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Enter the Dragon and the Elephant

China's and India's Participation in Global Health Governance

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Acronyms

AIDS	acquired immune deficiency syndrome
API	active pharmaceutical ingredient
ARV	antiretroviral
ASEAN	Association of Southeast Asian Nations
BRICS	Brazil, Russia, India, China, and South Africa
BWC	Biological Weapons Convention
CCP	Chinese Communist Party
CMT	Chinese medical team
DAH	development assistance for health
FCTC	Framework Convention on Tobacco Control
FDC	fixed-dose combination
GDP	gross domestic product
GHG	global health governance
GNI	gross national income
HIV	human immunodeficiency virus
IGWG	intergovernmental working group
IHR	International Health Regulations
IP	intellectual property
LMIC	low- and middle-income countries
MCI	Indian Ministry of Commerce and Industry
MEA	Indian Ministry of External Affairs
MFA	Chinese Ministry of Foreign Affairs
MOFCOM	Chinese Ministry of Commerce
MOH	Chinese Ministry of Health
MOHFW	Indian Ministry of Health and Family Welfare
NCD	noncommunicable disease
NGO	nongovernmental organizations
OECD	Organization for Economic Cooperation and Development
PHC	primary health care
PIP	Pandemic Influenza Preparedness
RSBY	Rashtriya Swasthya Bima Yojana
SARS	severe acute respiratory syndrome
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UN	United Nations
USAID	U.S. Agency for International Development
WHA	World Health Assembly
WHO	World Health Organization
WTO	World Trade Organization
UHC	universal health coverage

Introduction

Profound changes over the past three decades have shaped the landscape of global health governance (GHG)—the use of formal and informal institutions, rules, and processes to address health policy and outcomes worldwide.¹ New global health problems include infectious diseases, noncommunicable diseases (NCDs), bioterrorism and dual-use research, health-system strengthening, and critical social determinants of health, such as food security. These health threats have led to the emergence of new actors, processes, and institutions seeking to mitigate their effects. Among the new actors, India and China have significant unrealized potential in redefining the global health landscape through participation in global health-norms setting and capacity building at the global and regional levels.

Although progress has been made in disease prevention and control, as well as in health-system strengthening, more still needs to be done to continue the fight against HIV/AIDS, manage biosecurity issues and acute pandemics, and ensure effective and sustainable global health financing. Financing is a particular worry during times of austerity. As major donors slash or fall short of their financial commitments to global health efforts, the U.S. government and the Bill & Melinda Gates Foundation are the primary financiers, highlighting the need for new global health resources and a greater sense of shared responsibility.²

The rising health challenges and the unsustainability of the existing global health financing model underscore the potential role of newly emerging economies whose share of the global gross domestic product (GDP) rose from 17 percent in the 1960s to nearly 40 percent today.³ Much of this growth belongs to Brazil, Russia, India, China, and South Africa (BRICS), which account for 20 percent of global GDP and 75 percent of foreign exchange reserves worldwide.⁴ Indeed, the rebalancing of wealth across the globe has led to a growing expectation that these ascendant powers should utilize their increased influence to address global governance challenges.⁵ To this end, the traditional donor-recipient relationship inherent in the United Nations (UN) Millennium Development Goals has been transformed. Today, major recipients of development assistance (e.g., China and India) have expanded their aid to poor countries. Since these donor-recipients are not members of the Organization for Economic Cooperation and Development's (OECD) Development Assistance Committee, they are not obliged to obey the rules and norms set by traditional donors. Already, the growing cooperation among the emerging powers, and between them and poorer countries, has rekindled an interest in the so-called South-South partnership over health issues.

Among the emerging powers, China and India have long been critical to successfully addressing global health problems. Historically, infectious diseases that originated in either country have altered epidemiological patterns worldwide. The first known pandemic of cholera began in the Ganges River delta, and many major disease outbreaks, including the 1957 Asian flu, the 1968 Hong Kong flu, and the 2003 SARS epidemic, originated in China. The negative effects of health crises are unlikely to remain within national boundaries and could have serious implications for regional and global stability, security, and prosperity. This paper examines China's and India's involvement in GHG in three core areas: health-related development assistance, the development of global health rules, and the

promulgation of ideas for GHG. While both countries have been increasingly active in participating in GHG, they are not yet in a position to offer a viable, sustainable alternative to the existing governance paradigm.

DEVELOPMENT ASSISTANCE FOR HEALTH

Donor Status

Both China and India have a long history of providing development assistance for health (DAH). China's health aid can be traced back to the dispatch of medical teams to Algeria half a century ago. Chinese medical teams (CMTs) are an important component of its DAH program, and China has sent CMTs to seventy-three countries to date, including fifty-six CMTs to Africa alone.⁶ Following the 2003 SARS outbreak, Southeast Asia became another regional priority for Chinese health diplomacy. In 2004, China and the Association of Southeast Asian Nations (ASEAN) established the China-ASEAN Public Health Fund to finance health-related activities and projects, and roughly 70 percent of China's Global Fund allotment for antimalaria funding has been committed to the Sino-Myanmar border region.⁷ Rather than solely dispatching medical teams, China has diversified its aid by expanding its investment in health-related infrastructure and human resources. By the end of 2011, China had built one hundred fully stocked hospitals in fifty-two countries and also had held more than 400 training courses for 15,000 foreign health-care personnel.⁸

India also has dispensed significant resources, donating medicines, diagnostics, ambulances, and other supplies to recipient countries. Like China, much of India's DAH takes the form of health infrastructure development. India has helped construct or improve the hospitals and clinics of many of its immediate neighbors as well as countries further afield, namely in Africa. Such investments include establishing medical colleges and providing faculty support to help run these new institutions. India has also shown strong interest in leveraging areas in which it maintains a comparative advantage, such as information and communications technology. For example, hospitals and universities in Western Africa are networked together with counterparts in India to facilitate an information exchange of best practices through the Pan-African e-Network.

Growing economic strength in China and India has allowed each to expand its aid program. From 2007 to 2011, China committed \$757.1 million in health assistance to Africa, and since 2009, India has committed at least \$100 million to bilateral health projects in nearly twenty countries in Africa and South and Southeast Asia.⁹ Even so, the DAH from both countries is miniscule compared to health aid from traditional OECD donors. For example, Chinese health assistance to Africa from 2007 to 2011 was only 16 percent of the U.S. global health aid to sub-Saharan Africa in 2010 alone.¹⁰ Part of the reason for this discrepancy is that the emerging powers seek resources and foreign markets to support economic growth, leading to investments in infrastructure, agriculture, and manufacturing rather than investments in health.¹¹ For example, China recently announced that it would lend \$20 billion—double the amount pledged in 2009—to African governments during the next three years to be used primarily to support the development of these sectors. By contrast, OECD countries over the past several years have significantly increased their share of health-related development assistance in the total development assistance package. About 60 percent of U.S. aid in Africa goes to health-related programs alone.¹²

While both countries are major recipients of foreign aid, China and India are steadily moving away from net recipient status to net donor status. In 2003, India announced that it would continue to accept bilateral assistance from only five countries and the European Union. Between 1967 and 2010, net official development assistance received as a percentage of gross national income (GNI) in India dropped from 2.79 to 0.17, indicating that the shift to net donor status could arrive in a few years.¹³ Similarly, in 2010, China received only \$646 million, or approximately 0.01 percent of its GNI.¹⁴ In 2011, the Global Fund announced that China would no longer be eligible to apply for funding. As a result, the funding China received from international health programs dropped precipitously to approximately \$4 million. By the end of 2012, all bilateral programs aimed to support China's health sector ceased to exist.

