

## **China's Role in Global Health Diplomacy: Designing Expanded U.S. Partnership for Health System Strengthening in Africa**

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*China is the world's fastest growing economy.<sup>1</sup> China also presents challenges to the United States as differences in trade policy, human rights, and regional interests become more pronounced.<sup>2</sup> In addition, China remains remarkably quiet on issues of international development and global health, which makes finding areas of strategic alignment with other nation states and global governance institutions, challenging.<sup>3</sup> Employing the perspective of global health diplomacy, collaborations in Africa to strengthen health systems have the potential to both improve relations between the two economic superpowers and amplify the public health impact of investments in African nations. This paper presents four collaborative strategies for consideration by the newly established Office of Global Health Diplomacy in the U.S. Department of State.*

### INTRODUCTION

China is the world's fastest growing economy, second only in size to the United States, and is projected to overtake the United States in world manufacturing by 2016 (Figure 1).<sup>9</sup> China's growth and relative size are presenting escalating challenges to U.S. trade policy, human rights, and regional interests.<sup>10</sup> In addition, China remains remarkably quiet on issues of international development and global health, which makes finding areas of common interest and strategic alignment with other nation states and global governance institutions, such as the World Health Organization (WHO) and the United Nations Development Programme (UNDP), challenging.<sup>11</sup> However, despite these challenges, collaborative strategies may be further developed in public health system issues between the United States and China, with unique opportunities and advantages that could apply to global health interests of both the United States and China in Africa.

Over the last twenty years China has rapidly progressed to become an economic superpower. More recently, China has developed strategic partnerships with African Union member states and hosts regular forums to strengthen economic cooperation with these nations.<sup>12</sup> This relationship with China presents many African states with attractive opportunities for economic development and foreign investment.<sup>13</sup> These partnerships also present a pathway to enable African nations to play a greater role in the world economy.<sup>14</sup> While economic development is the stated goal of China-African cooperation, strengthening African health systems and institutions is only occasionally mentioned as an aspect of economic cooperation.<sup>15-17</sup> However, to achieve strong economies, countries of Africa must address their frail and underdeveloped health systems and services.<sup>18</sup>

Africa has the worst health indicators of any continent on the globe.<sup>19</sup> Africa accounts for only 13 percent of the world's population, but carries 24 percent of the global disease burden.<sup>20</sup> Africa has 19 of the 20 countries with the highest maternal mortality rates, 60% of the world's HIV infections, and 90% of the malaria cases.<sup>21</sup>

These burdens are compounded by the inadequacy of health systems that have suffered from enduring problems of conflict, corruption, weak public sectors, and inadequate financing.<sup>22</sup> World Bank reports and other economic analyses have described a strong association between health systems and economic development.<sup>23-24</sup> However, efforts to strengthen health systems need thoughtful planning, coordination, and a dedicated and sustained effort from all parties that maintain collaborations or provide assistance in Africa.<sup>25-27</sup>

This paper explores the potential value of U.S. engagement with Chinese-African partnerships by expanding and exploiting existing U.S.-Chinese cooperation in global public health within the diplomatic arena. In particular, collaborative efforts to address health system needs among African nations may be a comparative advantage for such cooperation. For example, China's huge investment in physical health infrastructure can reinforce the large health system investments made by the United States and others for the care and treatment of people living with HIV/AIDS (PLWHA).

This analysis of expanded U.S.-China collaborations in Africa begins with a historical assessment of U.S. health investments in African nations. Next, we review lessons learned from U.S.-China cooperation globally; finally, we describe Chinese bilateral partnerships in Africa and discuss a case study of China's response to the Severe Acute Respiratory Syndrome (SARS) event of 2003 as a turning point in Chinese global health engagement. Based on these analyses, we provide four policy proposals for expanded U.S.-China collaborations in Africa for consideration by the newly established Office of Global Health Diplomacy (S/GHD) in the U.S. Department of State.

#### GLOBAL HEALTH DIPLOMACY

First, it is important to understand how geopolitical relations among nations now involve critical multi-sectoral actions in health and foreign policy. This may be thought of as 'global health diplomacy'. Global health diplomacy, as characterized by Adams and Novotny in 2007, refers to "tools of diplomats and statecraft [that] can be employed for the dual purposes of improving health and relations among nations."<sup>28</sup> Jones later described this concept as a useful perspective for diplomats in the U.S. Department of State,<sup>29</sup> and by Fidler who suggested that mapping relations among state and international actors can help identify areas of shared interest and assist in forming plans for collective action in global public health.<sup>30</sup>

