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## EMERGING AND TRANSITIONING COUNTRIES' ROLE IN GLOBAL HEALTH

JENNIFER PRAH RUGER, Ph.D.\* AND NORA Y. NG, Ph.D.\*\*

### I. INTRODUCTION

Global health scholarship has failed to adequately consider the “BRIC” cluster of nations—Brazil, Russia, India and China—particularly in the aggregate. An article search with the keywords “BRIC” and “public health” yields just one publication. But these countries have a unique role to play in the global health enterprise by addressing global health problems as they build their own health systems and help developing countries improve their populations’ health. Moreover, the BRIC nations are becoming increasingly important components of the global health architecture, individually as nations and collectively as a nexus of influence. In June 2009, the countries held the first-ever BRIC summit in Yekaterinburg, Russia, debuting as a policy consultation and coordination group.<sup>1</sup>

What these countries collectively have to offer in the quest to improve global health merits attention. This article focuses on the role of emerging and transitioning countries as actors in (1) providing financial assistance to lower-income countries; (2) supplying medical goods and services to the developing world; (3) giving technical assistance; (4) improving access to medicines and intellectual property; (5) modeling effective health-sector framework-building to less developed countries; (6) delivering object lessons learned from the health and development process; (7) helping lower-income countries grow their economies and reduce poverty; (8) taking a significant

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1. Tony Halpin, *Brazil, Russia, India and China Form Bloc to Challenge U.S. Global Dominance*, *TIMES*, June 17, 2009, at 33.

role in global health governance; and (9) bolstering the link between health and foreign policy. For all their growing power and potential, however, they are still emerging and transforming countries with their own daunting and persisting health challenges that require continuing assistance from the global health community.

## II. POTENTIAL BRIC CONTRIBUTIONS TO THE GLOBAL HEALTH ENTERPRISE

### A. *Providing Financial Assistance*

Given their growing financial resources,<sup>2</sup> emerging countries have a rightful role in providing financial assistance to developing countries. Emerging countries invest in health care, public health, and disease-specific programs in developing countries.<sup>3</sup> India, for example, has financed Human Immunodeficiency Virus (“HIV”) and Acquired Immune Deficiency Syndrome (“AIDS”) programs in several African countries.<sup>4</sup> Indian pharmaceutical companies have built production facilities in Africa and Latin America, playing a “pivotal” role in lowering the prices of antiretroviral drugs to affordable levels in developing countries,<sup>5</sup> while also expanding jobs and economic development.

The existing international development architecture leaves gaps in health system development. Emerging countries, in conjunction with international organizations, can help fill the gaps by raising awareness and advocating for financial assistance. In 2004, for instance, the president of Brazil, Lula da Silva, along with Chile, France, and then-UN Director-General Kofi Annan, called for a “global political alliance” to support a global fund for hunger and poverty.<sup>6</sup> At their 2009 summit, BRIC issued a statement on global food security calling for financial and technical support in food production, the sustainability of biofuels use and production, and the reduction of agricultural subsidies.<sup>7</sup> In May 2010, BRIC agricultural ministers signed a global food security declaration, with the aims of

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2. *Id.* (stating that the BRIC nations represent forty percent of the world’s population and fifteen percent of the world’s gross domestic product).

3. *See infra* notes 4-5, 15-16, 20-21, 23 and accompanying text (illustrating examples of emerging countries investing in developing countries).

4. J. STEPHEN MORRISON & JENNIFER KATES, CTR. FOR STRATEGIC & INT’L STUDIES (CSIS) & KAISER FAMILY FOUND., THE G-8, RUSSIA’S PRESIDENCY, AND HIV/AIDS IN EURASIA: A REPORT TO THE CSIS TASK FORCE ON HIV/AIDS IN COLLABORATION WITH THE KAISER FAMILY FOUNDATION 4 (2006), available at [http://csis.org/files/media/csis/pubs/060614\\_g8aids.pdf](http://csis.org/files/media/csis/pubs/060614_g8aids.pdf), at 4.

5. *Id.*

6. John Zarocostas, *Brazil Drives Efforts to Fight Hunger and Poverty*, 363 LANCET 462, 462 (2004).

7. President of Russia Official Web Portal, BRIC’s Joint Statement on Global Food Security (June 16, 2009), <http://archive.kremlin.ru/eng/text/docs/2009/06/217964.shtml>.

developing a strategy to ensure food access for vulnerable populations, creating an agriculture information system, adapting to climate change, and improving agricultural technological innovation and cooperation.<sup>8</sup>

BRIC nations are prosperous enough to have transitioned to “donor” status in international development assistance. All four BRIC countries are donors to The Global Fund.<sup>9</sup> India became the fifteenth largest donor to the World Food Program in 2005, and in 2004 lent more than \$400 million in hard currency to Brazil, Burundi, and Indonesia, under the Financial Transactions Plan of the IMF.<sup>10</sup> Russia has also provided bilateral foreign assistance to a number of countries, including Cuba, Iran, Chechnya, Kyrgyzstan, Iraq, China, Lebanon, Palestine, Afghanistan, Serbia, and Iceland, though the bulk of this assistance is for economic or geopolitical reasons and not for public health.<sup>11</sup> China, too, gives aid to African countries in the form of debt write-offs, preferential loans, buyer’s credit, investment, training, and building of infrastructure, with the declared

8. Michael Lucivero, *BRIC Ministers Sign Global Food Security Pact* (Apr. 5, 2010), <http://foodcrisis.foreignpolicyblogs.com/2010/04/05/bric-countries-sign-food-security-pact/>.

9. The Global Fund, *The Global Fund’s Donor Governments*, <http://www.theglobalfund.org/en/donors/list/> (last visited Sep. 2, 2010). China, India, and Russia are listed as current donors in the Second Replenishment Cycle 2008-2010, and Brazil is listed as having contributed previously.

10. Dweep Chanana, *India as an Emerging Donor*, 44 *ECON. & POL. WEEKLY* 11, 12 (2009).

11. Megan K. Stack, *Hillary Clinton, Russians Clash Publicly Over Iran Reactor*, *L.A. TIMES*, Mar. 19, 2009, <http://articles.latimes.com/2010/mar/19/world/la-fg-clinton-russia19-2010-mar19> (Russia involved in building Iran’s nuclear power plant); Conor Sweeney & Oleg Shchedrov, *Russia Offers Allies Aid as U.S. Base Ordered Shut*, *REUTERS*, Feb. 3, 2009, <http://www.reuters.com/article/idUSTRE51227720090203> (Russia gave aid packages worth \$150 and \$354 million to Kyrgyzstan and Cuba, respectively); *Iceland Turns to Russia for Bailout*, *RIA NOVOSTI*, Oct. 10, 2008, <http://en.rian.ru/analysis/20081010/117659587.html> (Russia bails out Iceland by granting “huge stabilization loan at an unbelievably low interest rate”); *Russia’s Aid to Quake-Hit China Totaled \$14 Million*, *RIA NOVOSTI*, July 16, 2008, <http://en.rian.ru/world/20080716/114099714.html>; *Russia May Continue Giving Aid to Palestine—Foreign Ministry*, *RIA NOVOSTI*, May 8, 2006, <http://en.rian.ru/russia/20060508/47870322.html> (Russia provided \$10 million to Palestine for social and humanitarian needs); *Russia Offers Afghanistan Aid in Establishing Political System*, *RIA NOVOSTI*, June 15, 2009, <http://en.rian.ru/russia/20090615/155259203.html>; *Russia Promise on Chechnya Aid*, *BBC NEWS*, Jan. 28, 2000, <http://news.bbc.co.uk/2/hi/europe/621724.stm>; *Russia Proposes Aid to Lebanon to Rebuild Infrastructure*, *RIA NOVOSTI*, Sep. 7, 2006, <http://en.rian.ru/russia/20060907/53602293.html>; *Russia Sends Humanitarian Aid to Iraq*, *CHINA VIEW*, Dec. 25, 2004, [http://news.xinhuanet.com/english/2004-12/25/content\\_2380273.htm](http://news.xinhuanet.com/english/2004-12/25/content_2380273.htm) (Russia sent tents, blankets, heating appliances, lighting appliances, medicine, medical equipment, and antiseptics to Iraq as humanitarian aid); *Third Plane with Russian Humanitarian Aid Lands in Serbia*, *RIA NOVOSTI*, Apr. 8, 2008, <http://en.rian.ru/russia/20080408/104031974.html>.

goal of “mutual” economic benefit.<sup>12</sup> At the BRIC summit, Chinese President Hu Jintao offered ten billion dollars of credit support to the countries of Central Asia to help deal with the global economic recession.<sup>13</sup> While observers have noted that “China’s health sector is overwhelmingly internally focused,”<sup>14</sup> China does undertake some medical financial aid in Africa.<sup>15</sup> According to a 2006 report by China’s official press agency, the Chinese government planned to build thirty hospitals and thirty malaria prevention and treatment demonstration centers, and to provide about \$37.5 million in grants for anti-malarial drugs.<sup>16</sup> Although most of Russian and Chinese foreign aid does not currently directly target health, it does suggest that these emerging countries are in position to provide health-related financial assistance if health becomes a larger part of their foreign policy agenda.

Indian foreign financial aid is similar to China’s in that it tends to be oriented toward the economy and trade. As a donor, it has been remarked that India appears in another country “only when it is also an investor, trade partner or political ally, or can become one.”<sup>17</sup> India has a long-standing practice of economic and military aid in South Asia—it funds almost sixty percent of Bhutan’s budget, and gives aid and loans to Afghanistan, Nepal, and Myanmar.<sup>18</sup> Partly in competition with China, India has branched out to Africa. In 2009, India doubled the amount set aside for loans to Africa to \$5.2 billion, and Africa is now one of the largest recipients of Indian development assistance.<sup>19</sup> However, some of India’s financial aid does go toward health purposes such as HIV/AIDS.<sup>20</sup>

Health plays a more prominent part in Brazilian foreign financial assistance. In 2007, it was estimated that Brazil spent around \$120 million worldwide on HIV/AIDS relief programs, the rehabilitation of former combatants, and other areas such as agricultural development and

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12. *Chinese Aid Flows into Africa*, VOANEWS.COM, May 8, 2007, <http://www1.voanews.com/english/news/africa/a-13-Chinese-Aid-Flows-into-Africa.html>.

13. Guy Faulconbridge, *Developing World Leaders Show New Power at Summits*, REUTERS, June 16, 2009, <http://www.reuters.com/article/idUSTRE55F02F20090616?feedType=RSS&feedName=topNews>.

14. Qide Han et al., *China and Global Health*, 372 LANCET 1439, 1439 (2008).

15. *Id.*

16. *China, Africa Vow Closer Cooperation in Fighting HIV/AIDS: Action Plan*, PEOPLE’S DAILY ONLINE, Nov. 6, 2006, [http://english.peopledaily.com.cn/200611/06/eng20061106\\_318575.html](http://english.peopledaily.com.cn/200611/06/eng20061106_318575.html).

17. MATTHIAS JOBELIUS, *NEW POWERS FOR GLOBAL CHANGE? CHALLENGES FOR THE INTERNATIONAL DEVELOPMENT COOPERATION: THE CASE OF INDIA 2* (FRIEDRICH EBERT STIFTUNG, 2007), available at <http://library.fes.de/pdf-files/iez/global/04718.pdf>.

18. Chanana, *supra* note 10, at 11.

19. *Id.* at 12.