Motives

A vital component of foreign policy, development assistance serves the national interests and humanitarian needs of donor countries. China and India are no exception. Until the 1980s, foreign aid policy in China sought to expand the state's political influence while promoting the self-determination of countries in the so-called Third World. This was the main reason that China first dispatched CMTs in 1963 to newly independent Algeria, where the war against France had resulted in a mass exodus of physicians, teachers, civil servants, and skilled workers. Deteriorating Sino-Soviet relations and sustained Sino-American confrontation provided additional impetus for China to break out of diplomatic isolation by courting the "intermediate zones," which included much of the developing world that separated the two superpowers. Until the 1970s, even as rapprochement between China and the West improved the former's security environment significantly, strategic diplomacy continued to be the primary motive for Chinese aid to the developing world.¹⁵ Beginning in the 1990s, China's rising economic power also generated strong interest in using foreign aid to expand its influence in global governance. For instance, in order to garner African support for the election of Margaret Chan, a Hong Kong Chinese, as the World Health Organization (WHO) director-general, Chinese leaders pledged to double development assistance to Africa in November 2006.¹⁶

Domestic politics played a secondary but nonetheless important role in driving China's development assistance agenda. The launch of the Cultural Revolution in 1966, in particular, radicalized China's foreign policy, encouraging the use of development assistance to "export revolution" to the Third World. Despite China's economic woes, the volume of foreign aid reached an all-time high in the 1970s. In 1973, China's foreign aid as a share of total fiscal spending was 6.9 percent, higher than that of United States and other developed countries.¹⁷ Yet it was not until the mid-1990s that China explicitly prioritized the economic side of foreign aid lending and encouraged the use of DAH to promote its own economic development. In the words of a senior Ministry of Health (MOH) official, health aid should "not only serve China's foreign policy, but also act as a broker for economic development in China and recipient countries."¹⁸ In the twenty-first century, DAH has become an instrument to encourage Chinese companies to break into the international marketplace. Development assistance serves domestic economic interests by requiring recipient countries to source procurement from Chinese firms. For instance, all CMTs in Africa are required to use an antimalarial drug produced by a Beijing-based pharmaceutical firm.

Compared to its northern neighbor, India had been consistent in using development assistance as an expression of soft power centered on South-South solidarity.¹⁹ This is especially true of its rela-

tionship with small neighboring states like Nepal and Bhutan. It was not until the early 1990s that India started to show a greater willingness to use foreign aid to advance core national interests. Anxiety over Afghanistan's relationship with Pakistan was a critical factor in leading India to become a major supporter of reconstruction in Afghanistan, which has received most of India's health assistance since 2002.²⁰ More recently, India has ramped up development assistance to Africa in part to counterbalance China's influence in the region.

That said, domestic issues are increasingly affecting India's DAH. Similar to China, robust growth since the 1990s has generated strong incentives for India to shift toward a more economically driven assistance program aimed at securing energy resources and raw materials abroad for domestic production and enhancing market access for Indian companies and products. Indeed, despite its strategic motives in Afghanistan, India's motives in Africa are primarily driven by economic interests.²¹ Just as China promotes "tied aid," it is typical for India to use development assistance to benefit private companies and state-run enterprises by encouraging them to collaborate on foreign assistance projects and linking lines of credit to their goods and services. According to a senior Indian health official, India's ongoing contributions to foreign aid serve to advance domestic industries, such as pharmaceuticals.²²

A comparison of China's and India's motives in providing health aid to other countries reveals interesting differences. Regional foreign policy priorities in part account for divergent priorities in DAH. The need to assuage fears of its Asian neighbors and the growing strategic importance of Africa has led China to concentrate DAH in East and Southeast Asia and Africa. In contrast, India's DAH is directed primarily toward its proximate neighbors, namely Bhutan, Nepal, and Afghanistan. Only recently has Africa been part of India's development agenda, and that is largely for economic reasons. The domestic political economy is increasingly defining the scope of DAH in both countries, even while it has played a more significant role for China than India.

Domestic Health Challenges

Despite robust growth, both countries face significant domestic health and development challenges. Combined, they account for 33 percent of the global disease burden, measured by disability-adjusted life year. Both face acute problems in combating infectious disease. In 2011, India had the world's largest tuberculosis-infected population, with 1.21 million new cases, while China had 870,000 new cases.²³ India also is home to the third-largest number of individuals with HIV/AIDS, after South Africa and Nigeria.²⁴ In China, HIV prevalence remains low, but the epidemic is spreading rapidly among high-risk groups, such as sex workers and men who have sex with men, with the potential to move into the general population.

India and China also confront the looming threat of NCDs. Currently, NCDs account for 53 percent of all deaths in India and could rise to 67 percent in 2020.²⁵ The situation is even worse in China, where 85 percent of deaths are attributed to NCDs. Indeed, China recently surpassed India to become the diabetes capital of the world, and annual incidents of cancer in China have reached 2.6 million—1.8 million people die of cancer annually.²⁶ According to a WHO report, from 2005 to 2015, China is going to lose 0.93 percent of its GDP, and India 1.5 percent, as a result of heart disease, stroke, and diabetes.²⁷

Other public health challenges are notable. Tobacco use is currently the world's leading preventable cause of death, and China and India are two of the most affected countries; smoking kills approx-

imately 1.2 million people in China and 900,000 in India every year, 20 percent and 15 percent respectively of global smoking-related deaths²⁸ China is the world's largest tobacco producer and has the world's largest smoking population (350 million), while India is the second-largest tobacco producer and has the second-largest smoking population (195 million).²⁹ Poverty and malnutrition also present obstacles, particularly in India, where New Delhi's record is dismal. In a recent speech, Prime Minister Manmohan Singh called India's 42 percent malnourishment rate "a national shame," saying India could not hope for a healthy future with such a high percentage of underweight children.³⁰ Public hygiene standards remain low in the country as well; it is estimated that Indian households account for 59 percent of people worldwide who practice open defecation.³¹

These challenges highlight a fundamental lack of capacity in both countries to provide adequate care for their populations and control potential disease outbreaks. According to WHO, 48 percent of health spending in China is out-of-pocket payment; in India this figure is nearly 70 percent.³² Poor capacity in turn reduces the incentives to earmark significantly more resources to tackle health challenges in other, poorer states. Despite growing pressures to become full global health donors, China and India continue to focus attention on their domestic development challenges. China argues that it remains a developing country with a low GDP per capita and uneven development, and as indicated by a senior Chinese official, the government interprets these challenges in a broader global context: "in order for China to shoulder more global health responsibilities, the most important thing is to take care of its own business; taking care of China's health care is itself the biggest contribution to world health."³³ India also attaches greater importance in addressing its domestic health challenges than assisting other developing countries. In a recent interview, a leading Indian scholar believed that India was a "transitional" power and considered domestic issues "paramount."³⁴

