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Before the United States Senate Committee on Foreign Relations Subcommittee on Multilateral International Development, Multilateral Institutions, and International Economic, Energy, and Environmental Policy

June 20, 2017

The World Health Organization and Pandemic Preparedness

Thank you Chairman Young, Ranking Member Merkley and distinguished members of the Subcommittee for the opportunity to testify before you today. I am grateful for your interest in the World Health Organization and in supporting systems to make the world safer from pandemic threats. I am an associate professor of International Health and the Co-director of the Center for Global Health Science and Security at Georgetown University, where I focus my research efforts on strengthening capacity around the world to prevent, detect and respond to biological threats.

My goal today is to share what we know about the threat of emerging infectious disease, discuss the role of the World Health Organization (WHO) in pandemic preparedness, and review the challenges the WHO has faced in recent years. I also hope to present some thoughts on what WHO should do to improve their international emergency response capacity, and how to monitor reform efforts and hold the agency accountable so that it remains the institution the global community needs it to be to protect the world- and the United States- from the next pandemic.

**Pandemic Threat**

Globalization, movement of peoples, animals and goods, rapid urbanization and changing human behaviors and land use all create opportunities for the emergence of infectious diseases. These diseases, the majority of which originate in animals, may appear in any corner of the globe and because of rapid transportation networks, can spread from international airports around the world in 24-48 hours.

The number and diversity of disease outbreaks has increased since the early 1980s. In fact, there has been a four fold increase in the number of emerging infectious diseases in the past four decades, including new strains of influenza, SARS, MERS, and

Zika in the Americas, and hemorrhagic diseases.[1] There were over 12,000 outbreaks of over 200 human diseases between 1980 and 2013, impacting every nation on Earth.[2]

Pandemic modelers predict there is a high probability of a large-scale influenza pandemic, possibly similar to the 1918 Spanish flu, sometime in the next 10 to 30 years. Such a respiratory virus could spread globally and kill as many as 30 million people in a single year.[3] The threat of a catastrophic disease event occurring in our lifetime is very real.[4]

In addition to human death and suffering, these disease events can also result in massive economic losses. These losses are tied not only to the resources required for health care, but also productivity, tourism, and trade. In large-scale disease events, there can be shocks to entire sectors of society. Some recent examples of economic losses include: $1.7 billion for a plague outbreak in India in 1995; $625 million for the Nipah virus outbreak in Malaysia in 1999; $39 billion for the bovine spongiform encephalitis (BSE, or "mad cow") outbreak in the United Kingdom in the 1990s; approximately $30 billion for SARS across Asia in 2003; and more than $1 billion to contain an outbreak of multiple drug resistance tuberculosis in New York City during the 1990s.[5] [6]

These examples are from events that were limited to a country or region; the costs of a global pandemic would almost certainly be much higher. The World Bank has estimated that a severe flu pandemic could result in over $3 trillion in global economic losses.[7] Other economists put the cost as high as $5.7 trillion.[8] Yet the cost of prevention is far less—approximately $3.4 billion per year.[9] This would be the cost of building sufficient public health and animal health infrastructure in developing countries around the world so nations are able to effectively prevent, detect, and

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[1] M Doucleff & J Greenhalgh. Why Killer Viruses are on the Rise. *NPR.* February 14, 2017. Available at: http://www.npr.org/sections/goatsandsoda/2017/02/14/511227050/why-killer-viruses-are-on-the-rise. Accessed May 2017.

[2] International Working Group on Financing Preparedness. From Panic and Neglect to Investing in Health Security: Financing Pandemic Preparedness at a National Level. The World Bank. May 2017

[3] Bill Gates. Speech given at: 53rd Munich Security Conference; February 18, 2014; Munich, Germany. Available at: https://www.securityconference.de/en/activities/munich-security-conference/msc-2017/speeches/speech-by-bill-gates/. Accessed April 2017.