20. MORRISON & KATES, *supra* note 4.

vocational training.<sup>21</sup> Brazil's largest beneficiaries include Paraguay, East Timor, Haiti, Mozambique, Angola, and Guinea-Bissau.<sup>22</sup> Financial aid also contributes to infrastructure development, such as the building of a pharmaceutical laboratory for the production of antiretroviral drugs in Mozambique.<sup>23</sup>

### *B. Supplying Medical Goods and Services*

Besides financial aid, emerging countries can supply necessary medical goods and services, both by directly exporting to developing countries and exemplifying the usefulness of domestic generic drug industries. For example, Brazil has developed a significant generic drug industry that has helped the government in its attempt to provide free antiretroviral ("ARV") medications to all individuals who need them.<sup>24</sup> Both India and China manufacture raw chemicals and ingredients for drug manufacturing, and both are major manufacturers of generic drugs, including ARVs, for domestic use and international export.<sup>25</sup> In fact, Brazil purchases active pharmaceutical ingredients from India and China and then domestically produces ARVs for its own population.<sup>26</sup> India especially is an important source of ARVs for countries that cannot produce their own.<sup>27</sup> It is also branching out to make other complex medications (such as for cancer) and undertaking pharmaceutical research and development.<sup>28</sup>

Drugs are not the only exported medical supply. India's Aravind Eye Care System, for instance, produces intraocular lenses used in cataract

21. CATRINA SCHLÄGER, *NEW POWERS FOR GLOBAL CHANGE? CHALLENGES FOR THE INTERNATIONAL DEVELOPMENT COOPERATION: THE CASE OF BRASIL 6* (FRIEDRICH EBERT STIFTUNG, 2007), available at [http://www.nuso.org/upload/fes\\_pub/schlager.pdf](http://www.nuso.org/upload/fes_pub/schlager.pdf).

22. José Soares Jr., *Brazil as a South-South Cooperation Partner*, in *IT'S TIME FOR BRAZIL IN SINGAPORE* 50, 51-52 (Tatiana Rosito ed., 2008), available at <http://www.brazil.org.sg/Download/brazil08.pdf>.

23. Eduardo J. Gómez, *Brazil's Blessing in Disguise*, *FOREIGN POL.*, July 22, 2009, [http://www.foreignpolicy.com/articles/2009/07/22/brazils\\_blessing\\_in\\_disguise](http://www.foreignpolicy.com/articles/2009/07/22/brazils_blessing_in_disguise) (last visited Sep. 2, 2010).

24. Jon Cohen, *Ten Years After*, 313 *SCIENCE* 484, 484 (2006).

25. CHERI GRACE, *THE EFFECT OF CHANGING INTELLECTUAL PROPERTY ON PHARMACEUTICAL INDUSTRY PROSPECTS IN INDIA AND CHINA: CONSIDERATIONS FOR ACCESS TO MEDICINES* 14 (2004), <http://www.dfidhealthrc.org/publications/atm/Grace2.pdf>.

26. Cohen, *supra* note 24, at 484, 487.

27. Grace, *supra* note 25, at 14-15.

28. Heather Timmons, *India Expands Role as Drug Producer*, *N.Y. TIMES*, July 6, 2010, <http://www.nytimes.com/2010/07/07/business/global/07indiadrug.html>; Sachin Chaturvedi, *Emerging Indian Entrepreneurship in Biotechnology and National Innovation System: Exploring Linkages and Prospects*, 5 *INT. J. TECHNOL & GLOBAL.* 76 (2010).

surgery through its own Aurolab facility.<sup>29</sup> Producing its own lenses allowed Aravind to cut lens costs from \$200 to less than ten dollars, and Aurolab lenses are now exported through various NGO partners and distribution venues to more than one hundred countries, making up ten percent of the global market.<sup>30</sup>

Services are exportable too; BRIC's export is an increasingly important short-term remedy to fill gaps in human resources for health and to address the brain-drain problem in many countries. Russia has been active in staffing select African HIV programs<sup>31</sup> and has sent doctors and supplies to disaster areas like Haiti and Chile in the wake of their recent devastating earthquakes.<sup>32</sup> China, as part of its diplomatic engagement with Africa, provides medical supplies free of charge to some African countries, and runs training programs for diseases including malaria and HIV/AIDS.<sup>33</sup> Since 1964, China has "cumulatively sent over 15,000 doctors to more than 47 African countries and treated approximately 180 million African patients[.]"<sup>34</sup> The recipient African countries pay the costs of these medical teams, but for the poorest recipients China covers the teams' travel costs and the supplies the teams bring along.<sup>35</sup>

Even countries without BRIC's growing economic and financial heft can provide important medical services. Cuba is an exporter of medical aid.<sup>36</sup> Cuban health assistance programs have sent teams of doctors to disaster areas such as Haiti after Hurricane Mitch in 1998 and to Pakistan after the earthquake in 2005.<sup>37</sup> Cuban doctors can be found working in remote and underserved areas in countries like Honduras,<sup>38</sup> Belize,<sup>39</sup> and Equatorial

29. Aman Bhandari et al., *Specialty Care Systems: A Pioneering Vision for Global Health*, 27 HEALTH AFF. 964, 970 (2008).

30. *Id.*

31. MORRISON & KATES, *supra* note 4, at 4.

32. *Russian Humanitarian Aid Arrives in Quake-Hit Chile*, RIA NOVOSTI, Mar. 5, 2010, <http://en.rian.ru/russia/20100305/158097559.html>; *Russia to Send Two More Aid Planes to Quake-Hit Haiti*, RIA NOVOSTI, Jan. 31, 2010, <http://en.rian.ru/russia/20100131/157730407.html>.

33. Drew Thompson, *China's Soft Power in Africa: From the "Beijing Consensus" to Health Diplomacy*, CHINA BRIEF, Oct. 13, 2005, [http://www.jamestown.org/programs/china\\_brief/single/?tx\\_ttnews%5Btt\\_news%5D=30973&tx\\_ttnews%5BbackPid%5D=195&no\\_cache=1](http://www.jamestown.org/programs/china_brief/single/?tx_ttnews%5Btt_news%5D=30973&tx_ttnews%5BbackPid%5D=195&no_cache=1).

34. *Id.*

35. *Id.*

36. Hernando Calvo Ospina, *Havana's Medics Work Around the World; Cuba Exports Health*, LE MONDE DIPLOMATIQUE, Aug. 2006, <http://mondediplo.com/2006/08/11cuba>.

37. *Id.*

38. *Id.*

39. Michael Voss, *Cuba Pushes Its 'Medical Diplomacy'*, BBC NEWS, May 20, 2009, <http://news.bbc.co.uk/go/pr/fr/-/2/hi/americas/8059287.stm>.

Guinea.<sup>40</sup> Patients also go to Cuba from Latin America and the Caribbean for free cataract surgery, courtesy of the Cuban government.<sup>41</sup> Possibly the most acclaimed medical service Cuba provides is through its medical schools, especially its Latin American Medical School, which trains students from mainly Latin American, Caribbean, and African countries.<sup>42</sup> Cuba grants these students full scholarships, on condition that they return to their home countries to work once they qualify as doctors.<sup>43</sup> Supplying medical services to other developing countries has been an effective diplomatic strategy for Cuba, helping it develop positive ties around the world despite political isolation by the United States.<sup>44</sup> It is also a part of Cuban trade. Venezuela, for example, subsidizes oil to Cuba in return for the 20,000 Cuban medical professionals working there.<sup>45</sup> The Cuban example highlights diplomatic and economic rationales for emerging countries to expand their provision of medical supplies and services, and may serve as a model for that expansion.

Other emerging countries serve as regional training centers for scientists and researchers as well. Brazilian universities and institutions train scientists from other South American countries, while many African scientists receive education in Nigeria, Kenya, and Mali.<sup>46</sup> Malaysia, Thailand, and the Philippines also train Asian and African researchers, with special emphasis on epidemiology.<sup>47</sup>

### C. Providing Technical Assistance

In addition to medical goods and services, emerging nations can—and do—provide technical assistance. Brazil created a network with seven other middle-income countries to share technology and best practices regarding the manufacture of pharmaceuticals.<sup>48</sup> Brazil has also furnished technical assistance to developing countries through the Brazil+7 initiative, an alliance between UNICEF, UNAIDS, the Brazilian government, and seven

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40. Marion Lloyd, *A Medical School in Cuba Trains Doctors for Poor Countries*, CHRON. HIGHER EDUC., July 20, 2001, at A35.

41. Voss, *supra* note 39.

42. Lloyd, *supra* note 40.

43. Voss, *supra* note 39.

44. *Id.*

45. *Id.* (“Medical aid has become a ‘service export.’”).

46. Thomas C. Nchinda, *Research Capacity Strengthening in the South*, 54 SOC. SCI. & MED. 1699, 1708 (2002).

47. *Id.*

48. Susan Okie, *Fighting HIV—Lessons from Brazil*, 354 NEW ENG. J. MED. 1977, 1981 (2006) (Brazil, Argentina, China, Cuba, Nigeria, Russia, Ukraine, and Thailand are working together to “improve each country’s capacity to manufacture medicines, condoms, and laboratory reagents needed to fight AIDS . . .”).



other countries to increase access to antiretroviral medicine, particularly those that prevent mother-to-child-transmission, in partner countries.<sup>49</sup> Treatment programs in those countries have expanded as a result of this initiative.<sup>50</sup>

China and India are also well placed to offer technical assistance. In addition to China's training sessions on malaria, HIV, and other diseases in Africa, China and India may prove to be especially effective partners in research and development. China is "ranked fourth internationally in 2005 for patents granted and publications in indexed journals,"<sup>51</sup> indicative of its strength in research. India's human resources and advanced medical expertise are also widely acknowledged, and it shows "great initiative and commitment" in researching and developing HIV vaccines and microbicides.<sup>52</sup> To further this endeavor, India established the Global Political Advocacy Initiative, which seeks to raise awareness and support for an accelerated research and development effort for preventive HIV vaccines.<sup>53</sup>

Technical assistance is not confined to medications. India's Pan African E-Network project is set up to provide digital information services, with an emphasis on tele-education and tele-medicine, and its Africa-India Framework for Cooperation aims to build capacity for medical professionals to deal with pandemics.<sup>54</sup> China has given billions in concessional loans to African countries to further trade, but also to assist in areas such as health and medical care.<sup>55</sup>

Other emerging countries likewise engage in South-South cooperation. A health information system developed in South Africa was transferred to the neighboring country Mozambique, which shares similarities in health system structure.<sup>56</sup> The "physical proximity and feeling of shared interest ease[d]

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49. UNICEF, Saving Lives: "Brazil+7 South-South Cooperation", <http://www.unicef.org/brazil/english/newsline2.htm> (last visited Sep. 2, 2010) (The other countries are Sao Tome and Principe, Bolivia, Paraguay, Cape Verde, Guinea-Bissau, East Timor, and Nicaragua.).

50. *Id.*

51. Zhu Chen, *Biomedical Science and Technology in China*, 372 LANCET 1441, 1442 (2008).

52. MORRISON & KATES, *supra* note 4, at 20.

53. *Id.*

54. Thalif Deen, *China, India Lead South-South Cooperation*, INTER PRESS SERVICE NEWS AGENCY, Nov. 24, 2009, <http://ipsnews.net/news.asp?idnews=49398>.

55. *Id.*

56. Jens Kaasbøll & Jose Leopoldo Nhampossa, Transfer of Public Sector Information Systems Between Developing Countries: South-South Cooperation (unpublished manuscript presented at the International Federation for Information Processing Working Group 9.4 Conference on Social Implications of Computers in Developing Countries, May 29-31, 2002, Bangalore, India), <http://heim.ifi.uio.no/~jensj/TransferSouthSouth.pdf>.

the cooperation between the original developers and the adapters.”<sup>57</sup> Egypt has a Fund for Technical Cooperation with Africa (“EFTCA”), which finances and organizes projects such as sending engineers to train workers in Cameroon in medical equipment maintenance.<sup>58</sup> Egypt also operates other technical cooperation programs that target Central Asian and Islamic countries.<sup>59</sup> Bilateral provision of technical assistance is not the only approach. Emerging countries are partnering with each other in “trilateral cooperation” to provide technical assistance to developing countries.<sup>60</sup> Egypt and Turkey cooperate to train Africans in fields like health, agriculture, and security.<sup>61</sup> Argentina works with PAHO/WHO to offer technical assistance in endeavors such as polio eradication in the Nigerian child population and to strengthen capacity relating to organ transplants in Paraguay.<sup>62</sup>

*D. Improving Access to Medicines and Intellectual Property*

Emerging countries have begun to claim another critical role in improving health—acting in blocs to negotiate intellectual property (“IP”) regulations and access to medicines. Their potential for influence is a topic of significant discussion and speculation.<sup>63</sup> The expectation is that BRIC nations—or individual countries anchoring other coalitions—could bargain for more favorable application of intellectual property rights within the World Trade Organization (“WTO”) and other international trade venues, thereby improving access to essential medicines both for their own populations and for those in other needy countries. Such collective strategies are already beginning to play out. In 2005, for example, Brazil reached an agreement between eleven Latin American governments and

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57. *Id.* at 12.