Interagency Coordination

Unlike the United States and many other OECD countries, both China and India have inadequate institutional capacities in development assistance. China does not have foreign aid laws; its existing foreign aid policies are based on ad hoc central ministerial documents and regulations, which are not subject to approval by the legislative branch. China also does not have a specialized development assistance agency analogous to the U.S. Agency for International Development (USAID) to coordinate development assistance and aggregate requisite data. Instead, four central institutions are considered crucial for China's DAH: the Ministry of Commerce (MOFCOM), the Ministry of Foreign Affairs (MFA), the MOH, and the International Liaison Office of the Chinese Communist Party (CCP) Central Committee. MOFCOM is the lead agency for DAH, while MOH only takes on a lobbying function inside the foreign aid policy structure. MOFCOM, however, does not specialize in health aid, nor does it have sufficient authority to coordinate DAH-related policymaking. As a Chinese scholar noted, MOFCOM is only a "designated central processing unit" for statistics about foreign aid; it is not the designated central processing unit for policy.³⁵ To add to the confusion, Chinese embassies and consulates are in charge of the frontline coordination of foreign aid programs in host countries. Unlike in Western countries, China does not yet have a nongovernmental constituency dedicated to international development assistance. Chinese citizens and nongovernmental organizations (NGOs) began to participate in humanitarian aid in the mid-1980s but have played a limited role in providing health aid to other countries.

Similar to China, India lacks foreign aid laws or a clearly defined, unified approach to development assistance. Because of the DAH's role as an instrument of Indian foreign policy, India's aid program falls under the purview of the Ministry of External Affairs (MEA) rather than the Ministry of Commerce and Industry (MCI) or the Ministry of Health and Family Welfare (MOHFW). In implementing DAH projects, however, the MEA works with the Ministry of Finance (MOF) on budgeting, with involvement from the MCI, the prime minister's office, the Export-Import Bank, and Indian embassies and consulates in the recipient countries. Unlike its counterpart in China, MOHFW plays virtually no role in decision-making regarding DAH, and India's DAH process is "principally driven by agencies that have limited knowledge of development or health issues."³⁶ Civil society groups play a role in aid delivery, especially in HIV/AIDS prevention, but their presence in DAH-related policy-making remains negligible.

The absence of foreign aid laws or specialized agencies in charge of development assistance produces inefficiencies, especially as China and India expand their involvement in international development assistance. To alleviate this problem, each country has established loose interagency coordination mechanisms. In 2008, three central ministries of China (MOFCOM, MFA, and MOF) established the foreign aid interagency liaison mechanism, later upgraded to include thirty-three agencies. China is reportedly in the process of establishing a central agency to oversee its development assistance activities. Similarly, in January 2012, India created the Development Partnership Administration (a division in MEA), a centralized bureaucracy designed to coordinate foreign aid activities and oversee \$15 billion of aid money over the next five years.³⁷

DEVELOPING INSTITUTIONS FOR GLOBAL DISEASE PREVENTION AND CONTROL

Over the past decade China and India have not only increased their health-related development assistance, but have also become increasingly involved in the development of institutional instruments for global disease prevention and control.

Priorities for Global Disease Prevention and Control

The 2003 SARS debacle highlighted China's position as a weak link in global health governance. As a result, China has become increasingly involved in international cooperation on global infectious disease prevention and control. This change is reflected in its growing participation in multilateral arrangements at the global, regional, and subregional levels. At the global level, China hosted the International Pledging Conference on Avian and Human Influenza in January 2006 and worked with WHO and the *Lancet*, a British medical journal, to host the International Scientific Symposium on Influenza A (H1N1) Pandemic Response and Preparedness during the 2009 outbreak. At the regional level, China proposed a series of important initiatives on the control of avian flu and the management of public health emergencies through participation in the ASEAN+3 Summit, the East Asia Summit, and the Asia Europe Meeting. Lastly, China has worked with the five other countries in the Greater Mekong Subregion (Cambodia, Laos, Myanmar, Thailand, and Vietnam) to institutionalize coordinated surveillance and responses to infectious disease.³⁸ In preventing and controlling global disease, China relies on WHO as a critical venue. It mobilized its diplomatic resources to campaign for the election of Chan as WHO director-general in 2006 and her reelection in 2012.

Unlike China, India has not shown strong interest in using WHO as a venue for global health agenda setting and rule making. Many in India have viewed and still view WHO as primarily an implementing agency and do not regard it as highly as the World Bank or Gates Foundation. Fearing the entry of infectious diseases from abroad, India too has helped its neighbors with disease control. Fears over an increase in polio cases in Pakistan led to the establishment of an exchange program through which Indian doctors visit Pakistan to help strengthen its polio eradication program. Yet, unlike China, India has yet to launch major initiatives on infectious disease prevention and control at the global or regional level. This may be due to the lack of a catalyst, as SARS had been for China. The last major infectious disease crisis in India dates back to the 1994 plague outbreak. Though the outbreak triggered the biggest migration since India's independence, no suspected cases were reported in any other country. While India has shown little initiative on the international stage with respect to infectious diseases, it has played a leadership role in promoting the need for urgent action against NCDs and their risk factors, especially mental health issues. India played a constructive role in negotiating the Framework Convention on Tobacco Control (FCTC), which entered into force in 2005. In May 2012, the sixty-fifth World Health Assembly (WHA) approved a resolution sponsored by India to develop a common action plan addressing mental health.

Setting Global Health Norms

Global health norms, rules, and standards are the principal institutions underpinning global health governance. The growing health-related interaction between Asia and other regions underscores the salience of increased involvement of the two Asian giants in the promulgation of global norms.

However, a closer look at each country's record of participation in major international health negotiations suggests that both prefer to approach rule-making in a selective, state-centric manner. For example, while revising the International Health Regulations (IHR), a binding international legal instrument addressing public health risks of international concern, neither country submitted comments on the draft IHR text to WHO regional offices, and prior to the Intergovernmental Working Group (IGWG) meeting, neither sought input from NGOs in developing policy positions.³⁹ They also refrained from forming partnerships with other states or working in regional forums (e.g., ASEAN, the Asia-Pacific Economic Cooperation) to coordinate their positions.

