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Protecting America's Health at Home and Abroad

A proposal for a new executive initiative for cost-effective prevention and rapid control of global infectious disease outbreaks

Overview

Previous administrations have not done enough to address the pandemic threat; the Trump administration risks a major outbreak on US soil if it simply continues previous policies.

Motivation

The risk of an infectious disease outbreak in the United States is significant—and increasing.

An infectious disease outbreak anywhere on earth poses a direct threat to Americans. On airplanes, trains, and ships—and via migratory birds or insects that cannot be constrained by borders—pathogens can easily travel around the globe, reaching a network of major cities in as little as 36 hours. And there are increasing opportunities for new pathogens to emerge and evolve. Population growth has brought people and animals closer together, increasing the opportunities for the transmission of zoonotic pathogens between them. Bioterrorism and the possibility of accidental release from a laboratory pose additional risks. In the past few years alone, we have seen examples of dangerous, rapidly spreading outbreaks: Ebola, Yellow Fever, and cholera in Africa, novel Middle East Respiratory Syndrome (MERS) coronavirus in the Middle East, and Zika. Right now, human cases of a strain of avian flu (H7N9) are beginning to increase.ⁱ So far, over 500 human cases have been reported this season in China;ⁱⁱ Hong Kong and Taiwan have also reported cases, suggesting further spread. Within the US, avian flu has been found this year in poultry flocks within Georgia, Tennessee, Kentucky, and Alabama.ⁱⁱⁱ Whether avian flu or another pathogen, it is only a matter of time before a major outbreak hits the homeland. But the United States and the world are not prepared to prevent or respond to a major epidemic.

Economic, social, and political costs of an outbreak could be devastating.

In addition to lives lost and the direct costs of containment, the economic toll and social and political consequences from international outbreaks are high. Experts estimate that the 2003 SARS outbreak cost the global economy between \$30 billion and \$40 billion in just 6 months.^{iv} But the next severe influenza pandemic, for example, could be far worse, costing the world economy up to \$6 trillion.^v A major outbreak within the United States could cause unimaginable social and economic disruption; Americans could get sick and die, schools could close, and routine commerce could grind to a halt. Even without reaching the physical borders of the United States, a pandemic could undermine American interests and the safety of American citizens abroad. Social disruption abroad could lead to state collapse and power vacuums, allowing unfriendly regimes to rise to power; economies could collapse, negatively impacting American investments and export markets; and American troops and diplomats could be put at risk if a pandemic reached an embassy, military base, or other area of current or potential deployment.

Box 1. The 2014 Ebola Outbreak: The outbreak exposed major weaknesses in the global capacity to respond to epidemics. It claimed more than 11,000 lives, cost billions in economic losses, and posed an unprecedented threat to regional stability in West Africa. A massive and costly global emergency response was required to gain control of the epidemic in West Africa and to prevent the outbreak from taking root in the United States and other countries. The US government spent over \$2 billion to contain the outbreak in West Africa and prevent Ebola from reaching the United States.¹ But without US leadership and action—including deployment of CDC experts and the US military to affected areas in West Africa—Ebola would likely have spread far further, potentially even causing widespread outbreaks within US territory.

Current efforts on prevention, preparedness, and response are not enough.

To prevent outbreaks from reaching the United States, we need to stop them where they start and spread. According to the WHO, 2016 alone saw outbreaks of yellow fever in Angola, the Democratic Republic of the Congo, Uganda, Kenya, and China; Lassa fever in Nigeria, Benin, Togo, and Liberia, with cases reaching Germany and Sweden; Rift Valley Fever in Niger and China; avian flu in China; monkey pox in the Central African Republic; hemorrhagic fever syndrome in South Sudan; cholera in Tanzania; and Zika throughout Latin America, among others.^{vi} But low and middle-income countries do not have the prevention efforts needed in place, nor do most have the capacity or funding to initiate them. The major initiative under the Obama Administration to address this and related concerns was the Global Health Security Agenda,^{vii} an effort to build capacity to prevent, detect and respond to future infectious disease outbreaks. This initial effort has been successful in supporting training and surveillance in 10 countries, as well as establishment of emergency operations centers in 16 countries. While these advances are welcome, they do not yet substantially protect Americans from infectious disease threats. There is still too little hard data on which to act, too few countries making concrete progress on disease control and preparedness, and too little money with which to respond.

Our toolbox for outbreak response is shrinking.

Our usual arsenals of response—antibiotics and the protection conferred by vaccines—are under threat. The US Centers for Disease Control (CDC) calls antibiotic resistance a “quickly growing, extremely dangerous problem”;^{viii} if left unchecked, antimicrobial resistance (AMR) could cause up to 10 million deaths a year by 2050 with a cumulative loss of \$100 trillion to the global economy.^{ix} Childhood vaccine coverage remains well below universal, and as a result, the drugs used to cure these unnecessary infections are increasing AMR throughout the world.