The July 2012 U.S. Department of State (DOS) announcement of the formation of an S/GHD, at the same time announcing the closure of the coordinating office for President Obama's Global Health Initiative (GHI), launched in May 2009, illustrates the importance the U.S. government places on this perspective.<sup>31</sup> According to the announcement, the new S/GHD will champion the original GHI principles, programs, and interagency coordination activities, but will focus this health activity within the diplomatic sector.<sup>32</sup>

While the office has yet to publish a plan of action, it has identified priorities and actions, and its establishment in the DOS under Ambassador Eric Goosby (Global AIDS Coordinator) is unique and notable. Diplomats represent the policy interests of their government to other foreign governments and multi-national organizations and have not traditionally been given a mandate to address public health issues. According to requirements set forth in the 1961 Vienna Convention on Diplomatic Relations, the

cornerstone of modern international relations guiding diplomatic interaction among the 193 member states of the United Nations (UN),<sup>33</sup> the United States regularly publishes a list of accredited foreign diplomats (the 'Diplomatic List').<sup>34</sup> A review of the Diplomatic List for Winter 2012 shows that only seven of the more than 180 countries accredited to the United States have diplomats with the word "health" in their title.<sup>35</sup> No other country has established an entity similar to the S/GHD which will, according to its founding principles, champion global health in the diplomatic arena.<sup>36</sup> The establishment of S/GHD itself presents new opportunities in strategic health cooperation among donor nations.

#### CHINA AND AFRICA – HOW CAN THE UNITED STATES ADD VALUE?

Why would the U.S. government explore expanded public health collaborations with China in Africa? It is important to note that these two nations already have a shared history of public health collaboration. The United States and China have collaborated for more than two decades on infectious diseases (HIV/AIDS, influenza, and emerging infections), cancer, and other non-communicable diseases.<sup>37</sup> These collaborations share common goals for improving the practice of public health as well as strengthening public health institutions in detecting and responding to public health problems in the United States and China. Additionally, improving medical infrastructure and health systems are shared global health objectives and stated priorities of African leaders, and such activities may also facilitate economic development and commerce among these partner nations.<sup>38-39</sup> Despite common goals, strategic cooperation in health development activities on the continent of Africa between the United States and China remains limited.

From the early 2000s, the United States has focused on single disease approaches in Africa. For example, the United States has supported a series of large global health initiatives on HIV/AIDS; in fact, the President's Emergency Plan for AIDS Relief (PEPFAR) represents the largest amount of funding pledged by any nation to a single disease.<sup>40-41</sup> However, PEPFAR's single-disease approach also supported the development of public health institutions that can tackle additional public health problems that plague African nations.<sup>42</sup> This was the objective behind the creation of the GHI in 2009, capitalizing on the infrastructure of PEPFAR to tackle other diseases of public health significance.<sup>43</sup> For the United States, the next phase of global health investment also coordinated by the DOS includes strengthening health systems.<sup>44</sup> Drawing upon lessons learned from U.S.-China collaborations and employing leadership of the S/GHD to explore and map potential collective action with the Chinese government presents an opportunity to amplify the public health impact of development assistance by both nations. It also provides the basis to respond to African leaders' call for stronger coordination among donor nations.<sup>45</sup>

To inform new approaches by S/GHD, it is essential to note lessons learned from the United States government's management of global HIV/AIDS. The Office evolved from traditional technical assistance programs, to which PEPFAR added an accountability of ambassadors and thus accorded priority to fostering dialogue at the highest levels of diplomacy between governments. Understanding this evolution is critical to inform how governments need to employ the tools of diplomacy and statecraft to identify common public health problems and map collective action. An important

characteristic of this evolution is the critical role U. S. Ambassadors now play in allocating and directing public health resources.

As the U.S. President's representative to a foreign country, Ambassadors negotiated PEPFAR expansion and Partnership Frameworks directly with leaders of host governments. While the implementing agencies were still responsible for the funds appropriated for their programs, U.S. Ambassadors were held accountable for the overall success or failure of the PEPFAR country program. Authority to make funding recommendations rested with the Ambassador and PEPFAR performance elements were integrated into U.S. Mission Strategic Plans in each target country. This escalation and expansion of public health management accountability to the diplomatic sector was unprecedented and helped engender stronger foreign policy attention overall to global health in embassies abroad and, to some extent, in the DOS as a whole. For example, both the Global AIDS Coordinator and the deputy head of the Office of Global Health Diplomacy routinely attend the Secretary's weekly staff meeting of all the bureau heads.