Still, both countries have shown a willingness to work with other global health actors in setting rules and norms. Despite resistance from some of its delegates associated with the tobacco industry, China was considered the least vigorous opponent among the "big four" (China, Japan, Germany, and the United States). Perhaps more significant, China has been involved directly in revising the IHR, one of the most sweeping developments to international cooperation on public health emergencies since the mid-nineteenth century. While few would deny China's determination to defend state sovereignty as an inviolable principle, China has not allowed its position to impede revisions of the IHR. In fact, China acquiesced to the principle of "universal application" when the chair of the draft committee substituted "all people" with "all countries."⁴⁰

India was less proactive in participating in the IHR revision process. Between November 2004 and May 2005, it sent only three delegates to each of the three IGWG group meetings; by contrast, China sent between twelve and seventeen delegates.⁴¹ Nevertheless, India has played a constructive role in the development of other international institutions, most notably the FCTC, Agreements on Trade-

Related Aspects of Intellectual Property Rights (TRIPS) and Public Health, and Pandemic Influenza Preparedness (PIP) Framework. During the intersession periods of the Intergovernmental Negotiating Body for the FCTC, India chaired four regional consultations and forged consensus on a draft text of the FCTC.⁴² Later, members unanimously elected India to serve as regional coordinator of WHO South-East Asian countries in the negotiations. During this process, India played a sophisticated two-level game consisting of mutually reinforcing negotiations at the domestic and international levels. For example, the Indian cabinet approved strong provisions to regulate tobacco use, leading to the Indian Tobacco Control Act in 2003. In turn, this domestic event strengthened India's position at the FCTC negotiation table. India pushed for universal access to HIV/AIDS medicines, and led a group of countries, including Brazil, that lobbied for the protection of patent rights and public health rights in negotiating the 2003 decision on TRIPS and Public Health.

Despite differing preferences for international health rules and norms, China and India occasionally work together in global health rule-making. Both countries have participated actively in discussions to strengthen the Biological Weapons Convention, the first multilateral disarmament treaty banning an entire category of weapons. Their approach, however, is not always constructive. China and India teamed up with Cuba, Iran, Pakistan, and Russia to articulate a common opinion on the exceptional role of states and blocked references to the need for improving transparency. In later meetings, they pushed for a return to negotiations on a verification protocol, a process that ended with the 2001 review conference due to strong opposition from the United States.

Compliance with Global Health Rules

Both nations have a mixed record of compliance. China signed FCTC in 2003, pledging to ban smoking in workplaces and indoor public spaces by January 2011. However, the pledge went unfulfilled. Many experts believe that China's anti-tobacco policies are among the least effective in the world. Indeed, a 2011 report found that China's implementation of FCTC requirements was poor.⁴³ Although MOH banned smoking in indoor public spaces in March 2011, the ban has been largely ignored. The fundamental reason that China has failed to honor its international obligations is that the Chinese tobacco industry—a pillar of many provinces' economies—has interfered with the drafting and enforcement of tobacco control policies. It was reported that China National Tobacco Corporation even sponsored posters in elementary schools linking smoking to academic achievement.

India has a better record of compliance with FCTC. India enacted comprehensive tobacco control legislation before ratifying FCTC in 2004, and it launched the National Tobacco Control Program to fulfill FCTC obligations. The program raised taxes on chewable tobacco and banned the sale of tobacco products to minors. It also banned tobacco advertising and required mandatory visual health warnings to appear on all product packaging. Furthermore, India imposed a ban on smoking in public spaces, including indoor workplaces, and recently established a multi-stakeholder task force to coordinate tobacco control. Despite resistance from the domestic tobacco lobby, India is fully compliant with FCTC.⁴⁴

Contrary to its record on FCTC, China has done a better job of implementing the revised IHR. Perhaps driven by the threat of a flu pandemic, the government not only has amended its domestic laws and regulations, but also dramatically improved core surveillance and response capacities to tackle public health emergencies. By 2008, China already had built a multilevel disease surveillance and reporting system, enabling hospitals and health centers to directly report suspected outbreaks to

the Chinese Center for Disease Control and Prevention. China now boasts the largest infectious disease surveillance and reporting system in the world. The central government, having learned from the 2003 SARS outbreak, is today more responsive to transnational public health emergencies, and it has cooperated with the WHO and scientific community to strengthen early warning and surveillance activities of the Global Outbreak Alert and Response Network. Nevertheless, as seen in the 2008 hand, foot, and mouth disease outbreak, Chinese authorities still suffer from a lack of epidemiological, laboratory, and medical-care capacities. This reality is made worse by problems of cover-ups, misinformation, and general ineptitude at both the national and local levels, as demonstrated by government responses to the 2005 H5N1 outbreak and the 2009 H1N1 pandemic. In that pandemic, China possibly violated IHR by instituting trade and travel restrictions in defiance of WHO recommendations, namely against Mexican citizens and North American pork products, sending a signal to other countries that compliance with IHR and honest reporting practices would not be rewarded but punished instead. In this sense, China's overreaction toward the 2009 pandemic undermined trust among states, potentially exacerbating inherent barriers to cooperation in international disease prevention and control.

India also has actively implemented IHR requirements. In order to strengthen the core surveillance capacity required by IHR, India earmarked approximately \$80 million in 2005 to build infrastructure and human capacity.⁴⁵ The country has erected two biosafety level-three (BSL-3) laboratories and plans to network laboratories of different capacities. Information technology has also been used in order to facilitate rapid communication between districts and the capital for the transmission of surveillance data, videoconferencing, and distance learning. Despite such progress, India has a long way to go in building robust surveillance and response capacities. Widespread underreporting was observed in the 2012 dengue fever epidemic. Unlike China, one of the main challenges for India in complying with IHR is neither deliberate cover-ups nor overreaction to outbreaks, but rather the lack of substantial investment in public health infrastructure, undermining the ability to detect and contain infectious diseases. India's failure to construct an adequate dengue fever surveillance system, for example, contributed to a lack of awareness of the disease's spread, slow clean-up response, and inability to develop a vaccine.

Contributions to the Global Intellectual Property Regime

In 1994, states created the World Trade Organization (WTO) to establish the rules of global trade. Upon accession, members agree to adhere to the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), among other arrangements. A core agreement of the treaty, TRIPS set standards for intellectual property rights protection. India was one of the main parties to oppose TRIPS during the Uruguay Round (1986–94). For thirty-five years, India did not recognize international pharmaceutical patents, not wanting to hinder domestic firms from copying medicines and producing them cheaply. India's main concern rested with TRIPS Article 31, which places restrictions on compulsory licensing (i.e., forcing a pharmaceutical firm to license a patented drug to a generic producer) by requiring domestic production for every medicine a country may need. From India's standpoint, implementation of this rule would deprive countries with significant drug manufacturing capability (e.g., India and Brazil) from developing and exporting generic versions of patented drugs.

Restrictions on compulsory licensing and poor accessibility to life-saving medicines for HIV/AIDS patients eventually triggered trade disputes between developing and developed countries, leading to a debate over protecting patents versus saving lives. As the issues of compulsory licensing and parallel imports (i.e., imports of a non-counterfeit product without the permission of the patent holder) drew attention, WTO adopted the Doha Declaration in November 2001, affirming the right of member states to grant compulsory licenses. In response to the lack of manufacturing capacities in some member states, Article 6 of the document called for an expeditious solution to the problem, leading to further negotiations on compulsory licensing.