58. INSouth.org, Egypt, [http://www.insouth.org/index.php?option=com\\_content&view=article&id=67:egypt&catid=31:country-windows&Itemid=86](http://www.insouth.org/index.php?option=com_content&view=article&id=67:egypt&catid=31:country-windows&Itemid=86) (last visited Sep. 2, 2010).

59. *Id.* (Egyptian Fund for Technical Cooperation with Commonwealth and Trilateral Cooperation on South-South Basis with Islamic Development Bank).

60. *Id.* (Trilateral Cooperation on South-South Basis with Islamic Development Bank and Trilateral Cooperation on South-South Basis with Turkey).

61. *Id.*

62. PAN-AMERICAN HEALTH ORGANIZATION, SOUTH-SOUTH COOPERATION: TRIANGULAR COOPERATION EXPERIENCE BETWEEN THE GOVERNMENT OF THE ARGENTINE REPUBLIC AND THE PAN-AMERICAN HEALTH ORGANIZATION/WORLD HEALTH ORGANIZATION 14-16 (2009), [http://new.paho.org/arg/images/coopSURSUR/css\\_ing.pdf](http://new.paho.org/arg/images/coopSURSUR/css_ing.pdf).

63. See, e.g., Peter K. Yu, *Access to Medicines, BRICS Alliances, and Collective Action*, 34 AM. J.L. & MED. 345, 355, 358 (2008) (speculating that BRIC countries are “likely to play an important role in the development of the international intellectual property regime” and “there is no doubt that BRIC[] countries will be economically powerful in the future”).

twenty-six drug companies to lower the prices of HIV/AIDS drugs in the region.<sup>64</sup>

Even without traditional political alliances, the actions and successes of BRIC countries in expanding drug access and IP rights can change norms and expectations for global actors. In 2001, at the behest of several pharmaceutical firms, the United States planned to bring WTO action against Brazil and its drug patent laws.<sup>65</sup> Brazil was able to mount effective diplomatic and public relations campaigns to lobby the Bush administration and to bring international attention to its “fight for life.”<sup>66</sup> Washington relented in the face of international pressure and a “potential public relations disaster.”<sup>67</sup> In another instance, thirty-nine pharmaceutical companies sued the South African government to block the country from importing generic anti-retroviral drugs,<sup>68</sup> but they dropped the suit in 2001 due to negative international opinion.<sup>69</sup> BRIC countries have sufficient resources to respond actively to threats of IP-related trade sanctions and lawsuits—China in particular has the economic clout to play hardball and threaten countersanctions in trade negotiations, especially *vis a vis* the United States.<sup>70</sup> These actions also have some beneficial repercussions for other developing countries. The Brazilian and South African episodes helped raise international awareness and revealed widespread normative expectations about essential drug access for the developing world. The potential for hugely negative public relations from IP actions became abundantly clear to pharmaceutical companies. At the very least, these lessons make them unlikely to take another developing country to court.<sup>71</sup> Drug companies may also try to garner positive publicity by donating or discounting drugs to poor nations, thus more directly increasing access.<sup>72</sup>

Some emerging countries are taking more active and assertive measures to increase drug access. Trade-related aspects of intellectual property rights

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64. Okie, *supra* note 48, at 1981.

65. Roy Wadia, *Brazil's AIDS Policy Earns Global Plaudits*, INTERNATIONALREPORTING PROJECT.ORG, June 1, 2001, <http://www.internationalreportingproject.org/stories/detail/820/>.

66. *Id.*

67. *Id.*

68. Robert C. Bird & Daniel R. Cahoy, *The Emerging BRIC Economies: Lessons from Intellectual Property Negotiation and Enforcement*, 5 NW. J. TECH. & INTELL. PROP. 400, 407-08 (2007).

69. Ofeibea Quist-Arcton, *South Africa: Drugs' Giants Drop Case Against South Africa*, ALLAFRICA.COM, Apr. 19, 2001, <http://allafrica.com/stories/200104190053.html>

70. Bird & Cahoy, *supra* note 68, at 410-11.

71. Gumisai Mutume, *Health and 'Intellectual Property': Poor Nations and Drug Firms Tussle Over WTO Patent Provisions*, AFR. RECOVERY, June 2001, at 15.

72. See generally PHARMACEUTICAL RES. & MANUFACTURERS OF AM. (PHARMA), GLOBAL PARTNERSHIPS: HUMANITARIAN PROGRAMS OF THE PHARMACEUTICAL INDUSTRY IN DEVELOPING NATIONS (2003).

("TRIPS"), a WTO agreement on intellectual property rights, permits governments to allow would-be infringers to produce a patented product through compulsory licenses if "reasonable commercial terms" cannot be obtained from the right holder, or in case of "national emergency."<sup>73</sup> Countries have used compulsory licensing mainly as a negotiation tool—threatening its use to get deeper drug discounts from pharmaceutical firms.<sup>74</sup> Brazil, which places great importance on the availability of inexpensive ARV drugs, has made multiple threats to do so, but only actually issued its first compulsory license in 2007, for Merck's efavirenz.<sup>75</sup> Thailand is more aggressive. Thailand has issued compulsory licenses for two antiretroviral drugs, efavirenz and lopinavir+ritonavir, which it has repeatedly renewed.<sup>76</sup> Thailand has acted partly to forestall an upsurge of costs in its HIV/AIDS program from the impending failure of generic first-line drugs—as the virus develops resistance, expensive patented second-line drugs must be introduced.<sup>77</sup> Some observers also think that Thai patent seizures are a bid by Thailand to develop its generic drug industry into a regional hub.<sup>78</sup> Whatever Thailand's reasons may be, countries like Bolivia and Brazil have expressed support, and others, like the Philippines, considered legislation to follow the Thai example.<sup>79</sup> The move by middle-income countries to seize patents has been described as "a massive political movement against intellectual property" that "seeks to make medicine into public, not private, goods."<sup>80</sup>

#### E. Modeling Institutional Frameworks for Health

Institutional frameworks for health care and public health sectors address the regulation of medical equipment, medicines, facilities, and worksites; oversight of personnel training, licensing, and accreditation;

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73. Mutume, *supra* note 71, at 14.

74. *Id.* at 15. (Brazil persuaded Merck to reduce the prices of two HIV/AIDS drugs by threatening to permit compulsory licensing if it refused to make the drugs more accessible.)

75. Keith Alcorn, *Brazil Issues Compulsory License on Efavirenz*, AIDS.MAP.COM, May 7, 2007, <http://www.aidsmap.com/page/1427206/> (last visited Sep. 2, 2010); Ricardo Amaral, *Brazil Bypasses Patent on Merck AIDS Drug*, ALERTNET.ORG, May 4, 2007, <http://www.alertnet.org/thenews/newsdesk/N04351721.htm>

76. Am. Univ. Wash. Coll. of Law, Program on Info. Justice & Intellectual Prop., *Compulsory Licensing Controversy in Thailand*, [http://www.wcl.american.edu/pijip/thai\\_comp\\_licenses.cfm](http://www.wcl.american.edu/pijip/thai_comp_licenses.cfm) (last visited Sep. 2, 2010).; Ed Silverman, *Thailand Extends Compulsory Licenses on AIDS Meds*, PHARMALOT.COM, Aug. 4, 2010, <http://www.pharmalot.com/2010/08/thailand-extends-compulsory-licenses-on-aids-meds/>

77. George Wehrfritz, *A New Kind of Drug War*, NEWSWEEK, Apr. 9, 2007, <http://www.newsweek.com/id/35843>.

78. *Id.*

79. *Id.*

80. *Id.*

provision of hospitals, clinics, and health-related facilities; generation and dissemination of health-related knowledge and information; and the establishment of sustainable, equitable, and affordable health insurance systems. The BRIC countries clearly have room for improvement in these areas—they each lack sufficient facilities and supplies, and there have been notorious lapses in the regulation of food and drug safety. China has had numerous safety breaches, such as melamine in milk powders and pet food, antifreeze chemical in toothpaste, and tainted heparin.<sup>81</sup> In India, also, investigations have uncovered repeated instances of inaccurate dosage/duration in drug prescriptions, and even the lack of such information altogether.<sup>82</sup> Still, emerging countries offer some encouraging examples for other countries to draw upon.

It would be hard to find a better instance of the development of an institutional health care framework than the specialty care model in India. India's Aravind Eye Care System provides a particularly inspiring example of the ways in which this specialty approach can build a system from the ground up.<sup>83</sup> The specialty care or "focused factory" model concentrates on a particular medical condition, disease area, medication or procedure and relies on standardized methods, management goals, core competencies, and an efficient and specialized human capital base.<sup>84</sup> The success of this model has been attributed to four major features: "(1) implementation of management systems that emphasize standardization and continuous improvement; (2) the ability to attract and train specialized workforce; (3) access to low-cost technology; and (4) generation of patient volume."<sup>85</sup>

As of 2008, the Aravind Eye Care System has five hospitals with 3,950 beds and examines over two million patients annually.<sup>86</sup> The attention to standardized methods and specialized human resources with core competencies is reflected in Aravind's "serial production" approach.<sup>87</sup> While an Aravind surgeon operates on one patient, the next patient is prepared on the adjacent table. The surgeon simply swings his or her surgical microscope over to the next table to begin the next procedure when the surgeon is finished with the last one. Paramedical staff does simpler tasks such as preparing patients and instruments, thus freeing the surgeon to

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81. Gordon Fairclough & Loretta Chao, *Chinese Formula Maker Hid Toxic Danger for Weeks*, WALL ST. J., Sep. 18, 2008, at A13, available at <http://online.wsj.com/article/SB122166164382247931.html>.

82. R. Sharma & B. Khajuria, Letter to Editor, *Prescribing Practices of Doctors in Rural and Urban India*, 3 J. CLINICAL & DIAGNOSTIC RES. 1480, 1480-81 (2009).

83. Bhandari et al., *supra* note 29, at 967.

84. *Id.* at 964-965.

85. *Id.* at 965.

86. *Id.* at 967.

87. *Id.* at 968.

concentrate on surgery alone.<sup>88</sup> Standardized procedures and specialized staff help maintain quality of care and enable high-volume patient treatment. Aravind surgeons average around 2,000 cataract surgeries per year, compared to the Indian national average of 250.<sup>89</sup>

The financing system set up by Aravind is progressive, with paying patients subsidizing poor patients who receive low-cost or free care.<sup>90</sup> As mentioned earlier, Aravind's Aurolab manufactures intraocular lenses domestically, allowing huge reductions in costs as well as international export.<sup>91</sup> Aravind also established its own institute, Lions Aravind Institute of Community Ophthalmology ("LAICO"), which pursues system-wide improvements in "planning, efficiency, and effectiveness of all eye hospitals in India."<sup>92</sup> India's Cataract Blindness Control Program, a recognized international public health success story, used Aurolab lenses and followed the Aravind approach.<sup>93</sup> Aravind has assisted eye hospitals in other countries such as Bangladesh, Tanzania, and China.<sup>94</sup> The He Eye Care System in China, for instance, has emulated the Aravind model since 2001.<sup>95</sup>

Other examples of specialty care in India include the LifeSpring Hospital System (a joint venture between the Acumen Fund and Hindustan Latex to provide reproductive and pediatric care to low-income urban mothers and their children); the Socjo Foundation (focused on training women in communities to identify problems of low vision and sell low-cost eye glasses); Jaipur Foot (locally-produced prosthetic limbs adapted for local conditions); and the Medicine Shoppe (a leading pharmacy chain that sets up healthcare clinics with attached pharmacies in low-income areas to provide low-cost care and generic drugs).<sup>96</sup> The Aravind and similar approaches offer useful models for systems development in other countries, although their transplantation should proceed with caution: there might well be significant challenges in applying these systems to other contexts and more complex areas of health.<sup>97</sup>

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88. *Id.*

89. *Id.*

90. *Id.* at 967.

91. *Id.* at 970.

92. *Id.* at 968.

93. RUTH LEVINE & THE WHAT WORKS WORKING GROUP, CASE STUDIES IN GLOBAL HEALTH: MILLIONS SAVED 139, 142 (2007).

94. Bhandari et al., *supra* note 29, at 971.

95. *Id.*

96. *Id.* at 966. See also Nadaa Taiyab, *Medicine Shoppe: Bringing Health Services to the Urban Poor*, Acumenfund.org, June 2007, <http://www.acumenfund.org/investment-story/bringing-health-services-to-the-urban-poor.html> (last visited Sep. 3, 2010)

97. *Id.* at 972-974.