#### HOW PEPFAR SOLIDIFIED DIPLOMATIC LEADERSHIP OF U.S. GLOBAL HEALTH INITIATIVES

A historical review of this evolution of the U.S. government's program to tackle HIV/AIDS in Africa illustrates how the tools of foreign policy and diplomatic negotiations grew to the current prominence seen in the burgeoning field of global health diplomacy. In 2003, President Bush announced PEPFAR in his State of the Union Address,<sup>46</sup> pledging U.S.\$15 billion over five years, including U.S.\$10 billion in new funding, with a goal of treating two million HIV-infected people with antiretroviral therapy, preventing seven million new HIV infections, and providing care and support to 10 million HIV-affected individuals including orphans and vulnerable children. These first goals became known as 2-7-10 and became a mantra for results-focused action within each targeted host country as well as for the involved federal agencies.<sup>47</sup> PEPFAR targeted 15 initial "focus" countries, 11 of which are in Africa.<sup>48</sup>

Within weeks of the announcement of PEPFAR, the U.S. Congress acted quickly to authorize the necessary funding.<sup>49</sup> Locating PEPFAR in the DOS continued the trend of empowering a single non-technical management authority over implementing agencies. The DOS would not only become the 'honest broker' to organize an 'all-of-government' response to HIV/AIDS outside of the United States, but would hold U.S. Ambassadors accountable for performance of the initiative in each host country. The U.S. Ambassador became the explicit leader of each country program, requiring that the United States Agency for International Development (USAID), CDC, Department of Defense (DOD) and other agencies which had legacy, but sometimes uncoordinated, AIDS programs in country, to align to a single country budget, set of goals and operating plan.<sup>50</sup>

By 2008, the end of the first five years of PEPFAR, the initiative either met or exceeded the 2-7-10 goals,<sup>51</sup> prompting Congress to reauthorize the program at a greatly increased U.S.\$48 billion level.<sup>52</sup> The emphasis on "focus countries" was increased to involve more countries, and new goals were set across a wider range of interventions. The largest investment remained in Africa, mirroring the spread of HIV/AIDS and the desperate need among nations to control and mitigate the impact on populations most in need.<sup>53</sup>

PEPFAR TO GHI – EVOLUTION FROM SINGLE DISEASE TO STRENGTHENING HEALTH SYSTEMS

In 2009, President Obama began to expand on PEPFAR success and the single disease approach, announcing the new six-year, U.S.\$63 billion GHI, U.S.\$48 billion of which came directly from PEPFAR, which included the United States' contributions to the Global Fund and the President's Malaria Initiative (PMI).<sup>54</sup> GHI capitalized on the large single disease platforms PEPFAR created and expanded these to tackle other public health problems such as the health of women, newborns, and children through programs focusing on infectious diseases, nutrition, maternal and child health, as well as clean water and neglected tropical diseases.<sup>55</sup> GHI transitioned PEPFAR from emergency response to strengthening public health systems and encouraging country ownership.<sup>56</sup> Of the 32 target GHI countries, 22 were on the continent of Africa, and Africa still dominates U.S. foreign health assistance globally.<sup>57</sup>

While PEPFAR continued to expand prevention, care, and treatment for HIV/AIDS, slowing and reversing progress of the epidemic,<sup>58</sup> the GHI role did not expand as initially anticipated. Congress appropriated little new funding, and the model that required USAID and CDC to coordinate existing programs and activities through GHI proved difficult to implement. Nearly two years passed before GHI recognized the need for a coordinating Director.<sup>59</sup> The lack of new funding, lack of incentives to cross agency boundaries, and leadership vacuum eventually led to a closure of the GHI Office in July 2012.<sup>60</sup> The joint announcement, signed by the directors of the United States Agency for International Development (USAID), the Centers for Disease Control and Prevention (CDC), and the Office of the Global AIDS Coordinator (OGAC), and GHI, explained that the principles, programs and coordination role supported previously in the GHI office would remain in USAID, CDC, and OGAC. However, the new S/GHD office would move global public health more visibly into the diplomatic arena, building upon the success of PEPFAR and engaging the tools of diplomacy and statecraft at the highest levels of government to raise awareness of issues related to global public health.

CHINA'S PUBLIC HEALTH SYSTEM

To understand where opportunities to capitalize on existing U.S.-China collaborations to work in Africa, it is useful to describe the organization of the Chinese health system as well as how U.S. and Chinese public health agencies work together, sharing nearly two decades of various collaborations in public health. China has a single party political system, governed by the Communist Party of China. While this is in stark contrast to the United States and many other countries that maintain a multiparty system of democracy, this centralized system has unique characteristics that need to inform any foreign collaboration.