Developing states such as India, Brazil, and China had strong incentives to participate, not only because they were major suppliers of generic drugs but also since they were obliged to implement TRIPS by 2005. India was the fourth-largest producer of prescription drugs at the time, supplying 22 percent of the world's generics.⁴⁶ By the end of 2004, India finally had changed its pharmaceutical patent law to conform to the WTO agreement. Still, the law gave the Indian government significant leeway in deciding issues such as compulsory licensing. India also worked closely with Brazil and others to amend TRIPS to enable more flexible use of compulsory licensing. Its efforts led to the WTO decision on TRIPS and Public Health in August 2003. Considered the first "balancing act" of developing states in the TRIPS arena, the decision created a mechanism to allow WTO members to issue compulsory licenses to export generic versions of patented medicines to countries with insufficient or no manufacturing capacity in the pharmaceutical sector.

Indian manufacturers have made good use of these flexibilities to export generic drugs to the developing world. In 2001, for instance, India's second-largest pharmaceutical firm, Cipla, introduced a single generic pill containing all three substances required in AIDS treatment at one-fortieth the price of equivalent treatment in the United States. Today, India supplies 80 percent of all donor-funded HIV therapies in the developing world.⁴⁷ It is also the largest provider of cheap high-quality vaccines for developing countries. Moreover, Indian firms manufacture 60 to 80 percent of all vaccines procured by UN agencies.⁴⁸ In this way, India plays a critical role in driving down prices and improving access to vaccines and lifesaving drugs (e.g., antiretroviral, or ARV, treatments) for millions worldwide. Unlike government-administered health outreach in China, the private sector is the prime driver of production in India.

A latecomer to the trade remedies game, China formally joined WTO in December 2001. With over four thousand pharmaceutical factories, it is a world leader in producing active pharmaceutical ingredients (APIs) for first-line ARVs. It shares with India and other low- and middle-income countries (LMICs) an urgency to accommodate the developing world's interest in expanding access to lifesaving medicines. According to Chinese officials, China contributed to negotiations over TRIPS and Public Health by offering a number of proposals during the Doha Round. In particular, China worked closely with developing states to act as a single bloc, pressing the United States to better accommodate the interests of poorer countries.

Compared to their Indian counterparts, however, the Chinese pharmaceutical industry did not take full advantage of flexibilities provided by the WTO's intellectual property (IP) regimes. China is still mainly an exporter of chemical raw materials. Through February 2012, China accounted for more than 53 percent of India's total imports of APIs and intermediates.⁴⁹ Many Chinese manufacturers are not even familiar with the WHO prequalification for UN procurement programs. As such, China does not yet have any WHO-prequalified vaccines. Though Chinese scientists are working on treatments for malaria, tuberculosis, African sleeping sickness, and dengue fever, they have not trans-

lated that research capability into a competitive edge in the global drug market. Most Chinese pharmaceutical firms are not yet ready to produce medicines and vaccines for the developing world; when they achieve this capacity, it will likely be a game changer for global health.

Although India is at the forefront of promoting generic drugs as an alternative to expensive brand-name medicines, such activity is driven by profit seeking. In an interview conducted in Delhi in early 2012, one U.S. diplomat complained about the difficulty of getting Indian pharmaceutical firms to attend meetings on global health issues, indicating that India's private sector could become a hurdle for international cooperation as corporations are inclined to oppose technological transfers to other countries. At the same time, a vast number of Indians still have no access to essential medicines. Despite India's significant contribution to the global supply of affordable medicines, nearly half of the country's 2.39 million HIV-infected people do not have access to ARV treatment.

As NCDs increasingly threaten public health in China and India, access to affordable, effective medicine is paramount. In both countries, the most effective anticancer drugs are still monopolized by big pharmaceutical firms, and these patented drugs are prohibitively expensive. In March 2012, the Indian Patent Office issued its first-ever compulsory license for the anticancer drug sorafenib tosylate (Nexavar), authorizing Netco, a domestic generic drug maker, to produce a low-cost version of the drug. This move is expected to lead to a 97 percent decline in the price premium and encourage other generic producers to follow suit if patent holders failed to supply drugs in large quantities at affordable prices in India.⁵⁰

India's move raises questions about China's stance on the delicate balance between public health and IP rights. The factors that justify a potentially aggressive move by China on compulsory licensing seem to be overwhelming. China has been caught in a swelling HIV/AIDS epidemic and is now facing an unprecedented NCD crisis. Like India, China has one of the most robust pharmaceutical industries in the developing world, and it is capable of producing generic versions of most patented drugs sold within its borders. It also possesses growing economic and political influence associated with a huge market and rapid growth. Yet thus far China has not used the flexibility offered in the TRIPS regime to produce or import low-cost generic drugs to benefit its own population. Indeed, until 2004, China relied almost entirely on combinations of four generic drugs to combat HIV/AIDS domestically rather than import or produce the full range of ARVs available. That same year, MOH approved a request to import a fixed-dose combination (FDC) containing the WHO-recommended generic drug lamivudine (3TC) for use in AIDS treatment projects in China, but it denied a reauthorization of the importation the following year.⁵¹ Instead, MOH prefers negotiating quietly with big pharmaceutical companies for discounts, and only occasionally and implicitly raising the issue of compulsory licensing to create leverage at the bargaining table.

Several factors have contributed to China's non-use of IP flexibility. The first is the absence of social mobilization. As Harvard scholar Suerie Moon noted, mobilization of social forces in response to the new pharmaceutical-related IP regime did not emerge until after 2000.⁵² Until recently, not only has the number and size of health NGOs in China been small, but the vast majority of them are poorly funded and lack adequate project management capabilities. For this reason, NGOs have neither a strong public advocacy voice nor the ability to effectively petition the government.

The second, more important reason is the lack of strong government incentives to promote the use of flexibilities in the global IP regime. Unlike India, which did not grant any patents on drugs for thirty-five years (until 2005), China amended its domestic patent law in 1993, albeit under U.S. pressure, to begin granting patents on pharmaceuticals while also limiting the scope of compulsory li-

censing. Driven by incentives to join the WTO and attract foreign direct investment, China not only extended all patent coverage to twenty years, but also capitulated to U.S. demands on issues such as data exclusivity and patent linkage.⁵³ These concessions reinforced the monopoly of foreign pharmaceutical firms on the domestic market, even where patents did not exist or had expired. China also failed to adopt strict guidelines on patentability standards. Unlike India, China allows foreign firms to extend the life of extant patents by making minor changes to drugs on the eve of the patent's expiration. That explains why Chinese patients did not have access to the three-in-one FDCs ARV tablets widely used in treatment programs elsewhere.⁵⁴ Thus far, there have been no successful applications for compulsory licensing of any patented drugs in China. The government even denied a Chinese manufacturer's application for producing a generic version of Tamiflu during the 2009 H1N1 pandemic.

While China has recently amended its patent laws to facilitate the approval of compulsory licensing for generic medicines, strong incentives persist to lure foreign pharmaceutical investment, such as the recent slowdown in China's economic growth. In December 2011, China revised its rules so that foreign investment in the pharmaceutical industry is subject to less regulatory scrutiny, which is why it remains too early to predict whether China will act on compulsory licensing in the near future.