Beyond India, China may set an example for infectious disease reporting and monitoring in its recently established China Information System for Disease Control and Prevention ("CISDCP"). CISDCP is "the world's largest internet-based disease reporting system," instituted since the SARS outbreak in 2003.<sup>98</sup> This system allows hospitals and clinics to report case-based information on diseases immediately through the Internet, facilitating the identification of outbreak locations and the cluster characteristics of patients (e.g., age, sex, occupation) by health officials.<sup>99</sup> In 2008, CISDCP developed and integrated cellular phone reporting.<sup>100</sup> Given the increasingly potent threat of communicable diseases in a globalized economy, strong nationally-based disease reporting systems are critical, and combining what works best at the national level through an integrated global system is an essential public health strategy for the twenty-first century.

More active steps are being taken by emerging countries to develop and shore up their health sector institutional framework. An instance of such a step was the establishment of a Developing Countries' Vaccine Regulators Network ("DCVRN") in 2004, under WHO auspices.<sup>101</sup> The goal of DCVRN is to strengthen regulatory capacity by facilitating discussion and increasing exposure to procedures and policies for the evaluation of clinical trial proposals and data through the exchange of information and expertise, with the aim of generating guidelines and recommendations.<sup>102</sup> The founding members are Brazil, China, Cuba, India, Indonesia, South Korea, Russia, South Africa, and Thailand, but DCVRN activities are to take into account the needs of other developing countries that may request help from the network.<sup>103</sup>

#### F. *Sharing Lessons Learned*

In the broader context of health system policy, emerging countries' public health and health care systems offer both positive and negative lessons about health development. Such lessons can stand as role models or warnings for health policy-making in the developing world. The positive

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98. Longde Wang et al., *Emergence and Control of Infectious Diseases in China*, 372 LANCET 1598, 1603 (2008).

99. *Id.*

100. Changhong Yang et al., *Use of Mobile Phones in an Emergency Reporting System for Infectious Disease Surveillance After the Sichuan Earthquake in China*, 87 BULL. WORLD HEALTH ORG. 619, 619 (2009).

101. World Health Organization, *Developing Countries' Vaccine Regulators Network Establishment*, [http://www.who.int/immunization\\_standards/vaccine\\_regulation/dcvrn/en/](http://www.who.int/immunization_standards/vaccine_regulation/dcvrn/en/) (last visited Sep. 3, 2010).

102. *Id.*

103. *Id.*

role models underline the importance of an egalitarian ethos and government attention to health and social spending. Brazil, for example, has achieved successes in both its public health programs and health system development. At a foundational level, a strong and clear commitment to universality and equality motivates Brazil's health system. This commitment is visible in numerous system components. In its 1988 National Constitution, for instance, Brazil established health care as a "right of all and the duty of the state."<sup>104</sup> The Unified Health System was created, under which government health priorities, planning programs, and resource allocation are decided with the participation of state and local health councils and consumer representation.<sup>105</sup> Civil society health advocacy groups, including those working with sex workers and intravenous drug users, receive government funding.<sup>106</sup> In the early 1990s, as part of a set of health policy reforms, the Brazilian government developed the Family Health Program ("FHP"), designed to reach out and serve poor families in rural areas; by 2009, the program has expanded to reach nearly fifty percent of the population.<sup>107</sup> As early as the 1940s, the Brazilian government, with United States assistance, had set up another outreach program targeting the populations of the Amazon.<sup>108</sup> This program, eventually absorbed into the Brazilian Ministry of Health, sought to address a wide range of health issues, from water and sanitation systems to the control of infectious diseases like malaria and Chagas.<sup>109</sup> A recent discussion of this program suggests it has "many lessons for the planners of health and disease control projects in tropical, low-income countries."<sup>110</sup> Brazil's powerful egalitarian ethos has shaped these initiatives.

The Indian state of Kerala has long been viewed as not only exemplary, but a model for "the rest of India and third world countries in providing primary health care."<sup>111</sup> Even though Kerala is quite poor economically, with a per capita income of one percent of the highest-income countries, Kerala has achieved low infant mortality rates and high life expectancy with

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104. Okie, *supra* note 48, at 1979. See also Kenneth Rochel de Camargo, *Celebrating the 20<sup>th</sup> Anniversary of Ulysses Guimarães' Rebirth of Brazilian Democracy and the Creation of Brazil's National Health Care System*, 99 AM. J. PUB. HEALTH 30, 31 (2009).

105. *Id.* at 1979-80.

106. *Id.* at 1980.

107. Mauricio L. Barreto & Rosana Aquino, *Recent Positive Developments in the Brazilian Health System*, 99 AM. J. PUB. HEALTH 8, 8 (2009).

108. Amelia L. Mayberry & Timothy D. Baker, Letter to Editor, *Lessons from a Special Service for Public Health, Brazil*, 15 EMERG. INFECT. DISEASES 1693, 1693 (2009).

109. *Id.*

110. *Id.*

111. C.R. Sonam, *Kerala's Crisis in Public Health*, BOLOJI.COM, Feb. 3, 2007, <http://www.boloji.com/analysis2/0182.htm> (last visited Sep. 3, 2010).



very modest investments in health care.<sup>112</sup> As in Brazil, an egalitarian ethos permeates the system in Kerala, which boasts a “relatively fair distribution of wealth and resources across nearly the entire population of the state,”<sup>113</sup> as well as high female literacy and a strong political commitment to social spending.<sup>114</sup> Kerala also has a potpourri of other social investments, including, for example, a public distribution system for subsidized essential foods, land reforms that benefit the poor and landless, and a strong transportation and communication infrastructure.<sup>115</sup> These, too, are programs to emulate.

Other currently and formerly emerging countries provide models and pointers for health policy reforms. Morocco, Mexico, and South Korea are examples of countries undertaking the expansion of health insurance coverage, or, in the case of South Korea, actually attaining universal insurance. In 2005, Morocco approved two reforms, one to expand coverage of the payroll-based mandatory insurance for public and formal private-sector employees, and the other to cover services for the poor through a public fund.<sup>116</sup> Despite the competing concerns of various stakeholders (e.g., medical professionals worried about compensation and insurers uncertain about the effects of reform), in Morocco they have reached “substantial agreement around the need for greater solidarity and equity in access” to quality care, and also for more resources and government oversight.<sup>117</sup> This was achieved over a fifteen-year debate involving politicians, health care providers, employers, trade unions, insurers, national social security funds, international organizations and donors, NGOs, and the public, showing the importance of broad consultation with and participation by affected parties.<sup>118</sup>

The Mexican reform launched in 2003 aims to redress the segmentation of its health system. The new Popular Health Insurance scheme (“PHI”) supplements the two older insurance schemes that cover private-sector workers, government workers, and their families; it offers subsidized, publicly

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112. K.R. Thankappan, *Some Health Implications of Globalization in Kerala, India*, 79 BULL. WORLD HEALTH ORG. 892, 892 (2001).

113. *Id.*

114. *Id.* (accounting for about forty percent of the total expenditure). See also InfoChangeIndia.org, *State Wise Social Sector Spending as Percentage of Total Expenditure*, <http://infochangeindia.org/200210025816/Governance/Statistics/State-wise-social-sector-spending-as-percentage-of-total-expenditure.html> (last visited Sep. 3, 2010) (describing the growing percentage of social sector spending between 2001 and 2004).

115. Thankappan, *supra* note 112, at 892.

116. Jennifer Prah Ruger & Daniel Kress, *Health Financing and Insurance Reform in Morocco*, 26 HEALTH AFF. 1009, 1009 (2007).

117. *Id.* at 1011.

118. *Id.*

provided health insurance to the fifty million who were left behind by those programs.<sup>119</sup> Attainment of universal coverage is projected for 2011.<sup>120</sup> One emphasis of this reform is solidarity. The federal government's fixed contribution for each family is equal across all three insurance schemes, which promotes solidarity among the population, regardless of work status.<sup>121</sup> Another funding component involves the federal government and "co-responsible contributor[s]," which are state governments for PHI.<sup>122</sup> Here, federal contribution is not fixed, but is "increased for poorer states at the expense of those that are wealthier."<sup>123</sup> This promotion of universal protection and fair financing echoes the egalitarianism underlying the public health successes of Brazil and Kerala.

South Korea, now a fully developed country, exemplifies one route to universal national health insurance. Like China, South Korea developed quite rapidly. In the span of twelve years, 1977-1989, it achieved universal health insurance through government-mandated coverage expansions that first targeted large firms with more than 500 employees, then the public sectors and smaller firms, and finally, remaining rural and urban residents.<sup>124</sup> Up until 1996, South Korea had been able to fund its national health insurance without deficits.<sup>125</sup> The 1997 Asian financial crisis contributed to funding problems, but the main causes have been traced to the government's shortcomings in regulating the supply of costlier medical specialists relative to the supply of generalists, controlling excessive use of expensive technologies by private hospitals and facilities, limiting out-of-pocket expenditures, reforming its pharmaceutical industry and regulatory framework, and countering the multinational pharmaceutical companies' promotional campaigns for expensive drugs.<sup>126</sup> But despite these difficulties in supply-side market regulation, South Korea demonstrates that universal

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119. Felicia Marie Knaul & Julio Frenk, *Health Insurance in Mexico: Achieving Universal Coverage Through Structural Reform*, 24 HEALTH AFF. 1467, 1468, 1470 (2005).

120. Suzanne Stephens Waller, *Mexico to Achieve Universal Health Coverage by 2011: President Calderón*, PRESIDENCIA DE LA REPUBLICA, Feb. 16, 2009, <http://presidencia.gob.mx/en/press/?contenido=42321>.

121. Knaul & Frenk, *supra* note 119, at 1470.

122. *Id.*

123. *Id.* at 1471.

124. Jong-Chan Lee, *Health Care Reform in South Korea: Success or Failure?*, 93 AM. J. PUB. HEALTH 48, 48 (2003).

125. *Id.* at 50.

126. *Id.*; see also Jennifer Prah Ruger & Hak-Ju Kim, *Out-of-Pocket Healthcare Spending by the Poor and Chronically Ill in the Republic of Korea*, 97 AM. J. PUB. HEALTH 804 (2007); Hak-Ju Kim & Jennifer Prah Ruger, *Pharmaceutical Reform in South Korea and the Lessons It Provides*, 27 HEALTH AFF. W260 (2008).

health coverage can be achieved alongside economic development, and within a relatively brief time.

In contrast to these role models, the experiences of China, Russia, and India (beyond Kerala) are object lessons that admonish against insufficiently regulated and excessive privatization and decentralization, and reveal the continuing importance of state stewardship of national health systems.

India's public health system "stagnated even as incomes have grown."<sup>127</sup> Decline in government spending and limited health insurance coverage are major contributors to poor performance.<sup>128</sup> The pressure to increase economic growth and India's IMF-mandated structural adjustment in the 1990s led to regressive policies such as the reduction of resources for health and social sectors.<sup>129</sup> User fees were imposed for public health facilities.<sup>130</sup> Only about fifteen percent of the Indian population has health insurance of any kind.<sup>131</sup> Out-of-pocket ("OOP") payments as a percentage of income in India exceeded ten percent for all residents except the richest urban quintile in 2004, and less well-off households risk sinking below the poverty line because of OOP payments.<sup>132</sup> Health spending as a percentage of gross domestic product ("GDP") increased from three and a half to five percent between 1988 and 2000, but this increase partly reflects "waste and inefficiency."<sup>133</sup> Inadequately regulated privatization has spurred overprescription of drugs and tests and unnecessary use of technology in richer locales, while public budget cuts have contributed to drug shortage and worker absenteeism in less prosperous areas.<sup>134</sup> Even Kerala, India's success story, is not immune. Household health expenditures in Kerala went up about 517% between 1987 and 1996, driven by increasing privatization and rising drug prices.<sup>135</sup> Additionally, many Keralite health professionals leave the public sector, especially in rural

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127. *Prologue: China and India: Reform Goes Global*, 27 HEALTH AFF. 920, 920 (2008).