China has 34 province-level administrative units, similar to U.S. states, including four municipalities, 22 provinces, five autonomous regions, two special districts, and Taiwan, a province handled by a separate Taiwan Affairs Office within the State Council.<sup>61</sup> One critical characteristic of China's intricate bureaucratic structure is a consistent separation of political authority from implementation functions. The Chinese Ministry of Health (MOH) preserves this same separation within the Chinese public health system.<sup>62</sup>

The highest level of administrative authority is the Chinese State Council. The State Council supervises the MOH, which consists of approximately 100 technical

leaders who set policy and which serve as the main authority for the national public health system.<sup>63</sup> Additionally, the MOH supervises the multiple technical implementing agencies including provincial health bureaus. The provincial health bureaus supervise the prefectures health units. This pattern continues down the administrative chain to counties, townships, and village health centers (Figure 2).<sup>64</sup>

One technical implementing agency overseen by the MOH is the Chinese Centers for Disease Control (China CDC), which has also served successfully as the Principal recipient of over U.S.\$825 million for the Global Fund to Fight Tuberculosis, Malaria, and HIV/AIDS.<sup>65</sup> With authority and purview over the public health component of the Chinese health system, China CDC is the lead technical implementing agency for disease control and prevention at the national level. China CDC has its own counterpart CDC entities at the provincial, prefecture and county levels (Figure 3). This network of authority, supervision, and implementation, yields a health system of more than 2,200 provincial and county CDCs.<sup>66</sup>

#### COLLABORATIONS BETWEEN U.S. AND CHINESE PUBLIC HEALTH AGENCIES

Due to these characteristics and differences in governmental structure, U.S. governmental counterparts do not align perfectly with Chinese governmental units. Unless the Chinese implementing institution has the appropriate delegated authority from their supervising institution, that institution or agency may find it difficult to engage with a foreign institution on a global health project. This can create significant barriers to collaboration.<sup>67</sup>

Despite these barriers, bridging the U.S. and Chinese health agencies are multiple Memoranda of Understandings (MOUs) between the Chinese MOH, the China CDC, and the U.S. Department of Health and Human Services (HHS), CDC, and the National Institutes of Health (NIH), dating from 1979. These address HIV/AIDS, influenza, emergency preparedness, health communications, emerging and reemerging infectious diseases, and most recently, chronic and non-communicable diseases and tobacco control.<sup>68</sup> U.S.-Chinese partnerships in public health illustrate how arrangements in other countries where these nations share similar health development agendas.

#### CHINA IN AFRICA

China's astounding economic growth over the last 20 years has relied on imported natural resources to fuel its industrial development.<sup>69</sup> China has expanded its quest for natural resources to sub-Saharan Africa, which is rich in natural resources but poor in the infrastructure needed to exploit them.<sup>70</sup> China and numerous African nations have signed agreements, which in one way or another link natural resources and development assistance.<sup>71-74</sup> However, typically, there is no transparent plan published by either Chinese or African governments on how this assistance will be supervised or evaluated.<sup>75</sup>

Recently, China has clarified some aspects of their foreign assistance strategy to the international community.<sup>76</sup> In China's first ever public white paper on foreign aid, published in April 2011, China reported that 51 of the 54 member states of the African Union are receiving assistance, and since 1964 China has distributed a total of U.S.\$31.3 billion in loans, grants, technical assistance, and engaged in large physical infrastructure

projects there.<sup>77</sup> In 2009 alone, China distributed 46 percent (approximately U.S.\$1.4 billion) of total Official Development Assistance (ODA) in Africa.<sup>78</sup> To put this in perspective, during this same period, the top three donors in Africa were the United States, which gave U.S.\$7.2 billion, the World Bank, which loaned U.S.\$4.1 billion, and France, which gave U.S.\$3.4 billion.<sup>79</sup>

Beyond the recent publication of the white paper, China's Foreign Ministry has said little publically about China's development strategy in Africa. However, this is in contrast to China's strategy on public health, which post SARS, is becoming more transparent and has recently demonstrated more collaboration with multi-national organizations and external partners.