COMPETING VISIONS OF GLOBAL HEALTH GOVERNANCE

Ideational factors such as perceptions, ideas, values, and identities help shape states' preferences in the arena of global health.⁵⁵ The policies and programs driven by these factors have a direct bearing on GHG. For example, states may adopt multilateralist approaches because powerful norms designate such institutions as the most appropriate or legitimate means to regulate global public health.⁵⁶ China's and India's experience demonstrates an alternative model of engaging GHG, but this model fails to pose a viable challenge to the existing governance framework.

An Alternative Model of Development Assistance

When Chinese and Indian leaders launched their development assistance programs decades ago, they had a foreign aid model different from that of the Western powers in mind. In 1964, China unveiled eight foreign aid principles, which highlighted equality, political noninterference, and the interests of recipient countries. Similarly, India's development assistance policy upheld principles of nonalignment, moralism, and human dignity.⁵⁷ The underlying motives for providing foreign aid, however, were more pragmatic than altruistic. As then Chinese premier Zhou Enlai explained, "[we] provide aid to brother countries and newly independent countries to strengthen their state power, which in turn undermines the power of imperialism."⁵⁸ Likewise, India's development assistance was rooted in concerns over geopolitical stability when it first offered aid to its South Asian neighbors. Over time, the foreign aid policies of both countries deviated from their idealistic foundations and focused instead on promoting the national interest. China shifted its policy focus to strategic diplomacy in the 1970s (e.g., competing with Taiwan for diplomatic recognition), functional principles such as equality and reciprocity in the 1980s, and economic development starting in the mid-1990s. Similar dynamics took hold in India in the 1990s. As the country liberalized its economy, the moral foundations of foreign aid began to diminish: "economic and strategic priorities are trumping ideals and moral

discourses and India's overtures to Africa and Central Asia are a direct outcome of this shift," writes Guntupalli and Nachiappan.⁵⁹

Emphasizing national interests in foreign aid policy is not new, of course; both countries simply followed in the footsteps of Western donors, which frequently used aid to gain political leverage in recipient countries. China actually learned the model of tied aid from its own experience as a recipient in the 1970s and 1980s when Beijing bartered away its natural resources and commodities for development assistance.⁶⁰ But China's steadfast pursuit of narrow self-interest in aid policy began even as OECD countries' aid policies were increasingly driven by "enlightened self-interest," or broader humanitarian goals.⁶¹ China still insists on using tied aid to promote economic development, even though most Western states—the United States being a notable exception—have moved away from this approach.

Nevertheless, China's and India's DAH programs are different from those of many traditional donors. Their assistance programs are primarily "demand driven" or "request based." Instead of announcing DAH initiatives and then publishing formal requests for proposals, potential recipients approach the donor country for support. The pattern of investing in specific, country-based projects is also in sharp contrast to that of Western donors, which are used to making large programmatic investments with clear objectives and involving multiple projects (e.g., the United States' President's Emergency Plan for AIDS Relief). Additionally, China and India deliver DAH mainly on a bilateral basis rather than in collaboration with other countries or international organizations. For instance, China sponsored nineteen antimalarial projects in Africa between 1978 and 2008, but none of these programs coordinated their work with global antimalarial projects.⁶² In China, long-held skepticism toward multilateralism perpetuates this aid pattern. India, on the other hand, relies on bilateralism under the assumption that this approach allows for innovative programming and is concordant with India's demand-driven, horizontal philosophy.

These distinctive DAH models reflect a general rejection of existing Western approaches to development assistance. Neither China nor India looks favorably upon a donor-recipient paradigm in which the rich give handouts to the poor. Both prefer a new paradigm in development cooperation, driven by interests and not ideology, founded on shared accountability and leadership from recipient countries and characterized by innovative approaches based on recipients' own development experience. Despite their non-altruistic motives, these countries reject the Western model of attaching political strings to assistance projects. Both appear to have little interest in promoting good governance and human rights in recipient countries or introducing transparency to health aid flows. In 2011, China declared that "the principle of transparency . . . should not be seen as a standard for South-South cooperation." India goes as far as to openly reject paternalistic development terms such as "donor" and "aid," preferring to view its development assistance programs as a form of South-South partnership.⁶³

There is no denying that many other developing states would be keen to compete for aid from China and India and welcome their emphasis on infrastructure projects. There is little indication, however, that this alternative model has produced sustainable outcomes. The bilateral approach may facilitate the execution of projects in a timely and effective manner, but it hardly represents a replicable and scalable method. It has been noted that multilateral aid is more efficient than bilateral aid because it lowers administrative costs and greatly reduces the burden on recipients through increased coordination.⁶⁴ The provision of health aid and soft loans with few strings attached was popular in Africa at first but since has become controversial in places like Zambia and Zimbabwe. It remains

unclear whether China or India will respond to such unease by committing to greater transparency or “untying” their aid packages (which they are not obliged to do). Yet one thing is certain: the approach of traditional OECD donors has not lost its appeal in the developing world.

A State-Centric Approach to International Health Cooperation

Addressing global health challenges necessitate strategies and actions that go beyond the boundaries of any one nation’s sovereignty. However, in the development and enforcement of international health norms, China and India pursue a state-centric approach, viewing global regulation as primarily the responsibility of the state. This approach could be traced to the 1950s, when China, India, and Burma agreed on “Five Principles of Peaceful Coexistence” to govern their international relations. The principles emphasized sovereignty, noninterference, nonaggression, political equality, and mutual economic benefit.

The IHR negotiations provide a useful context for examining state-centrism. China and India declined to gather input from NGOs prior to the regional consultations and IGWG negotiations. They also, along with other Asian states, sought to limit the role of NGOs. This unflinching support for state sovereignty also accounts for the absence of an “Asian voice” in international negotiations. During the IHR talks, China was a significant actor, arguing vehemently (though unsuccessfully) against the proposal to include a list of infectious diseases for fear that it might be compelled to reveal information that would threaten national interests. China also resisted the idea of sending WHO investigative teams to countries without their consent.⁶⁵ Similarly, sovereignty concerns led China to oppose a move to recognize Taiwan’s status at the WHA. Keenly aware that the principle of “universal application” to IHR might be used by Taiwan to justify formal WHO membership, China’s chief negotiator did not mince words: “health is a very important issue, but sovereignty and territorial integrity are more important.”⁶⁶ China later softened its stance and allowed Taiwan to obtain special observer status at WHA, but Taiwan is still not permitted to liaise with the WHO other than its headquarters in Geneva.