[4] Jeffery K. Taubenberger and David M. Mores, "Influenza: The Once and Future Pandemic," *Public Health Reports* 125, no.3 (April 1, 2010): 15-26, doi:10.2307/41435296.

[5] David L. Heymann and Vernon J.M. Lee, "Emerging and re-emerging infections," in *Oxford Textbook of Public Health*, 5th ed, (New York: Oxford University Press, 2009), 1267.

[6] M Macaraig, J Burzynski, J Varma. Tuberculosis Control in New York City — A Changing Landscape. N Engl J Med 2014; 370:2362-2365June 19, 2014

[7] World Bank, Report No. 69145-GLB, *People, Pathogens and our Planet*, 2nd ed. (Washington, DC: WB, 2012),

[8] Victoria Y. Fan, Dean T. Jamison and Lawrence H. Summers, "The Inclusive Cost of Pandemic Influenza Risk," (NBER Working Paper No. 22137, NBER Programs HC and HE, the National Bureau of Economic Resources, Cambridge, MA, March 2016), doi:10.3386/w22137.

[9] World Bank, Report No. 69145-GLB, *People, Pathogens and our Planet*.

respond to potential public health emergencies and address emerging threats, including antimicrobial resistance. Thus, the economic rate of return on investment in public health and building sufficient global health infrastructure to mitigate the consequences of a public health emergency is between 50% and 123%, depending on the infectious disease agent. Yet, approximately two-thirds of the nations of the world have not devoted sufficient resources to building this capacity.[10] This leaves the global community woefully unprepared for biological threats. We all have a stake in seeing these challenges addressed.

**The Role of the World Health Organization**

The World Health Organization (WHO) is the specialized United Nations agency responsible for global health. The organization, with 194 Member States, sets evidence-based norms and standards for all aspects of health, shapes the research agenda, provides technical support to nations, promotes treatment guidelines, provides a voice for the most disadvantaged, aligns global priorities, and monitors disease trends. The organization is also tasked with global governance of disease.

Under the International Health Regulations (IHR) – a treaty binding on all Member States of the World Health Assembly – countries must rapidly report any potential public health emergency of international concern to the WHO. WHO is then charged with coordinating the international response to disease events that exceed the capacity of a single nation to contain and mitigate the consequences of the event. By the authority of the Constitution of the World Health Organization and the IHR, the Member States have given WHO the authority to govern such disease events; to work in nations that might have precarious diplomatic relationships with other countries; to provide evidence based guidance for travel and trade during emergencies; and to coordinate global assistance to contain disease events and mitigate the consequences to population health

The Health Emergencies Programme within the WHO works to provide early warning and risk assessment to developing health threats, and coordinate international efforts to prevent, detect and respond to infectious disease outbreaks and other public health emergencies. In the last six years alone, WHO catalogued over 1200 epidemic events in 168 countries. Every month, the organization screens 3,000 signals, and investigates – on average – 30 events. WHO then performs risk assessments and coordinates with partners to address the outbreaks.

**The 2014-2016 West Africa Ebola Outbreak**

Ebola emerged in Guinea in late 2013 and rapidly spread from a rural village into urban environments in Guinea, Sierra Leone and Liberia.[11] By March 2014, experts had identified the disease as Ebola, and called for assistance, and by June 2014,

[10] Lawrence O. Gostin and Rebecca Katz, "The International Health Regulations: The Governing Framework for Global Health Security," *The Milbank Quarterly* 94, no. 2 (May 11, 2016): 264-313, doi:10.111/1468-009.12186.

[11] "Origins of the 2014 Ebola epidemic," WHO Emergencies preparedness, response, January 2015, http://who.int/csr/disease/ebola/one-year-report/virus-origin/en/.