#### CHINA AND SARS

How did SARS change China's global health engagement? The SARS epidemic exposed serious weaknesses with China's lack of transparency related to public health issues.<sup>80</sup> The first SARS case in China appeared in November 2002.<sup>81</sup> The WHO's Global Outbreak and Alert Response Network (GOARN) received reports of a "flu like outbreak" in China through Internet monitoring.<sup>82</sup> WHO requested information from the Chinese government regarding the outbreak on December 5 and 11, 2002.<sup>83</sup> However, according to CNN news reports and several journal reports, Chinese government officials did not inform WHO of the outbreak until February 2003.<sup>84-85</sup> This initial lack of transparency about the epidemic delayed the global community's response to a novel and highly dangerous infectious disease agent.<sup>86-87</sup> It brought economic and political pressure on China's government for lack of transparency and limited cooperation. China later apologized for the initial delay during the outbreak of the SARS epidemic, confirming the importance of timely reporting and engagement in the response to emergent global health issues.<sup>88</sup>

China's official report of SARS in February 2003 and apology for delaying international notification demonstrates the newfound Chinese governmental authorities' recognition of the importance of cooperation with WHO and other member states.<sup>89</sup> International officials largely credit the increase in communication with the international community to the leadership of the then new President Hu Jintao and Prime Minister Wen Jiabao.<sup>90</sup> SARS also marked an increase in cooperation among Chinese scientists, WHO epidemiologists, and U.S. CDC scientists, although there continue to be criticisms of China's global public health efforts.<sup>91</sup>

Discussions held during the SARS outbreak led to the HHS's Health Attaché based at the U.S. Embassy in Beijing and the Chinese MOH's Division of International Cooperation, America's Division, to initiate a joint project on emerging infections.<sup>92</sup> In October 2005, the Chinese MOH and the U.S. Secretary of HHS met to sign an MOU, the U.S.-China Collaboration of Emerging and Reemerging Infections (EID).<sup>93</sup> The EID collaboration has produced dozens of peer-reviewed original research papers and maintains a biennial meeting between the HHS Secretary and the Chinese MOH.<sup>94</sup>

Also as a result of SARS, the Chinese CDC developed a real-time Internet-based disease surveillance system to help increase monitoring and reporting on adverse health events.<sup>95</sup> This electronic disease reporting tool is linked to nearly every health institution in the country and is used to allocate resources, characterize threats, and monitor

disease patterns. This system is additional evidence of China's increased transparency around public health events of national and international importance.<sup>96</sup>

SARS was a watershed event for the Chinese health system and its governmental authorities.<sup>97-99</sup> It jumpstarted the development of China's modern health system by illuminating the critical need to detect and respond to public health threats of international importance in a timely and coordinated manner with the global community.<sup>100</sup> China's rapid growth in public health systems and disease reporting infrastructure post-SARS could provide valuable insights, lessons, and practices for both African and American diplomats.<sup>101</sup> Additionally, using the lens of global health diplomacy, examining these lessons and practices can join nations around shared needs of greater health impact and security.<sup>102-105</sup>

#### STRATEGIES FOR EXPLORING EXPANDED U.S.-CHINA COLLABORATIONS IN AFRICA

Why should the United States explore collaborations with China on the continent of Africa? The United States and China have a tense and polarized relationship on many issues. However, this is not the case on issues of global public health, where there are examples of strong U.S.-China collaboration and increased global engagement by China. Employing the perspective of global health diplomacy, collaborations in Africa to strengthen health systems have the potential to both improve relations between the two economic superpowers and to amplify the public health impact of the investments made by these countries in Africa.

The United States and China seek greater stability and economic participation by African nations in the global economy.<sup>106-107</sup> ENREF 12 However, bilateral exchanges between the United States and China do not include public health collaboration with third party countries. If the S/GHD were able to demonstrate diplomatic value in such collaborations, both sides could benefit their own foreign policy priorities. Given the complexity of the U.S.-China relationship and that public health counterparts on both sides do not routinely invite their foreign ministries to meetings, it is difficult to identify how appropriate negotiations could strengthen global health collaboration. However, the formation of the S/GHD in the U.S. Department of State presents a possibly new approach to facilitate these negotiations among diplomatic officials in both countries.

#### RECOMMENDATIONS

##### *Recommendation 1: Expansion of the S&ED to include a session on global public health*

The U.S.-China Strategic Economic Dialogue (S&ED) is one forum that could be used to incorporate expanded public health cooperation. The S&ED is a meeting hosted in alternating capitals of the United States and China and deals with economic issues of the greatest concern to both nations.<sup>108</sup>

Presidents George W. Bush and Hu Jintao jointly created the S&ED in 2006.<sup>109</sup> Nine S&ED meetings have occurred since the first meeting on September 21, 2006. From 2006 to 2009, the S&ED was held twice a year, alternating between Washington, D.C. and Beijing. Since May 2008, S&ED meets annually, most recently in Beijing on May 4, 2012. Despite the changing frequency, S&ED continues to be the primary



platform at which leaders of the two nations discuss issues of greatest economic concern.<sup>110</sup>