128. Winnie Yip & Ajay Mahal, *The Health Care Systems of China and India: Performance and Future Challenges*, 27 HEALTH AFF. 921, 926 (2008). See also Thankappan, *supra* note 112, at 892.

129. SANDHYA SRINIVASAN & MINI SUKUMAR, LIBERALIZATION AND HIV IN KERALA, 3-4, 7 (United Nations Research Inst. for Social Dev. 2006), available at [http://www.unrisd.org/80256B3C005BCCF9/%28httpAuxPages%29/5F04F53D5B1D9F13C1257177004919B3/\\$file/Srinivasan-pp.pdf](http://www.unrisd.org/80256B3C005BCCF9/%28httpAuxPages%29/5F04F53D5B1D9F13C1257177004919B3/$file/Srinivasan-pp.pdf)

130. *Id.* at 7, 8.

131. Yip & Mahal, *supra* note 128, at 927.

132. *Id.* at 922-23.

133. *Id.* at 924.

134. *Id.* at 925-26.

135. Thankappan, *supra* note 112, at 892.

primary care clinics, because they are drawn to more lucrative private sector work,<sup>136</sup> thus further eroding the strength of Kerala's public health system.

In China, economic reforms since 1978 "destroy[ed] the nation's public health system," leaving "much of the population" uninsured and unprotected from health-related financial risks.<sup>137</sup> Before 1979, China provided "near-universal" coverage through the Cooperative Medical Scheme ("CMS") in rural areas, and the Government Insurance Scheme ("GIS") and Labor Insurance Scheme ("LIS") in urban areas.<sup>138</sup> Reform of the rural economy in 1979 established the Household Responsibility System, which replaced the communes that financed CMS.<sup>139</sup> Ninety percent of peasants were left uninsured by the disintegration of that insurance scheme.<sup>140</sup> GIS and LIS were replaced by a city-based social health insurance scheme that only covered formal-sector workers and excluded their dependents, migrants, and informal-sector workers.<sup>141</sup> Changing from a centrally planned economy to one based on market competition shrank the Chinese state sector and lowered government revenue.<sup>142</sup> Health spending came to be seen as a low-priority budget item, and government spending as a proportion of health spending decreased from approximately thirty percent to around fifteen percent.<sup>143</sup> By the early 1990s, government subsidies as a portion of public health facilities revenue fell to just ten percent.<sup>144</sup> In a bid to keep services affordable, the government set below-cost prices for basic health care, but it set high prices for drugs and high-tech diagnostic services to keep facilities solvent.<sup>145</sup> These moves created problematic incentives; when public health facilities had to realize ninety percent of their revenues from moneymaking activities, they became profit seekers.<sup>146</sup> Service provision is down, and costs are up. In rural areas, the lowest income quintile spends about twenty-seven percent of its income on OOP payments; in 2003, almost fifty percent of those reporting illness had forgone outpatient care, and almost forty percent of that group cited finances as the reason.<sup>147</sup> In response to these access problems, China in 2009 launched a health initiative to achieve insurance coverage of essential

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136. Sonam, *supra* note 111.

137. *Prologue: China and India: Reform Goes Global*, *supra* note 127.

138. Yip & Mahal, *supra* note 128, at 927.

139. *Id.*

140. *Id.*

141. *Id.*

142. *Id.* at 926.

143. *Id.*

144. *Id.* at 928.

145. *Id.*

146. *Id.*

147. *Id.* at 922-23.

health services for ninety percent of the population by the end of 2010, with the goal of universal coverage by 2020.<sup>148</sup> To this end, the government has so far committed \$125 billion over three years.<sup>149</sup>

Russia is probably the most vivid example of a wholesale public health system collapse. Since the demise of the Soviet Union, Russia has taken what some call the "Great Leap Downward,"<sup>150</sup> whereby reversals in health achievements have been the norm rather than the exception, especially with regard to cardiovascular diseases and drug- and alcohol-related injuries and poisoning.<sup>151</sup> Moreover, between 1990 and 1994, there was a fifty-fold increase in diphtheria, and a doubling in TB prevalence between 1991 and 1998.<sup>152</sup> Russia's government spending on the health care system has severely contracted—in a mere three years, it dropped from 6.2% of GDP in 2002 to three percent just prior to 2006.<sup>153</sup> Goods and services have been decentralized, leading to reduced access and quality, higher costs, and a weakening of the overall infrastructure.<sup>154</sup> The system falls short of meeting the health needs of people living with HIV and AIDS. Russia has around seventy percent of all HIV cases in Eastern Europe and Central Asia, with one of the world's fastest growing HIV epidemics, yet only six to fifteen percent of those in need have access to antiretroviral treatment ("ART").<sup>155</sup> In a lesson of what to avoid in health systems management, the Soviet Ministry of Health built a "separate centralized network of AIDS centers," not integrated into the broader health care system.<sup>156</sup> Observers in 2006 remarked that, "to this day," providers in the AIDS centers "generally remained poorly trained and informed about the disease."<sup>157</sup> Abstinence-based programs and deficits in addressing transmission among intravenous drug users have also contributed to failures in HIV/AIDS care, as in other

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148. Yan Guo et al., *Tracking China's Health Reform*, 375 LANCET 1056, 1056 (2010).

149. *Id.*

150. Nicholas Eberstadt & Apoorva Shah, *Russia's Great Leap Downward*, J. INT'L SEC. AFF., Fall 2009, at 73, 73.

151. *Id.* at 79-80.

152. Col Alan R. Constantian, *Russia's Public Health: National Security Issue for the United States?* 170 MILITARY MED. 285, 285 (2005).

153. Tracey Lynn Koehlmoos, Adjunct Professor, George Mason Univ., Lecture: The Russian Healthcare System, <http://gunston.gmu.edu/healthscience/InternationalHealth/TheRussianHealthcareSystem.ppt> (last visited Sep. 3, 2010) (detailing the organization and operation of the Russian healthcare system).

154. *Id.*

155. MORRISON & KATES, *supra* note 4, at 10, 13.

156. *Id.* at 11.

157. *Id.*

parts of the world.<sup>158</sup> One bright spot in Russia's AIDS picture, with positive lessons for other countries, is its exemplary program to prevent mother-to-child transmission.<sup>159</sup>

Incentives are important for the design and performance of health programs, and inadequate consideration for economic realities can generate perverse incentives and outcomes. South Africa's Disability Grant is a case in point.<sup>160</sup> This grant is meant to ensure that HIV/AIDS patients can afford adequate nutrition and transportation to clinics.<sup>161</sup> Eligibility is "temporary and contingent" on the recipient's CD4 count.<sup>162</sup> The Disability Grant is the "only form of social security available to working-age adults in South Africa."<sup>163</sup> This proves unfortunate in a country with an unemployment rate that hovers around forty percent; since jobs are so scarce, the Disability Grant is frequently used to support whole families, rather than merely to supplement HIV/AIDS treatment.<sup>164</sup> Patients are believed to default on treatment in order to keep the grant, although more recent empirical research has called this into question.<sup>165</sup> Fearing fraud, the South African government has strengthened enforcement during the annual grant review, causing many patients to lose the grant after commencing ART.<sup>166</sup> Chinese pricing of health services, as described earlier, also creates counterproductive incentives that undermine medical professional ethics and norms.<sup>167</sup> Seeing the need for incentive reform, the Chinese government has encouraged cities and localities to experiment with various schemes, many of which involve switching from retrospective fee-for-service payment to aggregated and prospective payment methods with performance-linked incentives.<sup>168</sup>

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158. Associated Press, *Russia Is Urged to Switch Its Approach to Curbing Spread of H.I.V.*, N.Y. TIMES, Oct. 29, 2009, at A7 (describing Russia's adherence to abstinence-only program on HIV prevention).

159. *Id.*

160. See generally PlusNews, *South Africa: Disability Grant Cutoff Threatens Livelihoods of People on Treatment*, PLUSNEWS.ORG, Sep. 2006, <http://www.plusnews.org/InDepthMain.aspx?InDepthId=40&ReportId=70992> (last visited Sep. 3, 2010) (detailing the impact of South Africa's disability grant for HIV patients); see also Atheendar Venkataramani et al., *Social Grants, Welfare, and the Incentive to Trade-Off Health for Income Among Individuals on HAART in South Africa*, AIDS & BEHAV. (2009) (published online).

161. PlusNews, *supra* note 160.

162. *Id.*

163. *Id.*

164. *Id.*

165. Venkataramani et al., *supra* note 160.

166. PlusNews, *supra* note 160.

167. Winnie Chi-Man Yip et al., *Realignment of Incentives for Health-Care Providers in China*, 375 LANCET 1120, 1120 (2010).

168. *Id.* at 1121.

The cautionary examples of India, China, Russia, and South Africa show that health systems cannot be developed or maintained in isolation from other social and economic challenges and government policies. They are arguments for a comprehensive, multi-sector approach to health system development and health policy-making.

*G. Expanding Economies and Reducing Poverty*

As discussed above, emerging countries like BRIC are in position to provide other developing countries with financial, material, and technical assistance, and to model both positive and negative lessons in public health and health care development. With their burgeoning economies and rising regional and international clout, BRIC also have the ability to help developing countries address the economic determinants of health, by assisting with the expansion of their economies and the reduction of poverty, which is associated with poor health. A growing economy provides the necessary resources for health system development, both initial investments and recurring expenditures.

Regional trade agreements ("RTA") are one way to open markets to developing countries. These preferential trade agreements reduce tariffs and restrictions on trade among members; some may also apply a common external tariff toward non-members, or perhaps engage in even deeper economic integration, such as common currencies.<sup>169</sup> The BRIC countries are involved in a number of RTAs. Brazil is part of Mercosur, the full and associate members of which include Argentina, Paraguay, Uruguay, Venezuela, Bolivia, Chile, Colombia, Ecuador, and Peru.<sup>170</sup> Mercosur is a free trade zone and a customs union, with aims toward a common currency.<sup>171</sup> Russia has been a member of the Eurasian Economic Community ("EAEC") since 2000, along with Belarus, Kazakhstan, Kyrgyzstan and Tajikistan; Armenia, Moldova, and the Ukraine are observers.<sup>172</sup> The goals of EAEC include the free trade of goods, encouragement of investments, a common market for energy, and a common system for customs regulation.<sup>173</sup> To deepen the EAEC economic

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169. Ildikó Virág-Neumann, *Regional Trade Agreements and the WTO*, in 7<sup>th</sup> INTERNATIONAL CONFERENCE ON MANAGEMENT, ENTERPRISE AND BENCHMARKING 381, 382-84 (2009) (explaining the relationship between RTAs and the WTO).

170. Joanna Klonsky & Stephanie Hanson, *Mercosur: South America's Fractious Trade Bloc*, COUNCIL ON FOREIGN RELATIONS, <http://www.cfr.org/publication/12762> (last visited Sep. 3, 2010).

171. *Id.*

172. *Eurasian Home Analytical Resource, Eurasian Economic Community (EAEC)*, <http://eurasianhome.org/xml/t/databases.xml?lang=en&nic=databases&intorg=3&pid=25> (last visited Sep. 7, 2010).

173. *Id.*

integration process, Russia announced plans to establish a Common Economic Space with Belarus and Kazakhstan, which entails a customs union effective this year.<sup>174</sup> China and India both have free trade agreements with the Association of Southeast Asian Nations ("ASEAN") starting this year, opening up their markets to the Southeast Asian countries of Brunei, Myanmar, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnam.<sup>175</sup> India also has a preferential trade agreement with Mercosur.<sup>176</sup> These are prominent examples of RTAs.

Because of lower tariffs, regional trade partners benefit from cheaper goods for consumers. For instance, average tariff rates on both Chinese goods sold in ASEAN countries and ASEAN goods sold in China has decreased to near zero.<sup>177</sup> Trading partners additionally gain access to new markets for export, which profits domestic businesses. However, RTAs are not simple instruments; though they liberalize trade among member states, RTAs may have negative consequences such as encouraging costlier imports from member countries at the expense of less expensive goods from non-members, which could potentially harm consumers in these developing countries.<sup>178</sup> There are also concerns that industries and sectors in the smaller trading partners' economies may not be able to withstand competition from the BRIC economies, especially China.<sup>179</sup>

174. Xinhua News Agency, *Russia, Belarus, Kazakhstan to Establish Common Economic Space Before 2012*, CHINA VIEW, Dec. 20, 2009, [http://news.xinhuanet.com/english/2009-12/20/content\\_12672863.htm](http://news.xinhuanet.com/english/2009-12/20/content_12672863.htm) (last visited Sep. 7, 2010).

