specimens with the international community, and no nation can fairly withhold either for reasons of national sovereignty or economic security.
- The international community must ensure that all available cost-effective and feasible interventions are supplied to states that share information and specimens, and provide support to build necessary public health infrastructure for those nations that lack sufficient internal resources.
- The International Health Regulations alone are not sufficient to provide global health security, even if implemented exactly as currently written. Further assessments will be required to determine what infrastructure will be realistically needed to monitor, detect, and respond to threats effectively on a global basis, and to establish the right balance of incentives and sanctions for reporting.

Although the timing of a future pandemic cannot be predicted accurately, expert consensus suggests that the global disease surveillance and response infrastructure is being built on borrowed time. The international community could play a much larger role in strengthening regional frameworks for health security by creating and sharing planning instruments to set local, national, and regional health security priorities. All three regions could benefit immensely from strategic planning tools to rank transnational challenges based on the potential of specific health threats to cause significant problems, the feasibility of control, and the potential for national cooperation. In conjunction, resource-rich nations could provide the means to conduct health assessments for real needs, particularly along national borders, and build capacity that is context-sensitive, appropriately scaled, and cost-effective. Even nations that can cope with limited health crises might require international assistance to scale programs up to national and regional levels and to manage market issues, such as supply/cost obstacles to securing public health interventions such as pharmaceuticals or vaccines. At the regional level, stakeholders must define the most appropriate actors and roles by comparing needs to existing programs and networks to identify areas of competency and potential linkages. Finally, global cooperation is required to reduce the international transfer of risk—the export of environmental hazards and communicable diseases beyond national borders.

Only decades ago, the relatively slow travel of disease outbreaks allowed nations to protect their vital interests through quarantines, regulations that amounted to

trade protection, and basic public health services at home. Decreasing public tolerance in the developed world for disabilities and deaths on the scale that once unremarkably accompanied periodic epidemics now coincides with increasing interdependence of economic systems, rapid transit of people and goods, near-instantaneous communication, and profound changes in ecosystems at every level. The emerging infectious diseases now discovered almost annually can no longer be relied upon to remain safely in remote forests and farmlands. Health crises constitute a real threat to national security in an era of globalization; effective pre-emption relies upon institutional strength and international cooperation. The intertwining of information, economic, and security systems across the world creates an interdependence of vulnerability among nations, within and between regions. In view of the profound inequalities in resources and capacities among nations, a commitment by resource-rich states to strengthening public health institutions in developing nations represents not just a humanitarian dream, but an investment in mutual defense.

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