The U.S. Department of State and the Chinese Ministry of Foreign Affairs host the S&ED, and the two economic counterparts, the U.S. Department of Commerce and the Chinese Ministry of Commerce, formulate the agenda.<sup>111</sup> During the May 2012 S&ED, Secretary Geithner led the U.S. delegation, which included Federal Reserve Chairman Ben Bernanke, Secretary of Commerce John Bryson, U.S. Trade Representative Ron Kirk, and others. The S&ED delegation met with President Hu Jintao, Premier Wen Jiabao, Vice Premier Wang Qishan, Vice President Xi Jinping, Executive Vice Premier Li Keqiang, and other senior Chinese officials.<sup>112</sup>

The U.S.-China relationship always contains elements both of cooperation on global problems and strategic competition. Those tensions have been apparent in the Obama years, as the U.S. pushes back on Chinese assertiveness in several areas.<sup>113</sup> However, using the lenses provided by health diplomacy, including a topic where areas of agreement can be more easily mapped, and leveraging existing channels of communication among public health institutions that maintain strong collaborative projects, can positively impact negotiations in other fields. In addition, investments in health have direct impact on a nation's wealth, productivity, as well as life expectancy.<sup>114-116</sup> Hence, including a health section in the S&ED makes good economic as well as diplomatic sense for both nations and provides a platform for additional cooperation opportunities.

However, this addition will take additional coordination and planning on both sides. The S&ED meetings have not included major discussions around health. One complicating factor is health and development partners from United States and China do not align as clearly as economic counterparts. The Chinese government has four ministries that could potentially address health and development issues: the Ministry of Foreign Affairs, the Ministry of Commerce, the Chinese Ministry of Foreign Trade and Economic Cooperation, and the MOH.<sup>117-118</sup> However, additional advance communication between the U.S. Department of State and the Chinese Ministry of Foreign Affairs (MOFA), can mobilize appropriate counterparts in advance to identify appropriate global public health topics of mutual interest. The advance work and communication normally done between the Ministries of Commerce could be replicated with health counterparts on both sides to formulate the agenda of a special session on global health. The new S/GHD in the U.S. Department of State would be the natural entity to support this type of advance preparation, planning and cooperation.

In addition, trained and experienced health diplomats are already in place in both the U.S. and China and could assist in facilitating this effort. The U.S. Embassy in Beijing maintains a HHS Health Attaché as well as resident staff from the U.S. CDC, NIH and FDA, who work with counterparts from the Chinese MOH, the Chinese CDC, and other Chinese governmental counterparts. Current U.S.-Chinese collaborations include projects on birth defects, influenza, HIV/AIDS, emerging and reemerging infections, cancer, smoking, and most recently, non-communicable diseases.<sup>119</sup>

Due to the breadth and relative importance placed on these public health relationships since 2005, the HHS Secretary and the Chinese MOH meet biennially to report collaboration progress, facilitate programmatic review, and establish priorities for the ensuing two years.<sup>120</sup> In addition, the Directors of the U.S. and Chinese CDCs meet annually in alternating cities of Beijing and Atlanta to review Agency

collaborations and set priorities for the upcoming year. These conduits of communication and collaboration could assist the S/GHD and the Chinese MOFA to frame and map in advance appropriate topics for consideration and discussion during a dedicated global health session during the S&ED.

Another area for exploration would be the identification and categorization of requests for technical assistance received by both the U.S. and Chinese public health agencies. Mapping requests for assistance between the two nations would help guide each nation's response and help improve coordination with African nations around public health issues.<sup>121</sup>

*Recommendation 2: Initiate a collaboration with the African Society of Laboratory Medicine (ASLM) to strengthen public health laboratory capacity*

A fundamental part of any public health system is the ability to accurately detect and characterize diseases as well as perform confirmatory tests to timely manage them.<sup>122</sup> From a clinical perspective, better care can be rendered with accurate disease confirmation. For public health, disease confirmation helps public health professionals mobilize effective prevention and response efforts, as well as evaluate program effectiveness.<sup>123</sup>

Although laboratories are necessary components of both clinical and public health systems, when compared with specific single disease programs, funding for laboratory systems is most often neglected when resources for medical and public health programs are limited.<sup>124</sup> Both the U.S. and Chinese health agencies have supported individual disease control programs as well as hospitals and clinics that need functioning laboratory services and systems.<sup>125-127</sup> However, laboratory systems require further investments in quality assurance, compliance, and application to address critical public health problems.