175. John Wong & Sarah Chan, *China-ASEAN Free Trade Agreement: Shaping Future Economic Relations*, 43 ASIAN SURVEY 507, 508, 508 n.3 (2003) (explaining the potential for a free trade agreement to open up trade between China and East Asia); TULI SINHA, INST. OF PEACE AND CONFLICT STUDIES SPECIAL REPORT: INDIA-ASEAN FREE TRADE AGREEMENT: A SURVEY OF LITERATURE 4 (2009); *India-ASEAN Free Trade Agreement to Come into Force in January 2010*, SIFY.COM, Nov. 23, 2009, <http://sify.com/finance/india-asean-free-trade-agreement-to-come-into-force-in-january-2010-news-news-jlxsudjajdj.html>

176. Preferential Trade Agreement Between Mercosur and the Republic of India, Jan. 25, 2004, available at [http://www.commerce.nic.in/trade/indiamercosur/pta\\_indiaandmercotur.pdf](http://www.commerce.nic.in/trade/indiamercosur/pta_indiaandmercotur.pdf).

177. Stephen Coates, *ASEAN-China Open Free Trade Area*, SYDNEY MORNING HERALD, Dec. 30, 2009, available at <http://news.smh.com.au/breaking-news-world/aseanchina-open-free-trade-area-20091230-ljht.html> (noting that the average tariff rate for goods imported into China from ASEAN countries would drop from 9.8% to 0.1%, and that the tariff rates for goods exported from China to ASEAN countries would drop from 12.8% to 0.6%).

178. Alexander J. Yeats, *Does Mercosur's Trade Performance Raise Concerns About the Effects of Regional Trade Arrangements?*, 12 WORLD BANK ECON. REV. 1, 2, 26 (1998) (explaining that discriminatory trade barriers could deny access to higher-quality lower-priced goods for consumers in Mercosur).

179. *The China-ASEAN Free Trade Agreement: Ajar for Business*, ECONOMIST Jan. 9, 2010, at 44, 44.



Yet RTAs can also be designed to ensure aid to development. South Africa anchors a free trade arrangement that has an explicit development component, the Southern African Customs Union ("SACU").<sup>180</sup> This customs union provides for free trade among South Africa, Botswana, Lesotho, Namibia, and Swaziland, and erects a common external tariff and a common excise tariff for the group.<sup>181</sup> South Africa acts as the custodian of the Revenue Fund, into which all common customs revenue is paid.<sup>182</sup> Revenue is distributed to Botswana, Lesotho, Namibia, and Swaziland in accordance with a revenue-sharing formula, with South Africa retaining the residuals.<sup>183</sup> A portion of SACU revenue derived from the excise tariff is earmarked for development.<sup>184</sup> This portion is calculated for member countries based on the inverse of each country's per capita GDP,<sup>185</sup> thus serving a redistributive function.

Economic assistance comes in other forms as well. China, for example, announced an aid package for ASEAN worth billions of dollars to further China-ASEAN cooperation.<sup>186</sup> The aid includes investments in infrastructure construction, energy, information, and communications; preferential loans; scholarships; and rice for the emergency East Asia rice reserve.<sup>187</sup> In 2007, China set aside for Africa about five billion dollars in investments and another five billion dollars in loans and credits, with no political strings attached.<sup>188</sup> In 2005, Russia, as a member of the G8, participated in forgiving at least forty billion dollars in debt for eighteen of the world's poorest countries.<sup>189</sup> Debt relief and development assistance can redirect

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180. Southern African Customs Union, About SACU, <http://www.sacu.int/about.php?include=about/history.html> (last visited Sep. 7, 2010) (explaining the history and present status of the Southern African Customs Union).

181. *Id.*

182. Department of International Relations and Cooperation of South Africa, *Southern African Customs Union (SACU): History and Present Status* (2004), available at <http://www.dfa.gov.za/foreign/Multilateral/africa/sacu.htm> (accessed Sep. 7, 2010).

183. *Id.*

184. *Id.*; see also Southern African Customs Union, 2002 Southern African Customs Union (SACU) Agreement, Part 7, art. 34: Revenue Sharing Formula, <http://www.sacu.int/main.php?include=docs/legislation/2002-agreement/part7.html> (last visited Sep. 7, 2010).

185. *Id.*

186. Xinhua News Agency, *China Rolls Out Assistance Blueprint for ASEAN*, CHINA VIEW, Apr. 12, 2009, [http://news.xinhuanet.com/english/2009-04/12/content\\_11173381.htm](http://news.xinhuanet.com/english/2009-04/12/content_11173381.htm).

187. *Id.*

188. Chinese Aid Flows into Africa, *supra* note 12.

189. RONALD LABONTE ET AL., *FATAL INDIFFERENCE: THE G8, AFRICA AND GLOBAL HEALTH* xiv (2004) (explaining how Russia's membership in the group known as the G7 created the G8); *G8 Agree to Cancel \$40B in Debt Owed by 18 of World's Poorest Countries*, MEDICAL NEWS TODAY, June 14, 2005, <http://www.medicalnewstoday.com/articles/26090.php> (last visited Sep. 7, 2010).

national spending away from debt service and toward health and social spending. As such, they can be a "vital element" in meeting the Millennium Development Goals for health.<sup>190</sup>

Economic assistance does not have to be monetary. Brazil, for instance, strengthened the ability of developing countries to participate effectively in WTO agricultural negotiations by leading the organization and coordination of G20.<sup>191</sup> G20 members have disparate, even conflicting positions in agricultural negotiations, but Brazil's technical experts from government and the private sector played a large part in generating technically consistent proposals that brought G20 recognition as a major new actor in agricultural negotiations.<sup>192</sup> To the extent that such efforts improve the trading positions of developing countries, they confer economic advantages.

#### H. Taking a Role in Global Health Governance

Emerging countries have a role in global health governance. A multiplicity of actors and agendas characterizes the current global health architecture. The actors include (but are not limited to) the World Bank, WHO, UNAIDS, UNICEF, NGOs, think tanks, The Global Fund, entities such as the Gates, Ford and Rockefeller foundations, the EU, the USA, other developed countries, and now emerging countries.<sup>193</sup> The growth of emerging countries as major new international players with political and financial clout to influence global and domestic health agendas adds to the global health architecture's pluralism and fragmentation, possibly exacerbating the lack of coordination and the often ad hoc nature of the global health agenda.<sup>194</sup> Emerging countries' activities would have greater chances of success if players took effective steps to avoid duplication and inadvertent conflict with the efforts of other global health actors and funders.<sup>195</sup> This need creates an even more compelling rationale for an overarching institution to set the global agenda and coordinate policy.<sup>196</sup>

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190. *G8 Agree to Cancel \$40B in Debt Owed by 18 of World's Poorest Countries*, *supra* note 189.

191. Pedro da Motta Veiga, *Brazil and the G-20 Group of Developing Countries*, in *MANAGING THE CHALLENGES OF WTO PARTICIPATION: 45 CASE STUDIES* 109 (Peter Gallagher et al. eds., 2005), available at [http://www.wto.org/english/res\\_e/booksp\\_e/casestudies\\_e/case7\\_e.htm](http://www.wto.org/english/res_e/booksp_e/casestudies_e/case7_e.htm) (arguing that Brazil helped form the G-20 to help developing countries bargain jointly).

192. *Id.* at 115.

193. Jennifer Prah Ruger & Derek Yach, *Global Functions at the World Health Organization*, 330 *BRIT. MED. J.* 1099, 1100 (2005) (discussing the growth of pluralism in international health).

194. *Id.*

195. *See generally id.*

196. *See generally id.*

The WHO is one possibility in this regard.<sup>197</sup> The general wish of the global health community for more coordination might be seen in the election of Margaret Chan as WHO Director-General in 2006, which was described by some as reflective of “[i]nternational desire for more cooperation from China.”<sup>198</sup>

There is another story to be told about emerging countries’ role, however—about their potential as counterbalance or counterforce to more “powerful” countries. Brazil, Russia, India, and China publicly declared themselves a cooperative group with the first BRIC summit.<sup>199</sup> There, BRIC issued joint statements that, among other things, called for greater representation of emerging and developing economies in international financial institutions, and comprehensive reform of the United Nations to include greater status for India and Brazil.<sup>200</sup> This BRIC summit followed directly on the heels of a meeting of the Shanghai Cooperation Organization (“SCO”), a regional forum for security and economic cooperation of Central Asian states, led by Russia and China.<sup>201</sup> The desire to counterbalance the established powers is clear in “a common thread” at the SCO and BRIC summits, the “discussion of a new world order less dependent on the United States.”<sup>202</sup>

The BRIC countries act in other combinations as well. Brazil, India, and South Africa, for example, formed a “trilateral alliance” in 2003 called the India, Brazil, and South Africa Dialogue Forum (“IBSA”) to coordinate and “maximize joint actions” in pursuit of mutual interests within international organizations like the WTO.<sup>203</sup> The intent was to “hold regular political consultations”, share information, and coordinate positions.<sup>204</sup> Some of the issues addressed by IBSA include pharmaceutical patents, public health, and government subsidies.<sup>205</sup> IBSA as a bloc has also sought alliances with other countries such as China and Argentina around specific global issues

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197. *Id.* (describing WHO’s current operational framework).

198. Gretchen Vogel, *SARS and Bird Flu Veteran to Take WHO Helm*, 314 *SCIENCE* 1067, 1067 (2006) (“The vote . . . was as much a vote for China as it was for Margaret Chan.”) (internal quotations omitted).

199. Dmitry Medvedev, President of Russia, Opening Address at Restricted Format Meeting of BRIC Leaders (June 16, 2009), [http://archive.kremlin.ru/eng/text/speeches/2009/06/16/2230\\_type82914\\_217934.shtml](http://archive.kremlin.ru/eng/text/speeches/2009/06/16/2230_type82914_217934.shtml).

200. President of Russia Official Web Portal, Joint Statement of the BRIC Countries’ Leaders (June 16, 2009), <http://archive.kremlin.ru/eng/text/docs/2009/06/217963.shtml>.

201. Faulconbridge, *supra* note 13.

202. *Id.*

203. Gladys Lechini, *Middle Powers: IBSA and the New South-South Cooperation*, *NACLA REP. ON AM.*, Sep.-Oct. 2007, at 28, 28.

204. *Id.* at 29.

205. *Id.* at 28.

like agricultural policy and subsidies.<sup>206</sup> Thus, IBSA, and those with which it coordinates, aim to use their collective clout to win concessions on issues of special relevance.<sup>207</sup> This “soft balancing” technique combines economic, diplomatic, and institutional tools to challenge the position of major powers.<sup>208</sup> It may be a harbinger of negotiations to come as emerging countries both develop and cooperate more effectively.

Some BRIC countries have transitioned to more “elite” status in global governance and thus assume greater political weight. Russia, for example, is a member of G8,<sup>209</sup> and even though the G8 is more of a supplemental global health governance model with a decidedly top-down aspect, it is nonetheless influential. As G8 president in 2006, Russia committed to increasing the importance and visibility of HIV/AIDS as a central theme of G8 action, despite its own HIV/AIDS failures, and emphasized the need to meet existing pledges and commitments as opposed to starting completely new endeavors.<sup>210</sup> Russia also reached out to the other BRIC countries, South Africa, and Mexico to participate in an April 2006 health ministerial session in Moscow.<sup>211</sup> Regionally, Russia was active in coordinating a Commonwealth of Independent States (“CIS”) Inter-Parliamentary Assembly working group in 2002 that drafted a model law, “On Prevention of Spreading of HIV/AIDS in CIS Countries,” and hosted a 2005 ministerial meeting, “Urgent Response to HIV/AIDS Epidemics in the Commonwealth of Independent States,” in Moscow.<sup>212</sup> From that meeting came the Moscow Declaration emphasizing the need to scale up HIV responses in CIS.<sup>213</sup> Moscow then hosted, in 2006, the first regional Eastern European and Central Asia AIDS conference.<sup>214</sup>

### *1. Linking Health and Foreign Policy*

Health issues are becoming an important focus in foreign policy. Global interdependence with its massive volumes of international trade and travel means that health hazards anywhere in the world can potentially threaten citizens of every country. Border-crossing infectious diseases (like SARS and influenza) and the specter of bioterrorism place health within the national security realm. HIV/AIDS poses serious risks to international and

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206. *Id.* at 29.