Border controls are not effective at containing pandemics, including the avian flu currently spreading across Asia; see Box 2.

Box 2: Restricting Travel Is Not Effective: When faced with a rapidly spreading pandemic, restricting air travel or closing borders might seem like an intuitive control measure. But evidence from the world’s best epidemiologists shows otherwise; at best, studies suggest that even the most extreme travel restrictions—say a 90% drop in air travel— would only delay the spread of a pandemic by about a month, with no effect on the number of Americans ultimately getting sick or dying.^x Worse, travel restrictions could stop aid workers from helping contain the outbreak at its point of origination, increasing the overall risk to Americans. And of course, the cost of those restrictions for the American economy would be devastating.

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Why? First, by the time a threat is recognized as serious, the spread is already likely to be extensive. Second, many diseases do not just spread person to person, but also from animals who do not respect human borders. For example, human cases of the current avian flu outbreak (H5N6) were first reported in China back in 2014, but migratory birds have carried the virus onward. It's only now that the problem is beginning to attract serious international attention.^{xi}

There is strong American support for investments in global health.

The American people agree that promoting better health abroad helps protect Americans at home. Seventy percent of Americans want the US government to maintain or expand its spending to improve health in developing countries, and 74 percent believe that “spending money on improving health in developing countries helps protect the health of Americans by preventing the spread of diseases like Ebola and Zika.”^{xii}

Getting It Done: A New Trump Administration Health Initiative

Much more must be done to protect America's health. The US government spends billions upon billions countering potential terrorists abroad—but we don't do enough to counter the pandemic threat, which could wreak far more large-scale havoc. Without relatively modest investments abroad now, we will end up paying far more than our fair share later.

What's needed is a new presidential initiative to scale up and consolidate US efforts to rapidly and efficiently prevent and control global infectious disease. Doing so will save lives and reform America's traditionally earmarked and fragmented way of doing business in global health, and create clearer incentives for fair-share funding. The benefits would be huge in terms of lives saved and economic costs avoided. In light of the critical stakes for national security, the National Defense Authorization Act (NDAA) could serve as a legislative vehicle for securing new authorities. We recommend:

Pursue an integrated Protecting America's Health at Home and Abroad (PAHHA) agenda to strengthen preparedness, accomplish disease control goals in HIV/AIDS and malaria, and combat antibiotic resistance. The best way to protect the health of all Americans is to ensure priority infectious disease threats are adequately addressed at their source. A single, integrated agenda that addresses global disease surveillance, infection control, response capacity, and research and development is needed to achieve this. Key efforts to prevent and control epidemics where they start should include:

- **Rapid Response Fund: Adopting a more sustainable funding model.** The US response to the Zika outbreak was hamstrung by congressional deadlock on tangentially related policy issues, leading to preventable infections and further spread of the virus throughout the Americas and into US territory. The next outbreak could be far worse. To enable a timely and robust response to the next pandemic, the administration should request that Congress create a \$1 billion contingency fund which can be accessed during an infectious disease outbreak or other public health emergency meeting a set of established criteria. Already, the Trump Administration has taken an important step forward in this respect by calling for a new Federal Emergency Response Fund for public health in its budget request; the Trump Administration should ensure the Fund is adequately resourced and usable both within the US or abroad, as needed to best contain a disease outbreak that threatens Americans. Unused portions of the contingency fund should roll over year-to-year, requiring Congress

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to simply “refill” its budget in future appropriations cycles, much like the Disaster Relief Fund.

- **Infection Control: Employing Best Practices to Ensure the Effectiveness of Our Disease Fighting Arsenal.** Combating infections with antibiotics that could have been prevented by vaccines is increasing antimicrobial resistance. This limits our tools for fighting an outbreak. By increasing the use of existing vaccines, we could save lives and slow resistance to the critical drugs used to cure these infections. As one example, a 2011 US study found that the use of pneumococcal vaccines led to a 64 percent reduction in antibiotic-resistant pneumococcal infections among children and a 45 percent decrease among adults over 65 years of age.^{xiii} Despite this, access in low and middle-income countries to such vaccines remains low, although the Gavi Alliance—the global funding organization that provides lower-cost childhood vaccines to low-income countries—has made encouraging progress.
- **Response Capacity: Incentivizing Low and Middle-Income Countries to Strengthen their Own Health Systems.** A top priority for US global health efforts must be to strengthen the incentives for performance and regular evaluation pandemic response preparedness in low- and middle-income countries, per the standards set out through the International Health Regulations. The United States should go beyond its current in-kind support to develop clearer financial and reputational incentives for low- and middle-income countries—the likely “ground zero” for future pandemics, and those least likely to be able to stop their spread—to conduct rigorous external evaluations of their surveillance and response capacity; self-fund and address gaps in disease response and preparedness; and improve evaluation scores over time. This must include determining a better deal and incentives for partner country co-financing of preparedness.
- **WHO Reform: Championing changes at the WHO for More Effective Surveillance and Response:** The World Health Organization (WHO) is an important leverage point for getting all countries to pay their “fair share” for global health protection; it also serves as the best platform to coordinate global action. That said, it is no secret that there is room for the WHO to improve its efficiency and effectiveness in combatting global health threats, and the WHO’s lackluster response to Ebola, Zika, and the ongoing avian flu outbreak is cause for continuing alarm. The United States should take a leadership role in pushing for WHO reform, particularly a renewed focus on outbreak preparedness and response, awhile encouraging consideration of the recommendations of the Commission on a Global Health Risk Framework for the Future.^{xiv} To advance this effort, the United States could consider tying its voluntary contributions to improved performance on national priorities for WHO reform through a performance contract with incoming leadership, as the UK’s Department for International Development has done with some success.^{xv}
- **Research and Development: Facilitating Private Sector Innovation.** Effectively tackling new outbreaks and drug-resistant pathogens will require an expanded toolbox of drugs, vaccines, and diagnostics. The United States should increase government investment in R&D to speed basic research and incentivize the development of new medical tools. The Trump administration should consider leveraging private industry capacity and innovation by establishing market entry rewards for new antibiotics, vaccines, and other priority products. Experts estimate that worldwide, an additional \$3 to 4 billion per year in R&D funding is