From the start of PEPFAR, U.S. agencies anticipated that every country would need to strengthen laboratory systems and institutions. They thus launched several initiatives aimed at building this capacity.<sup>128-130</sup> These initiatives included the WHO-African Regional Office (AFRO) committee resolution 58 that called for the strengthening laboratory systems in Africa; the Maputo declaration that called for countries to develop laboratory strategic plans and policies; the launch of the WHO AFRO stepwise laboratory improvement process towards laboratory accreditation; and the issuance of the Kampala statement by a coalition of donor nations, international organizations, and African nations to establish the ASLM in 2011.<sup>131</sup> ASLM is an independent association authorized by African Ministries of Health and dedicated to strengthening the development of laboratory systems on the continent of Africa.

Why would strengthening laboratory systems in Africa be an appropriate project to link U.S. and Chinese interests? First, there is substantial health security benefit to strengthening laboratory systems.<sup>132</sup> Had strong laboratory systems been in place in Africa, the global HIV/AIDS pandemic could have been curbed long before it threatened to topple governments. In addition, supporting laboratory systems does render economic benefits, as laboratories create stronger market demands for the medical infrastructure needed to maintain them. As China searches for markets in the developing world, collaborations that provide economic opportunities to support laboratory and medical infrastructures, coupled with Chinese own market incentives, could provide new

opportunities for Chinese-owned business.<sup>133</sup> There is also a well-defined blueprint for developing and enhancing public health laboratory capacity among African nations, providing a mechanism to channel donor assistance.

Like the MDGs, the global community and African Ministries of Health have endorsed blueprint to grow African laboratory systems, but currently lack capacity to fully implement these systems. Targets for disease reporting established by the World Health Assembly in the International Health Regulations (IHR) to enhance global security, and the MDGs, established to enhance global health and development, strengthen laboratory systems and need a strong a coordinated community of donor support.<sup>134-153</sup> The United States and China share economic, security and public health reasons to strengthen lab systems in African. Further, U.S. professional society programs such as the American Society of Clinical Pathology have already engaged with U.S.-based capacity building programs such as PEPFAR.<sup>136</sup> ASLM may provide an opportunity to exploit these shared interests.

No partner or international donor has yet pledged to meet the massive physical infrastructure needs that laboratories require. However, China overseas construction capacity is far in excess of what the U.S. government can support under PEPFAR and can greatly enhance efforts to build laboratories in Africa.

In this space, China has announced that as part of its package of international collaboration with African nations, it will assist in building more than 50 medical facilities over the next five years.<sup>137</sup> ENREF 38 The challenge in building the physical medical infrastructure is that unless there is a clear, defined, strategic plan in place to address the human and system capacity needs, it may not be implemented, maintained, nor be useful to the target population. By partnering with the United States, PEPFAR and the ASLM, Chinese medical infrastructure projects could be vetted in advance and integrated into the African government's own blueprints for national and regional laboratory systems. In doing this, the United States, China and selected African nations could greatly enhance health security, economic cooperation, while achieving greater country ownership of critical public health and clinical infrastructure needs that can also address other health needs within the country.

The United States has already demonstrated leadership in this arena by using PEPFAR resources to facilitate the creation and establishment of ASLM.<sup>138</sup> The ASLM's purpose is to assist donors and help coordinate assistance to any partners who works in clinical laboratory medicine strengthening in Africa.<sup>139</sup> By engaging China's strength and experience in building medical infrastructure, the impact of the U.S.-supported public health laboratory systems and networks could also be dramatically enhanced and relations among nations strengthened.

*Recommendation 3: Initiate a collaboration with the Training Programs in Epidemiology and Public Health Interventions Network to link Field Epidemiology Training Programs and help single-disease programs strengthen African health systems*

One multilateral principle that could help coordinate efforts between the United States and China in Africa is one initiated by the Joint United Nations Programme on HIV/AIDS (UNAIDS). UNAIDS instituted a principle of "three ones" in 2004, which both the United States and China support.<sup>140</sup> The principle of the "three ones" states that

every country should have: (1) one national HIV/AIDS program strategy, (2) one national coordinating body, and (3) one national monitoring and evaluation system.<sup>141</sup> Despite the laudable nature of these principles, most African countries continue to struggle with the implementation of the three ones as well as the coordination of multitude of donor organizations involved in the national HIV/AIDS responses.<sup>142</sup> However, China is one of the few countries that has been able to successfully implement the “three ones” principles within the Chinese national health system.<sup>143</sup>

Despite hosting many donor organizations working on HIV/AIDS, China's national program implemented a unified coordinating, planning and monitoring system for all organizations working in the country. The U.S. CDC's Global AIDS Program cooperation with China CDC's National Center for HIV/AIDS Control supported this expanded coordination and provided technical assistance to the process.<sup>144</sup> This joint collaboration could also offer a model of donor coordination toward health systems development in African nations.