Furthermore, in the realm of health-system capacity building, both China and India remain conscious of national ownership over their respective projects. India believes in its own ability to handle domestic health programs and does not want to be dependent on international agencies. It has, for example, increasingly taken control over the anti-polio campaign. The government is expected to finance up to 79 percent of the campaign’s costs between 2011 and 2013.⁶⁷ For China, there is an even more glaring collision between a state-centric approach and one that incorporates other actors (e.g., NGOs and intergovernmental organizations) in multi-stakeholder arrangements. The Chinese government appears to consistently prevent international actors from dominating domestic health initiatives. As Yukon Huang, former country director for China at the World Bank, observed: “The Bank’s view was prevailing in many recipient countries, but not in China, because Chinese government had a clear idea of what it should do.”⁶⁸

While the state-centric approach may serve the national interests of China and India, it also limits the scope and effectiveness of international cooperation in an era of interdependence. China’s stance on Taiwan, for example, threatened to derail the early IHR negotiations. Many have noted that this rigid state-centrism not only leads to a narrow and limited interaction with GHG, but it also proves unsustainable in the long run because it is increasingly out of sync with global norms.⁶⁹

Domestic Health-Care Model

The way in which both countries address their domestic health challenges in the shift to a market-oriented economy also fails to present a robust model for other countries to emulate. Due to their large populations and rising levels of development, China and India serve as a reference point for other LMICs who want to address their own domestic health challenges. Historically, both countries rejected top-down, high-tech, and disease-focused Western approaches, favoring an accessible and integrated approach that recognized the role of local communities and affordable technologies. China's and India's experience in primary health care (PHC) demonstrated the capacity to improve public health with limited resources, thereby contributing to the rise of the PHC movement in the late 1970s.

Prevailing thinking is that rapid economic growth boosts government revenue, which in turn improves funding to health care and other public goods. Since transitioning to market-oriented economies (China in the 1980s and India in the 1990s), both countries have pursued a strong market-based approach to health care. The desire for continued growth resulted in health care being relegated to the back burner in both states. Indeed, with the legitimacy of the Chinese government dependent on steady economic growth, officials had little reason to focus elsewhere. Consequently, dwindling government support, coupled with liberal economic reforms, had contributed to the rise of infectious disease outbreaks and persistent access and affordability problems in the health sector. India faced a similar problem in this regard. Poor health was rarely seen as an election issue, and the left-center political parties most likely to take action on public health challenges represent poor, low-growth regions with limited means to pursue a proactive agenda.

Not only has rapid economic development failed to translate into similar gains in the health sector, but also both countries have had to rely on international donors to launch and sustain vital public health programs. Donors such as the Global Fund, Gates Foundation, and World Bank have played an important role in health governance in terms of policy planning and implementation. Before the polio eradication campaign was launched in India, there was deep skepticism among Indian health officials and within Indian medical circles about its cost and effectiveness. The national policy began to shift toward eradication thanks to the efforts of Dr. Jon Andrus. An American from the U.S. Public Health Service, Andrus arrived in India in 1993 as a regional adviser on polio for the WHO. Together with an Indian health official, he brought the success of programs used in other countries (especially Bangladesh) to Indian leaders' attention and used data to show the decisive factors in successful anti-polio work across the globe.⁷⁰ Similarly, in China, despite an opaque and authoritarian state apparatus, international entities have played an important role in health-related agenda setting and policy formulation. They were critical in moving latent public health issues such as HIV/AIDS onto the governmental agenda. They also affected the timing of state action (as shown in the SARS crisis), as well as policy design decisions (as shown in HIV/AIDS prevention efforts and control).

International actors have played an important role in policy and program implementation in both countries by improving their financial and bureaucratic capacities. Prior to 2003, China's HIV/AIDS programs were almost entirely supported by international donors. Likewise, India's campaigns against smallpox and polio received significant international support. The Global Polio Eradication Initiative was used as a mechanism to fund India's own domestic eradication efforts. Moreover, cooperation between the Danish International Development Agency, WHO, USAID, and the U.S. Centers for Disease Control and Prevention spurred the creation of a top-flight network of laborato-

ries and a dedicated corps of Indian professionals who specialize in polio surveillance, leaving behind an institutional legacy that has improved India's surveillance capacity.

Due to the lack of improvement in people's health and ongoing reliance on international donors, neither China nor India has provided other states a sustainable model for addressing health-care needs. A reverse course can now be observed in both countries, where leaders have come to realize that economic growth does not trickle down. Over time, the Indian government became convinced that in order to compete internationally, it would have to ensure the health of its workforce. Equally important, since the mid-2000s, the delivery of public goods and services has become an electoral issue. Federal spending on health has increased dramatically since 2006. In 2011, the Indian prime minister announced that health would be among the top priorities of the twelfth Five-Year Plan (covering 2012–2017), which includes a commitment to increase health spending to 2.5 percent of GDP by 2017 from the current level of 1.4 percent. The government also recently rolled out its “drugs for all” plan, which aims to provide 52 percent of the population with free drugs by April 2017 and will extend price controls to 348 “essential” drugs, including treatments for cancer and HIV.⁷¹

Since 2003, China too has shown a growing commitment to the health of the Chinese people. The regime's populist turn, coupled with the 2008 global financial crisis, underscored the need to expand health care to stimulate domestic consumption and ensure social and political stability. In 2009, the government unveiled plans to pump about 850 billion yuan (\$124 billion) into the health sector over the next subsequent three years. The objective was to build a basic health-care system that could deliver safe, effective, and affordable services to everyone by 2020.

In both countries, ambitious plans to establish a health-care system were launched at a time when universal health coverage (UHC), which Chan has called “the single most powerful concept that public health has to offer,” was gaining momentum globally. If successfully implemented in China and India, more than one-third of the world's population would be covered by health insurance. Theoretically, China's rapid economic development should create fertile ground for innovative ideas to achieve UHC. According to some analysts, China's development model emphasizes a country's own characteristics (as opposed to a one-size-fits-all model), with willingness to innovate and experiment.⁷² However, this philosophy, also known as the “Beijing Consensus,” has not led to significant innovations in the health and pharmaceutical sectors. In the past four years, patent applications have increased by 33 percent annually but pharmaceutical patent filings have averaged only a 13 percent annual increase. Despite the size of Chinese pharmaceutical exports—averaging \$67 billion annually—virtually none of the revenue is derived from truly innovative products; the proportion of research and development (R&D) investment to sales revenue is lower than the global average. Indeed, a lack of R&D funding might explain why, up until 2007, roughly 97 percent of chemicals produced in China were generic and only two drugs—artemisinin and dimercaprol—were developed domestically.⁷³

Similarly, many of the ideas put forth by Chinese policymakers are not novel. The widely acclaimed new cooperative medical scheme covers nearly the entire rural population in China, but it is simply a revival of the Maoist Cooperative Medical Schemes. Chinese health-care reform has also fallen under the sway of Western health-care models. Since the beginning, debates about reform have centered on whether to adopt a government-focused approach inspired by the British model, in which the government provides basic health care for free, or a market-focused approach influenced by the German model, which favors the use of third parties to provide health services. Lastly, China

failed to innovate when adopting an essential drug list under its UHC policy; the list had been previously introduced by the WHO in 1977 as the Model List of Essential Medicines.