Médecins Sans Frontières (MSF)- known in the United States as Doctors Without Borders- called the outbreak "out of control" and desperately pleaded for international resources to aid in the response.[12] The WHO, however, delayed declaring a public health emergency of international concern (PHEIC) and mounting an international response to the outbreak. While technical experts acknowledged the spread of the disease, others within the WHO were concerned that issuing the emergency declaration could be seen as a "hostile act," as the declaration itself could have significant travel and trade implications for the affected countries.[13] There was tension between the regional WHO office and headquarters in Geneva, and efforts by entities in the region to downplay the risk. It wasn't until August 8, 2014, eight months after the start of the epidemic, that WHO declared the Ebola outbreak a public health emergency. Over 11,000 people lost their lives during this outbreak- lives that may have been saved if a coordinated international response to the disease had arrived earlier.

WHO came under tremendous criticism for its delayed response and lack of attention to culturally appropriate response during the Ebola outbreak. Some countries called for giving up on the WHO altogether, and creating an entirely new infrastructure for outbreak response.[14] The UN sponsored its own study to assess what activities should be pulled from the WHO and situated within the UN Secretary General's office.[15] Even the WHO, in acknowledging failing confidence in the organization, declared in 2015 that it hoped to become the organization the world needed it to be.[16]

**WHO Reform**

Over 40 panels and reports have been published since the Ebola outbreak, documenting the governance failures of the WHO, and providing recommendations for improving the global response system.[17] Several themes have emerged across the major reports, pointing to specific reforms that are either now being considered or

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[12] Lawrence O. Gostin, Eric A. Friedman, "A retrospective and prospective analysis of the west African Ebola virus disease epidemic: robust national health systems at the foundation and an empowered WHO at the apex," Lancet 385 2015: 1902-1909

[13] Sarah Boseley, "World Health Organisation 'intentionally delayed declaring Ebola emergency,'" *The Guardian*, March 20, 2015, https://www.theguardian.com/world/2015/mar/20/ebola-emergency-guinea-epidemic-who.

[14] Angela Merkel, "Statement by Federal Chancellor Angela Merkel at 68th session of the WHO" (speech in Geneva, May 18, 2015), WHO, http://www.who.int/mediacentre/events/2015/wha68/merkel-speech-wha68.pdf.

[15] UN High-level Panel on the Global Repose to Health Crises, *Protecting Humanity from Future Health Crises,* January 25, 2016, http://www.un.org/News/dh/infocus/HLP/2016-02-05_Final_Report_Global_Response_to_Health_Crises.pdf.

[16] Sarah Bosley, "How WHO revised its self-criticism over Ebola Handling," *The Guardian*, April 20, 2015, https://www.theguardian.com/society/sarah-boseley-global-health/2015/apr/20/how-who-revised-its-self-criticism-over-ebola-handling.

[17] WHO Evaluation Office, "Extended List of Ebola Reviews" review of Ebola reviews, UNEG, 2016, http://www.who.int/about/finances-accountability/evaluation/extended-list-of-ebola-reviews-may2016.pdf?ua=1.

will hopefully be addressed over the coming years.[18] In Moon, et. al., we categorized these reforms as both operational and institutional.

*Operational Reform*

The recommendations for operational reform of the WHO focused on the ability to rapidly respond to outbreaks, issue technical and normative guidance, coordinate with others, and develop an emergency culture to enable quick decisions and actions. In response, WHO created a new Health Emergencies Programme that includes bringing together a global emergency response workforce, through the Global Outbreak Alert and Response Network and certification of Emergency Medical Teams from around the world able to respond to crises and provide a surge capacity to national medical systems.

WHO has also created a Contingency Fund for emergencies, to facilitate rapid response. It was created with a target of $100 million, but as of May 2017 it had only received contributions for $37.6 million, with an addition $4 million pledged.

*Institutional Reform*

Review panels identified a series of institutional challenges that adversely impacted WHO's ability to operate and respond effectively to outbreaks. These included lack of transparency and accountability, insufficient human resources at all levels of the organization, weak leadership and unreliable financing.