207. *Id.*

208. *Id.* at 31.

209. MORRISON & KATES, *supra* note 4, at 1.

210. *Id.* at 6.

211. *Id.*

212. *Id.* at 12.

213. *Id.*

214. *Id.*

regional stability by disrupting the demographic, social, economic, and political structures of states. Economic interests are at issue, too, since healthy populations—which are more productive and likely to have more disposable income—are better workers and consumers who contribute more to economic growth.<sup>215</sup> For countries confronting overwhelming health challenges, such as those in sub-Saharan Africa, foreign policies concerning access to drugs and resources for health programs may be, without much exaggeration, a matter of national survival. The signs of health's ascendance in foreign policy are clear. The United Nations Security Council debated HIV/AIDS for the first time in 2000, the same year the leading world economies comprising the G8 committed to the establishment of the Global Fund.<sup>216</sup>

The treatment of health as a national economic and security interest elevates health's status in international relations, and along with that come more attention and resources. Health becomes an investment in economic productivity, harm prevention, and future cost savings.<sup>217</sup> This "investment-based global-health debate" basically makes the argument of "increased interdependence, threat to the rich countries if they do not act, and great economic benefits for all if they do."<sup>218</sup> It is a simple, compelling appeal to enlightened self-interest. This argument has important policy implications, specifically that "the global disease burden must be explained by a lack of good governance, of money, and of efficiency in implementation," and not by "inherently political decisions and the distribution of power."<sup>219</sup> This obscures the real effects of the fundamental international disparity in economic and political power. For example, developing countries' tropical diseases are ignored in pharmaceutical research and development—which takes place largely in advanced industrialized countries—because poor countries do not have the economic power to render such ventures profitable.<sup>220</sup> Out of the 1,223 new chemical entities brought to market

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215. Editorial, *The Self-Interest Case for US Global Health Cooperation*, 349 LANCET 1037, 1037 (1997) (arguing that economic "greed" is a reason for the Institute of Medicine's Board on International Health to expand American efforts to improve global health).

216. S.C. Res. 1308, U.N. Doc. S/RES/1308 (July 17, 2000), available at <http://www.securitycouncilreport.org/atf/cf/%7B65BF9B-6D27-4E9C-8CD3-CF6E4FF96F99%7D/CC%20SRES%201308.pdf> (adopting resolution to address the HIV/AIDS pandemic); MORRISON & KATES, *supra* note 4, at 5 (Global Fund arose out of the 2000 G-8 summit in Okinawa, Japan.).

217. Ilona Kickbusch, *Influence and Opportunity: Reflections on the U.S. Role in Global Public Health*, 21 HEALTH AFF. 131, 134, 135 (2002).

218. *Id.* at 135.

219. *Id.*

220. Bernard Pécoul et al., *Access to Essential Drugs in Poor Countries: A Lost Battle?*, 281 JAMA 361, 363 (1999) (e.g., chloramphenicol is a simple and low cost treatment for

between 1975 and 1997, only one percent are for tropical diseases, and only 0.3% were direct products of pharmaceutical—as opposed to military or veterinary—research and development.<sup>221</sup> A low-income country with good governance and efficient policy implementation would still have trouble with disease burdens if the necessary drugs do not exist.

The national interest approach to health exists in tension with an approach that calls for a global and provincial consensus on the morality of health.<sup>222</sup> National interest does not necessarily value health for its own sake. It does not take the view that health is a special social good, which every country has a responsibility to promote, particularly among its own citizens but also among citizens of the world. Rather, health as a national interest is handled politically, not medically, nor always in an evidence-based manner. G8 countries, which established the Global Fund for AIDS, Malaria, and Tuberculosis, take little action on tobacco, a major cause of chronic illness and a public health threat.<sup>223</sup> Health got onto the foreign policy agenda, but it is still a relatively low priority.<sup>224</sup> When health comes into conflict with powerful economic interests—such as the pharmaceutical industry—it is likely to end up on the losing side.

Why is a discussion of health and foreign policy important for BRIC? To a global health approach that privileges health as a special social good, distinct and separate from other social goods like economic growth and trade, BRIC can contribute many useful lessons. Their experiences and ongoing challenges show that health does not need to be—and should not be—sacrificed or traded off in the pursuit of economic growth. An inclusive approach that sets priorities and allocates resources in consultation with affected parties and which gives extra help to the most disadvantaged should be taken.<sup>225</sup> Some of the emerging countries already practice this type of health governance at the national or local level. The egalitarianism of the Brazilian, Keralan, and Mexican public health systems, the strong civic

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bacterial meningitis, of which there were over 100,000 cases in Nigeria in 1996, but the drug was not available in sufficient quantities).

221. *Id.* at 364 (citing P. Trouiller et al., *Analysis of Drug Development Patterns of Six Tropical Diseases Between 1975 and 1997* (1998) (unpublished manuscript presented at the Eighth International Congress on Infectious Diseases, May 15-18, Boston, Mass.)).

222. See generally Jennifer Prah Ruger, *Global Health Justice*, 2 PUB. HEALTH ETHICS 261, 261 (2009) (arguing for a view of “global health justice” that relies on “provincial globalism,” a global and provincial consensus).

223. LABONTE ET AL., *supra* note 189, at 42, 71.

224. *Id.* at 73-75 (describing shortcomings of G8 efforts with respect to health goals).

225. See generally Jennifer Prah Ruger, *Ethics and Governance of Global Health Inequalities*, 60 J. EPIDEMIOLOGY & COMMUNITY HEALTH 998 (2006) (discussing the moral basis for public health activities, who has the responsibility to act, what they should do, and how they might do it).

engagement of the highly lauded Brazilian HIV/AIDS program, and the deliberative process and consensus achieved in Moroccan health reform are a few examples of this type of health governance at work.<sup>226</sup>

As emerging countries gain a more powerful voice in international affairs, they can draw attention to their successes and help take “shared health governance” to the global level through leading by example. With growing economic and political strength, these countries can make more forceful demands for the collective agency of the developing world, so that the needs and interests of recipient states can be properly considered and accounted for in global and international health action. And these countries can increase their individual and collective clout in international organizations and advocate for the need to coordinate policies across sectors—such as trade and health—to improve health outcomes.

As we have seen, BRIC are now featured prominently in political relationships at the regional and global level and in international diplomatic relations. Emerging countries like the BRIC nations are becoming economic and political forces to be reckoned with, but they also bring the concerns and claims of the developing world to the foreign policy table. In the arena of essential drugs, for instance, they have already made notable progress in shifting norms toward a duty to access.

To promote the integration of health issues in foreign policy, several emerging countries have participated in the launch of the Foreign Policy and Global Health Initiative (“FPGH”).<sup>227</sup> Participants are Brazil, France, Indonesia, Norway, Senegal, South Africa, and Thailand.<sup>228</sup> This is a step toward “a more sustainable relationship between foreign policy and health.”<sup>229</sup>

### III. SOME NECESSARY CAVEATS

#### A. *Emerging and Transitioning*

Emerging and transitioning countries—especially BRIC—have great potential to help shape global health. Still, while these countries may be emerging economically, their public health and health care systems do not necessarily match their economic advancements. Many aspects of these systems still need development, and emerging countries will require assistance and support from the industrialized world.

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226. See *supra* section II, sub-section F.

227. Margaret Chan et al., *Foreign Policy and Global Public Health: Working Together Towards Common Goals*, 86 BULL. WORLD HEALTH ORG. 498, 498 (2008).

228. *Id.*

229. *Id.*

Numerous health challenges confront these countries. For example, Brazil's HIV/AIDS response is a salient public health success, but gaps exist even there due to insufficient resources.<sup>230</sup> It is "not uncommon" to find untreated HIV patients in Rio emergency rooms,<sup>231</sup> and drugs are not always available in Brazilian pharmacies, leading citizens to sue the government for drug access.<sup>232</sup> Brazil's tuberculosis control program is also much less successful than its HIV/AIDS effort.<sup>233</sup>

Russia's health outcomes have been suffering under the post-Soviet decentralization of the public health system, but, in addition, it is experiencing a rapid and significant increase in alcohol and substance abuse. Per capita alcohol consumption in Russia more than doubled between 1987 and 2001, from about five liters a person to more than ten.<sup>234</sup> In 2006, Russia had over 300,000 registered drug dependents, and experienced more than 240,000 drug-related crimes, up twenty-three percent from 2005.<sup>235</sup> Both alcohol and substance abuse put individuals at risk for physical health problems such as tuberculosis, hepatitis, HIV/AIDS, and other sexually transmitted diseases,<sup>236</sup> and more generally, mental health disorders<sup>237</sup> and injuries from auto accidents.<sup>238</sup> Russia has one of the world's fastest growing HIV epidemics and accounts for the bulk of HIV cases in Eastern Europe and Central Asia.<sup>239</sup>

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230. Cohen, *supra* note 24, at 485 (discussing increases in costs and fears about the long-term sustainability of the program).

231. *Id.* at 486.

232. João Biehl et al., *Judicialisation of the Right to Health in Brazil*, 373 LANCET 2182, 2182-83 (2009) (discussing the attitudes in Brazil and its legal system toward these lawsuits).

233. Cohen, *supra* note 24, at 486.

234. WORLD HEALTH ORG., WHO GLOBAL STATUS REPORT ON ALCOHOL 2004, COUNTRY PROFILES: EUROPEAN REGION: THE RUSSIAN FEDERATION 1 (2004), available at [http://www.who.int/substance\\_abuse/publications/en/russian\\_federation.pdf](http://www.who.int/substance_abuse/publications/en/russian_federation.pdf).

235. UNITED NATIONS OFFICE ON DRUGS & CRIME, REG'L OFFICE FOR RUSSIA & BELARUS, ILLICIT DRUG TRENDS IN THE RUSSIAN FEDERATION 10, 19 (2008), available at [http://www.unodc.org/documents/regional/central-asia/Illicit%20Drug%20Trends%20Report\\_Russia.pdf](http://www.unodc.org/documents/regional/central-asia/Illicit%20Drug%20Trends%20Report_Russia.pdf).

236. NAT'L INST. ON DRUG ABUSE, DRUG ABUSE AND THE LINK TO HIV/AIDS AND OTHER INFECTIOUS DISEASES 3 (2008), available at <http://www.nida.nih.gov/PDF/Infofacts/DrugsAIDS08.pdf>.

237. Joanna Saisan et al., *Substance Abuse and Mental Health: Overcoming Alcohol and Drug Addiction While Coping with Depression or Anxiety*, HELPGUIDE.ORG (2010), <http://www.helpguide.org/mental/dualdiagnosis.htm> (defining "co-occurring" disorders as the condition when an individual has a mental health disorder coupled with a drug or alcohol problem).

238. See, e.g., Jennifer Copley, *Alcohol and Health Problems, Drinking Increases the Risk for Cancer, Osteoporosis and Injury*, SUITE101.COM (2008), [http://food-facts.suite101.com/article.cfm/alcohol\\_and\\_health\\_problems](http://food-facts.suite101.com/article.cfm/alcohol_and_health_problems) (explaining that motor skill impairment caused by alcohol consumption makes people more accident-prone and injuries more severe).