In developing a framework for providing affordable health care to its people, India too found inspiration in the experience of other countries, particularly LMICs. Indeed, after China unveiled its plan to extend health care to every citizen by 2020, India followed suit by aiming to attain universal care by the same year. In contrast to China, however, India is often seen as practicing “frugal innovation,” that is, finding “the simplest and cheapest way of doing something without compromising effectiveness.”⁷⁴ In putting innovation to work, India’s business leaders and health providers have collaborated with government actors, private hospitals, and the IT and telecommunications sectors. For example, Devi Shetty, a heart surgeon in India, worked with the government of Karnataka and various local groups to create possibly the world’s cheapest comprehensive insurance scheme, covering 2.5 million poor farmers for about eleven cents per month each. In addition, a national health insurance scheme geared toward increasing access for the poor, known as the Rashtriya Swasthya Bima Yojana (RSBY, the National Health Insurance Program), has enabled one hundred million people to enjoy cashless, paperless, and portable access to inpatient health care provided by over eight thousand public and private hospitals across the country. These cost-cutting approaches have expanded access to quality health services among the poorest people in India. Some of these programs have piqued the interest of other countries and are starting to be applied globally. Bangladesh, Vietnam, and Nepal have all shown an interest in replicating the RSBY model.

Policy Recommendations

China's and India's participation in GHG has generated growing opportunities for Sino-Indian cooperation in global health. Indeed, a comparison reveals more similarities than differences. There is great potential for cooperation between the two because both have shared interests in health and trade. In that sense, tackling common threats to global health can help them build that trust and reduce tensions around more contentious bilateral issues. For instance, it would be in their interests to work together to support Pakistan's polio eradication efforts and core response capacity building in Southeast Asian countries, such as Myanmar. They might also consider establishing a working group to explore how to better coordinate their positions, or forge a partnership to promote an "Asian voice" in global health agenda setting and rule making. In the meantime, they could work closely with other emerging states to investigate ways to collaborate with civil society and the private sector to pursue deeper cooperation over impending global health concerns (e.g., access to effective anticancer drugs).

Each country could also learn from the other, particularly in moving toward UHC. China could learn from India in how to nurture a strong private sector that is amenable to innovative technologies and solutions for health-care delivery. Many of India's frugal innovations can be scaled up for China. India's RSBY program may also be helpful to China, which is trying to extend coverage to the two hundred million migrants who still lack health insurance. Conversely, China also has a great deal to offer India. It could share its experience building a robust disease surveillance and response network to help India deal with its daunting infectious disease challenges. India could also benefit from learning how to swiftly mobilize fiscal resources in rolling out its UHC programs. In addition, both could learn from each other in adopting a "whole-of-government" approach to promote multisectoral cooperation in engaging global health.

The shifting geo-economic landscape coupled with Chinese and Indian participation in GHG present both opportunities and challenges for U.S. global health leadership. Amid changing donor-recipient relations, the United States welcomes emerging powers to shoulder more responsibilities in global health financing, but it is important that it maps out a strategy enabling the emerging powers to assume a more proactive and constructive role in providing health-related development assistance. In addition to sharing knowledge about the best practices and institutional designs of DAH, the United States should consider working with China and India to launch several major joint initiatives in Asia and Africa aimed at disease prevention and control, as well as health system strengthening. More specific areas of cooperation include control of drug-resistant malaria and multidrug-resistant tuberculosis, as well as the establishment of UHC schemes in resource-limited states. Although recipient countries should be responsible for driving these multilateral initiatives forward, donor states would be able to make full use of their advantages. The United States, for example, could provide financial mechanisms, oversight, and technical support, while China and India could match U.S. support by sending medical personnel and supplying free or affordable generic drugs.

Meanwhile, the United States should seek to actively participate in China's and India's health-care sectors. Demographic and epidemiological transitions, as well as steady movement toward UHC, have not only generated huge demand for more and better health care, but have also raised concerns regarding financing and cost control. Given the U.S. advantage in pharmaceutical R&D, as well as health-care management and service quality, health-system transitions in China and India would generate business opportunities for U.S. biopharmaceutical firms, hospital groups, and insurance companies. In promoting such opportunities for U.S. companies in China and India, the U.S. government should also demonstrate its readiness to work with both countries to address health-related issues of immediate concern to their people (e.g., access to effective and affordable medicines).

Conclusion

A study of China's and India's involvement in health-related foreign aid, the development and implementation of global health rules, and the ideational foundations of these efforts sheds some light on both countries' incentives, capabilities, and efficacy in participating in GHG. First, the changing scope of DAH suggests that both China and India are moving toward becoming net donors. Increases in their DAH should contribute positively to health system strengthening while improving people's health in recipient countries. Second, despite their changing power status and the incentive to play by their own rules, both countries have shown adequate flexibility in the development of major global health rules. While they have been laggards in some areas, they have been active, and even taken on leadership roles, in many others. The rise of the pharmaceutical industry in China and India has redefined affordable drugs and introduced new business models, dramatically improving access to medicines for the world's poor. Third, their efforts in conducting health diplomacy and addressing domestic health challenges have enriched the ideational foundations of GHG, pointing to an alternative model for improving global health. This dynamic highlights the need to develop a new international development and governance framework.

However, China's and India's roles in GHG remain generally limited. Overall, not only do they fail to shoulder significantly more responsibilities in GHG, but their GHG-related policies and practices currently also fail to provide a viable, sustainable alternative to the dominant global governance framework. DAH from China and India is dwarfed in comparison to traditional OECD donors. Their distinctive patterns of health aid do not align well with many existing global health initiatives and projects. Furthermore, as the DAH policy structure remains fragmented and incoherent and conditioned by China's and India's domestic health and development agendas, it would be unrealistic to expect the two countries to significantly increase the volume or effectiveness of their DAH anytime soon. In developing institutions for global disease prevention and control, their approach to agenda setting and rule making remains selective and individualistic. Moreover, their record of compliance with global health rules is mixed, mitigated by limited health-system capacities and ongoing governance challenges. Despite rhetoric of South-South solidarity and regional cooperation, they have refrained from forming regional or coordinated positions. A look at the ideational foundations of their involvement in GHG suggests that while both contribute to an alternative model for global health governance, most components of the model are neither novel nor innovative, and their effectiveness remains in question.

That being said, there are indeed profound differences in each country's involvement with GHG. China's DAH volume is much higher and more globally oriented than India's. In addition, China uses WHO as a venue to pursue its interests, and it attaches greater importance to addressing global infectious disease challenges. India, by contrast, does not accord WHO a prominent role in global health rule making. Yet it played a leadership role in negotiating the TRIPS and Public Health agreement and is more aggressive than China in making use of the flexibilities offered by the global IP regime. Lastly, India's rapidly expanding private sector has been more successful than China's in applying the

concept of frugal innovation to the delivery of health-care services and access to medicines in the developing world.

China and India have unrealized potential in GHG and need to be encouraged to do more. Building partnerships with two grudging, emerging powers will not be easy. But if the United States intends to maintain its global health leadership status in the next decade without overcommitting its resources, it will have to actively engage China and India on global health governance. It is certainly critical to urge them to shoulder greater global health responsibilities, but it is equally important to accommodate their legitimate domestic development concerns while including them in the governance structure as equals. This would eventually require a restructuring of the existing power structure of GHG so that newcomers such as China and India have a larger say in the global health agenda. In short, the future directions and effectiveness of China's and India's participation will ultimately be determined by the dynamics of the ongoing global power shift and the two countries' ability to address domestic health challenges. China and India have made significant strides in the realm of global health and should now be encouraged to realize their full potential while serving as constructive partners in the reformed governance framework.

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