In 2012, global HIV/AIDS organizations mobilized more than U.S.\$6.9 billion, greater than half of which came from the United States, and more than 70 percent of which went to African nations.<sup>145</sup> Not only did this level of funding proliferate the number of organizations working in HIV/AIDS in African nations, but this also helped create large country platforms around prevention, care, and treatment of HIV/AIDS.<sup>146</sup> One analysis presented at the recent International AIDS Conference in 2012, posited that the future of PEPFAR will be evaluated against its ability to re-purpose these large platforms to address other critical public health problems and to foster country ownership.<sup>147</sup>

One health system strengthening initiative already shared between the United States and China is the Chinese Field Epidemiology Training Program (C-FETP). The C-FETP was a result of many years of collaboration between the U.S. and Chinese CDCs, whose respective directors meet annually to review collaboration progress and establish mutually beneficial goals.<sup>148</sup> The FETPs themselves have existed for 30 years and are in over 32 countries worldwide.<sup>149-150</sup>

In 1997, a global network of FETPs joined together to form a common governance structure called the Training Programs in Epidemiology and Public Health Interventions Network, or TEPHINET.<sup>151</sup> TEPHINET has active national programs in 53 countries and includes many African nations.<sup>152</sup> FETPs all maintain a standard approach to traditional public health training and have resident trainees and staff with similar skills who share common goals in disease surveillance, investigation, and reporting.<sup>153-155</sup> FETPs also have an annual meeting which is attended by participants from U.S., Chinese, and African Ministries of Health.<sup>156</sup>

While China and the United States have never specifically collaborated on global public health projects in African nations, using the platform of health diplomacy among governments, a collaboration agreement negotiated with the TEPHINET network could provide a framework to facilitate staff exchanges, support study tours, and share best practices and shared models of public health practice. In addition, each FETP is funded by their respective government, contributing greatly to expanding country ownership with limited funding. Exploratory discussions could be held during a special session of the TEPHINET annual meeting, or as part of a dedicated session on global health at the S&ED.

Bringing together the United States and China, which have worked together previously and have experience in strengthening public health institutions, can help amplify the collective impact sought by both superpowers in public health. While there are notable difference between the structure of China and many Africa nations, there are many similarities in approach. Some of the best practices employed in China could serve as models to help African recipient countries improve donor coordination, even if African nations due to differences in governance are not able to replicate the Chinese experience. Even though China is still a developing nation, with huge health disparities between the rural and urban populations, it has emerged as a global player that could help provide assistance to many African nations. By partnering with the United States, the TEPHINET network can also help provide a government framework to share experiences and best practices among countries, to help strengthen responsive health systems in Africa.

*Recommendation 4: Encourage greater contributions to the Global Fund*

China's either financial or in-kind contributions to global public health institutions such as the Global Fund or the WHO have been marginal. China has been a recipient of the Global Fund assistance, totally U.S.\$826 million from 2005-2012, and there is substantial evidence that China has used these funds to mobilize successful national repossesses to the TB, malaria and HIV/AIDS epidemics in the country.<sup>157</sup> China has also been a contributor to the Global Fund, pledging U.S.\$4 million in 2011 and U.S.\$5 million in 2012.<sup>158</sup>

However, with the recent change in Global Fund leadership and funding structure, more effort among donors will be needed. The Global Fund recently held its fourth replenishment meeting for 2014-2016, seeking donor support for an additional U.S.\$26 billion of assistance (Figure 6).<sup>159</sup> In addition, expanding support to the Global Fund would reinforce the Country Coordinating Mechanisms (CCM) established in the country to manage funding. Using the CCM would ensure that each country retains leadership on the use of donor funding and would help reinforce the health system.

The S/GHD would be a perfect institution to convene or facilitate discussions about expanding contributions to the Global Fund and other multilateral global health institutions within the diplomatic arena.

CONCLUSION

We are at a historical crossroad for global health diplomacy and development. China is expanding its development assistance to Africa, and the United States maintains large HIV/AIDS prevention and treatment platforms throughout Africa. Health institutions from both China and the United States share over 20 years of cooperation in many public health efforts and most recently in health system strengthening.<sup>160</sup> The formation of the new S/GHD in the U.S. Department of State presents a unique opportunity to explore new and innovative areas of collaboration with other nations. By improving the U.S.-Chinese relationship with the tools of health diplomacy, better bilateral relations and global public health impact and security can result.

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