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needed to combat antimicrobial resistance,^{xvi} and another \$1 billion per year is needed to address pandemic and epidemic diseases.^{xvii}

To effectively implement PAHAA with limited funding, the Trump Administration should rationalize and right-size the US government global health apparatus and spending:

- **Appoint a PAHHA Coordinator to the White House National Security Council, along with a global health directorate.** To prepare and respond to looming health threats, the United States needs to address the lack of coherence between the many existing US agencies—the CDC, USAID, the Department of Defense, the State Department, and others—that must work together to address health threats at home and abroad. A senior leader is needed to develop and implement a cohesive strategy for the full range of US global health programs, accounting for existing agency mandates and acting as an honest broker among disparate specialties. The Trump administration should therefore create a new role in the White House National Security Council—a global health senior director—who is supported by a dedicated directorate. The senior director will coordinate policies and agency actions, elevate global health issues to the President, provide direction on behalf of the President to the agencies, and engage civil society. She or he would work closely with the Office of Management and Budget to ensure that global health funding is also coordinated across all US global health programs, ensuring each funding stream fits within the overarching, whole-of-government global health response. This position would allow streamlining of authorities and elimination of redundancies.
- **Craft a harmonized approach to multilateral global health institutions.** The United States should leverage its funding and participation on multilateral boards to advance US interests and push for reform. To do so, it must represent a cohesive policy and reform strategy through its participation on the governing boards of all multilaterals. A single agency, or the newly appointed PAHHA Coordinator, should lead at all the multilateral institutions. Short of restructuring US agency representation on multilateral boards, those who currently sit on them should meet consistently, led by the PAHHA Coordinator, to plan a coordinated approach that ensures that the full set of US global health policy priorities are pursued in every setting as appropriate. Under the leadership of the Coordinator, the US should pursue opportunities to leverage its financial contributions into policy reforms through performance agreements with incoming global health multilateral leaders and tying replenishments to improvements in efficiency and effectiveness.

ⁱ <https://www.nytimes.com/2014/02/05/health/cases-of-new-deadly-bird-flu-surge-in-china-experts-say.html?action=click&contentCollection=Health&module=RelatedCoverage®ion=Marginalia&pgtype=article>

ⁱⁱ <https://www.cdc.gov/flu/avianflu/h7n9-virus.htm>

ⁱⁱⁱ <http://www.ajc.com/news/state--regional-govt--politics/bird-flu-found-georgia-chicken-flock/DGgBp1sUhctO6JLDLLyIFJ/>

^{iv} <https://www.ncbi.nlm.nih.gov/books/NBK92473/>

^v <http://www.nber.org/papers/w22137>

^{vi} <http://www.who.int/csr/don/archive/year/2016/en/>

^{vii} <https://www.ghsagenda.org/home>

^{viii} <https://www.cdc.gov/drugresistance/about.html>

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- ^{ix} <http://www.cgdev.org/blog/ambitious-goal-international-cooperation-2017-global-treaty-tackle-antimicrobial-resistance>
- ^x <http://www.who.int/bulletin/volumes/92/12/14-135590/en/>
- ^{xi} <http://www.cidrap.umn.edu/news-perspective/2017/02/taiwan-reports-its-first-h5n6-avian-flu-outbreak>
- ^{xii} <http://kff.org/report-section/2016-survey-of-americans-on-the-u-s-role-in-global-health-section-1-8861/>
- ^{xiii} <https://academic.oup.com/jid/article/205/3/401/850073/Prevention-of-Antibiotic-Nonsusceptible>
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