239. MORRISON AND KATES, *supra* note 4, at 10.



India has a relatively low national HIV/AIDS prevalence rate—about 0.3% in 2008<sup>240</sup>—but the sheer size of its population means that even at this rate, India has the world's third largest number of people living with HIV/AIDS.<sup>241</sup> Even small upward movements in the prevalence rate would mean big increases in the number of patients and in the demand on India's health system.<sup>242</sup> More revealing of India's health system weaknesses is its high maternal mortality rate, estimated by UNICEF at around 450 per 100,000 live births,<sup>243</sup> compared to China's rate of about fifty per 100,000 live births.<sup>244</sup> Major causes for such a high rate include the lack of primary healthcare facilities, the dearth of skilled birth attendants, corrupt health workers who extort women for money or withhold care, and the prevalence of anemia among women due to poor nutrition.<sup>245</sup>

Inadequate human and physical resources hamper China's HIV/AIDS response. Local governments are responsible for implementing and funding patient treatment, but resources are limited and local officials may have incentive to downplay the HIV issue for fear of deterring investments.<sup>246</sup> A lack of qualified teachers and education materials likewise undermines HIV education efforts.<sup>247</sup> As the largest producer and consumer of tobacco in the world, China has over 320 million smokers, or about a third of all smokers worldwide.<sup>248</sup> Between 1980 and 1990, tobacco consumption increased by 7.2% per year, mainly from new teenage smokers.<sup>249</sup> This poses significant health problems: predicted deaths attributed to smoking are expected to reach three million in 2050; over two-thirds of smoking-

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240. AVERT.org, Overview of HIV and AIDS in India, <http://www.avert.org/aidsindia.htm> (last visited Sep. 7, 2010).

241. *Id.*

242. *Id.* (noting that an increase in the prevalence of HIV in India by 0.1% would likely increase the number of individuals living with HIV by over a half million).

243. Sujoy Dhar, *India Grapples with High Maternal Death Rate*, REUTERS, Jan. 26, 2009, <http://in.reuters.com/article/topNews/idINIndia-37651720090126?pageNumber=1&virtualBrandChannel=0> (last visited Sep. 7, 2010).

244. *Id.*

245. *See generally id.* (detailing how poor women in rural India have been left behind by India's economic boom, such that about 78,000 mothers die in India each year from childbirth and pregnancy).

246. *See generally* Avert.org, HIV & AIDS in China, <http://www.avert.org/aidschina.htm> (last visited Sep. 7, 2010) (describing China's changed response to the AIDS epidemic as reflected by the initiation of a program to address the issue); Bates Gill & Susan Okie, *China and HIV—A Window of Opportunity*, 356 N ENGL J MED. 1801 (2007); Jonathan Watts, *AIDS in China: New Legislation, Old Doubts*, 367 LANCET 803 (2006).

247. HIV & AIDS in China, *supra* note 247.

248. Hong Zhang & Baiqiang Cai, *The Impact of Tobacco on Lung Health in China*, 8 RESPIROLOGY 17, 17 (2003).

249. *Id.* at 17, 18.

related deaths are due to respiratory conditions such as chronic obstructive pulmonary disease, lung cancer, and tuberculosis.<sup>250</sup>

South Africa continues its struggle with HIV/AIDS. It has “the largest [ART] program in the world,” but also “the world’s largest epidemic.”<sup>251</sup> Less than a third of the infected population received treatment in 2007.<sup>252</sup> Efforts to prevent mother-to-child transmission are unsatisfactory, with South Africa’s 2008 guidelines criticized as being below WHO standards.<sup>253</sup> Education campaigns are failing due to lack of teachers and the lack of incentive for teachers to train, with the result of widespread ignorance of preventive methods.<sup>254</sup> Less than half of the South African population, across all age groups and sexes, were aware of the preventive effects of condom use and fewer sex partners.<sup>255</sup>

### *B. Still Needed: Assistance from the Global Community*

The alarming health problems facing BRIC and their still-developing health systems make clear their need for continuing assistance from the global health community. Attention should focus especially on public health surveillance and control of infectious agents, and on health system development.

The case of SARS exposed significant gaps in the Chinese public health surveillance system, specifically its design and vulnerability to political considerations. The inefficient reporting process resulted in disease information passing sequentially through local, provincial, and central levels of authority before reaching officials who had the power to act.<sup>256</sup> “Top secret” designation for such information precluded interprovincial information sharing until the Ministry of Health gave permission.<sup>257</sup> Personal and political incentives further limited information flow as various officials suppressed news of the SARS outbreak to protect trade and investments, to

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250. *Id.* at 18.

251. AVERT.org, HIV and AIDS in South Africa, <http://www.avert.org/aidssouthafrica.htm> (last visited Sep. 7, 2010).

252. *Id.* (reporting that the percent of individuals receiving treatment for HIV in South Africa is lower than the average in lower- and middle-income countries).

253. *Id.*

254. *Id.*

255. *Id.*

256. Yanzhong Huang, *The SARS Epidemic and Its Aftermath in China: A Political Perspective*, in *LEARNING FROM SARS: PREPARING FOR THE NEXT DISEASE OUTBREAK* 116, 118 (Stacey Knobler et al. eds., 2004), available at [http://www.nap.edu/openbook.php?record\\_id=10915](http://www.nap.edu/openbook.php?record_id=10915); see also Amena Ahmad et al., *Controlling SARS: A Review on China's Response Compared with Other SARS-Affected Countries*, 14 *TROPICAL MED. & INT'L HEALTH* 36, 42 (2009, Suppl. 1).

257. Huang, *supra* note 257, at 120.

shield the image of the Chinese Communist Party, and to maintain social stability.<sup>258</sup> Chinese delays in reporting the disease were such that WHO publicly criticized China as uncooperative in April 2003.<sup>259</sup>

The SARS episode shows that emerging countries still need assistance from global health institutions for the necessary resources and technical oversight in disease surveillance, reporting, and monitoring. International normative pressure may also help increase media access and spur a more open and transparent outbreak response. Indeed, in the international fallout from its SARS response, China—and any other country that was paying attention—could see that inadequate outbreak response could cause more economic and reputational damage than the outbreak itself. Its response to H1N1 was accordingly much more public and aggressive.<sup>260</sup> The global health community, especially international organizations such as WHO, has a convincing rationale for working with emerging and developing countries to ensure the best possible outcomes from infectious disease outbreaks.

Health system development also calls for continuing international assistance. As discussed in the previous section, all the BRIC nations have health systems suffering at least from insufficient resources and at worst from near collapse, in the case of Russia. Help is critical to repair and develop these systems, all of which face daunting challenges including HIV/AIDS, a focal issue in global health. Screening and treatment programs need to improve and expand. For example, about a quarter of Chinese respondents in a 2008 survey did not know where they could get tested for HIV/AIDS.<sup>261</sup> Access to antiretroviral treatment was available to only six to fifteen percent of Russian AIDS sufferers in 2006,<sup>262</sup> and to about nineteen percent of Chinese AIDS patients in 2007.<sup>263</sup> Stigma and discrimination against AIDS sufferers and sometimes even official intolerance of high-risk groups—especially intravenous drug users—must be reduced to enable better outreach and treatment. BRIC already receive funds from global donors

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258. *Id.* at 119 (explaining that “the overwhelmingly important issue for China is stability, without which nothing can be achieved”); Jennifer Prah Ruger, *Democracy and Health*, 98 Q.J. MED. 299 (2005).

259. Thomas Crampton, *WHO Criticizes China Over Handling of Mystery Disease*, INT’L HERALD TRIB., Apr. 7, 2003.

260. Yanzhong Huang, *The H1N1 Virus: Varied Local Responses to a Global Spread*, YALEGLOBAL ONLINE, Sep. 1, 2009, <http://yaleglobal.yale.edu/content/h1n1-virus-varied-local-responses-global-spread> (proclaiming that, despite its “lackadaisical” and “secretive” approach during the SARS crisis, at the time of the H1N1 threats, China enacted stringent quarantine measures as if they were a “silver bullet for all infectious diseases”).

261. HIV & AIDS in China, *supra* note 247.

262. MORRISON & KATES, *supra* note 4, at 13.

263. HIV & AIDS in China, *supra* note 247.

such as the World Bank, the Global Fund, and the Gates Foundation for their HIV/AIDS programs; the need endures.

HIV/AIDS touches on other aspects of health systems too. Blood collection and blood supply must become safe and secure, in light of mass infections of Chinese blood and plasma donors and recipients through unsafe practices.<sup>264</sup> Quality control for drug and health products must improve. Almost 44 percent of Chinese condoms tested failed key requirements, according to a 2001 government survey,<sup>265</sup> and the quality of active drug ingredients manufactured by Indian and Chinese companies are not always reliable.<sup>266</sup> Financial and technical assistance from the global health community would benefit efforts to address these issues. International norms and pressure may also help ensure that HIV/AIDS programs are consistent with human rights. There are concerns, for instance, about the involuntary nature of HIV testing conducted in Chinese and Indian hospitals, and about the repression of NGO advocacy in China.<sup>267</sup> It is not clear, however, how effective human rights efforts would be in China, given its unwillingness to engage these issues.

Non-communicable diseases affect developing countries as they increasingly experience the health threats typical of more developed societies. Almost sixty percent of global deaths and close to half of the global disease burden are due to non-communicable, diet- and inactivity-related conditions like heart disease, cancer, diabetes, and obesity<sup>268</sup>; sixty-six percent of those deaths occur in developing countries.<sup>269</sup> Control efforts must address globalized food trade, agricultural policy, and regulations on marketing, labeling, and ingredients. The WHO developed a 2004 Global Strategy for Diet, Health, and Physical Activity to help prevent and control non-communicable diseases,<sup>270</sup> but the global community must take further steps, which may include working with WTO and other relevant entities to

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264. *Id.* (explaining that since the mid 1990s, the safety of China's blood supply has been improved by shuttering illegal blood collection agencies and disallowing the most hazardous practices.)

265. Z.X. Wang et al., *The Best Defense – Improving Condom Quality in China* (abstract number: MoPeE4254). Meeting abstract for the 15<sup>th</sup> International Conference on AIDS, July 11-16, 2004, Bangkok, Thailand, *available at* <http://gateway.nlm.nih.gov/MeetingAbstracts/ma?f=102280534.html>.

266. Cohen, *supra* note 24, at 487.

267. HIV & AIDS in China, *supra* note 247; HIV & AIDS in India, *supra* note 241 (stating that although voluntary testing is officially supported in India, some states have implemented standards that would require people to be tested for HIV against their will).

268. Emily Lee, *The World Health Organization's Global Strategy on Diet, Physical Activity, and Health: Turning Strategy into Action*, 60 *FOOD & DRUG L.J.* 569, 571 (2005).

269. *Id.*

270. *Id.* at 569 (explaining that the Global Strategy is a "nonbinding blueprint" that countries can use in fighting obesity and other diet- and inactivity-related diseases).

coordinate a coherent response to this emerging but neglected global health threat.

Aside from disease surveillance and health system development, the global health community must work with emerging countries to help address the bioterrorism threat. Preventing, detecting, and countering bioterrorism is "extremely difficult," as biological weapons can be cheaply made from Internet recipes by those with basic biology and engineering training.<sup>271</sup> But steps can be taken to limit the risks arising from poor monitoring and control of deadly pathogens. Of prominent concern are repositories like Vector, which used to be Russia's major bioweapons facility.<sup>272</sup> Up until the early 1990s, this previously well-guarded, well-equipped compound housed the only other stock of smallpox virus outside the United States Centers for Disease Control and Prevention in Atlanta; it also housed hemorrhagic fever viruses like Ebola and Crimean-Congo.<sup>273</sup> Less than a decade after the fall of the Soviet Union, Vector was "half-empty" and patrolled by "a handful of guards who had not been paid for months."<sup>274</sup> Russia—and other countries with stocks of dangerous pathogens—must tighten protection and monitoring, and the global community should assist financially and technically, as well as organize a more coordinated global strategy to deal with bioterrorism.

#### IV. CONCLUSION

This article describes the roles that emerging countries play in global health, as the givers and recipients of aid. It outlines the types of assistance emerging countries can render to less developed states, as well as the sort of help emerging countries still need from the global health community. We also contemplate the effect of their participation in global health governance and their influence on health and foreign policy. Emerging countries—especially the incipient world powers Brazil, Russia, India, and China—are in an interesting position. Their still-transforming economies and health systems connect them directly to the concerns of the developing world, while their growing economic and political clout give them a place at the table with industrialized countries and a more powerful voice in global affairs. The emergence of the BRIC countries as global health actors may direct greater attention to the needs and perspectives of developing countries. With appropriate accommodation and effective coordination,

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271. D.A. Henderson, *Bioterrorism as a Public Health Threat*, 4 EMERGING INFECTIOUS DISEASES 488, 489 (1998), available at <http://ftp.cdc.gov/pub/EID/vol4no3/adobe/henderson.pdf>.

272. *Id.* at 488.

273. *Id.*

274. *Id.*

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their expanding role on the world stage should be a positive development for global public health.