The WHO launched a major reform agenda in 2011 to improve overall performance of the organization. This agenda identified some of the same concerns addressed in the Ebola review panels. As reported by the Director General herself in April 2017, the pace of reform implementation across the different workstreams of programs and priority-setting, governance and management has been variable. [19] The organization must strengthen coordination between headquarters, regional and country offices. Attention must be given to ensuring that the individuals who staff these offices have the technical skills required to fulfill their mission. Improving transparency and accountability must remain a priority for the organization.

All of these challenges and priorities must be addressed in the midst of a complicated financial picture, particular for pandemic response. At the start of the Ebola outbreak, 2/3 of the emergency response staff had been let go due to budget cuts.[20] The World Health Assembly voted for a small (3%) increase in assessed contributions in May 2017, although the majority of funding for WHO (approximately 80%) is earmarked. The new Director General will need to spearhead an effort to ensure a more

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[18] Suerie Moon et al., "Post-Ebola reforms: ample analysis, inadequate action," *BMJ* 356 (January 23, 2017), doi; https://doi.org/10.1136/bmj.j280.

[19] Report by the Director General. Overview of WHO Reform Implementation. A70/50. April 24, 2017.

[20] Sheri Fink. Cuts at WHO hurt response to Ebola crises. New York Times. September 2014. https://www.nytimes.com/2014/09/04/world/africa/cuts-at-who-hurt-response-to-ebola-crisis.html?_r=0

predictable and transparent financial situation. A new WHO budget portal (http://open.who.int) is a positive step towards transparency in financing.

**National Obligations**

The WHO can only do so much for pandemic preparedness if countries are unable to detect or report a potential emergency, and initiate preliminary response efforts. It is imperative that all countries fully implement the IHR and build sufficient national capacity to prevent, detect and respond to public health emergencies. This will require focused resources and commitments by nations to build their core capacities and public health infrastructure. It also means holding nations accountable for their actions. The WHO is now using an external evaluation process to assess country level progress towards meeting IHR obligations. This process, using the Joint External Evaluation Tool (JEE) is voluntary, but nations are signing up to be assessed, have their results published, and work with WHO and other partners, such as the World Bank, to develop plans to build capacity.

**Recommended Actions and Opportunities**

The WHO declared a commitment to reform and will continue to strengthen its capacity for global governance of disease. In the interim, several groups have proposed independent monitoring and assessments of progress in global health security, including global governance. The National Academies of Medicine, in conjunction with Harvard Global Health Institute, launched an independent monitoring project in April 2017. As part of this project, we have established a set of indicators and metrics to measure activities and hold organizations accountable. These include routine monitoring and analysis of WHO financing, including routine monitoring of the WHO emergency funds; routine monitoring of changes in human resources; measures to assess the development and operations of the emergency program; assessment of transparency and accountability; and developments in the creation of an inspector general role. Independent monitoring using validated metrics by global experts will help to ensure that change is measured effectively, and encourage real progress towards enhanced global health security.

The U.S. Government must continue its support of the WHO through both assessed and voluntary contributions. As the largest funder of the organization, U.S. support is critical to sustained effectiveness of the organization to meet increasingly complex health challenges and reduce organizational vulnerability. Congress may want to consider tying a portion of voluntary contributions to some form of accountability-giving WHO the tools to become stronger and more effective, while ensuring that appropriate reforms are made.

**Looking Forward**

The threat of emerging infectious diseases will continue to evolve. One of the few things we know for certain is that there will continue to be infectious disease threats—and new diseases will spread to humans. We can also be certain that the diseases will not stop at borders or limit themselves to certain nationalities. We will

need global capacity to prevent, detect, and respond to these disease threats, along with sustained mechanisms for financing these capacities. We will need effective global governance to mitigate the consequences of the next public health emergency. The WHO is critical to global health security and to protecting populations from the next pandemic threat.

Thank you, again, for the opportunity to testify before you, and I look forward to answering your questions.