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The Fogarty Imperative: The Importance of the Global Health Training Deemed Expendable by the 2018 White House Budget

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Abstract

The Fogarty International Center of the National Institutes of Health (NIH) equips low and middle income countries with the expertise to contain epidemics at their source, concomitantly minimizing risk of spread to the U.S. Considering the comparative cost of a public health emergency response, such as Congressional appropriations during the Ebola outbreak, the Fogarty budget is overwhelmingly cost-effective. Nonetheless, the White House has proposed abolishing this crucial program. Support of the Fogarty Center should be a priority for the current Administration to secure the health of the American people.

Main Text

The “America First” paradigm of the current U.S. President has been accompanied by the White House budget proposal to eliminate the Fogarty International Center (Fogarty) of the National Institutes of Health (NIH) (1). Even from the perspective of this paradigm, such action would be counterproductive to protecting American lives. Fogarty is the cornerstone of the American strategy to promote global health. Fogarty training programs build global expertise to contain epidemics, thereby protecting their own citizens, Americans, and the rest of the world.

As a prime example, variation in the rapidity of Ebola control across West African countries during the 2013–2016 outbreak suggests the value of Fogarty capacity-building for outbreak

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Supplementary Materials:
Tables S1–S2

preparedness. We do not believe that it was a coincidence that of the six West African countries to which Ebola spread, transmission was thwarted in Mali, Nigeria, and Senegal, with their 13 Fogarty grants in fiscal year 2013 (Table S1). In Mali, Ebola was promptly diagnosed at a Biosafety Level 3 laboratory supported by Fogarty, facilitating the containment. In Nigeria, Fogarty training in contact tracing procedures for polio eradication efforts was applied to trace Ebola exposures, a strategy that was critical for curbing Ebola there. In Senegal, the Institut Pasteur de Dakar had received Fogarty-sponsored training in surveillance and pandemic preparedness. During the outbreak, an Ebola task force was mobilized at the Institut Pasteur in a coordinated response to immediately isolate and treat an infected traveler, as well as to identify and monitor 74 close contacts.

By contrast, the outbreak continued for many months in Guinea, Sierra Leone, and Liberia (2), which had but one Fogarty grant in FY 2013 (Table S1). In these three countries, mortality from the interruption of services, such as obstetric care and the treatment of other diseases, is estimated to have been even greater than the direct loss of life due to Ebola (3). Compounding this loss of life, schools were closed and quarantines imposed in Liberia, Sierra Leone, and Guinea, leading to extensive disruptions of the economy and everyday life. Reverberations were felt as far away as in the U.S., where 11 cases of Ebola were treated and hundreds of people were quarantined. To address the need for capacity strengthening in Liberia, Guinea, and Sierra Leone, Fogarty recently funded five grants in these countries (Table S2). These programs are desperately required to control Ebola resurgences, as have occurred multiple times in West Africa (4) since the World Health Organization declared these countries “Ebola free” following the 2014–2015 outbreak.

It is good business sense to avert such devastating epidemics by strengthening local public health expertise and preparedness, rather than by relying on post-hoc emergency response. The U.S. Congress allocated US\$5.4 billion as emergency funding to tackle the 2014–2015 Ebola outbreak (5). Local expertise in outbreak control would likely have stemmed the outbreak in West Africa much earlier (6), mitigating both regional and international repercussions, as well as the necessity of such massive emergency Congressional appropriations. The emergency funding allocated by the U.S. in response to the Ebola outbreak alone would cover Fogarty’s annual budget of US\$69 million 78 times over. In other words, the total Fogarty budget would be more than offset over its entire 50-year history if Fogarty’s programs mitigate a single such outbreak as Ebola. By any measure, the direct and indirect impacts of the modest Fogarty budget, representing only 0.2% of NIH appropriations, are extraordinarily cost-effective. Consequently, dismantling Fogarty would be short-sighted.

Fogarty supports global health research training and scientific capacity building in over 100 countries. These programs have catalyzed medical and public health advances on a global scale in areas such as pandemic preparedness, HIV prevention and treatment, tropical diseases, cancer, cardiovascular disease, diabetes, and neurodegeneration. Outbreaks of infectious diseases, such as Ebola, Zika, and avian influenza, threaten global security with health and economic ramifications far beyond the country of origin. To mitigate these threats, Fogarty programs have trained nearly 6,000 talented scientists and public health practitioners, many of whom have gone on to become the architects of the public health

infrastructures within their countries as Ministers of Health, presidents of research institutes, founders of clinics and community-based public health initiatives, university professors, and leaders of the WHO, UNICEF, and similar global disease control agencies. America is far safer from emerging infectious diseases when they can be controlled before they spread to the U.S. Increasing disease emergence and re-emergence can be expected, as climate change expands habitats of insect vectors and the human population continues to grow. Americans travel and live abroad more than the citizens of any other country and global travel is integral to our economy and diplomacy (7). “America First” means that protection of our citizens from infectious disease outbreaks should be a priority. Thus, support of the Fogarty Center should be a priority for the current Administration to secure the health of the American people.

Fogarty trainees are powerful advocates for the U.S. and are typically lifelong professional colleagues for U.S. investigators from academia, the U.S. military and the U.S. Centers for Disease Control and Prevention (CDC) (8, 9). Fogarty investments seed synergistic collaborations between American and foreign personnel, promoting cross-fertilization between their complementary fields of expertise and galvanizing the long-term mutually beneficial partnerships that are essential for outbreak preparedness. Fogarty alumni in turn impart their expertise to the next generation (8), who themselves then train others, perpetuating and magnifying the impact. Americans are also trained in selected Fogarty programs, expanding our national health infrastructure (8). For example, the RAPIDD program trained a generation of infectious disease modelers, and the program is credited with adding this powerful tool to the arsenal of U.S. public health emergency response (10). Additionally, impoverished families within the U.S. are commonly afflicted by many of the “neglected” diseases investigated through Fogarty programs (11).

The Fogarty network has enhanced the effectiveness and efficiency of American philanthropic foundations and federal initiatives. For example, The President’s Emergency Plan for AIDS Relief (PEPFAR) was launched in 2003 by George W. Bush with bipartisan Congressional support that continues to this day. PEPFAR leveraged Fogarty infrastructure to offer diagnostic services and counseling, link HIV-infected persons to antiretroviral drugs, and promote adherence to these medications. Since its inception, Fogarty-trained scientists and clinicians have been the backbone of PEPFAR, whose impact measures millions of lives across the globe, promoting immense goodwill toward the U.S. in Africa, Asia, and elsewhere. As this alliance matured, it led to Fogarty’s Medical Education Partnership Initiative (and counterpart nursing initiative) to capacitate African medical and nursing schools in the 21st century. The myriad successes of this partnership include reducing annual new HIV infections among children from 490,000 new infections in 2000 to 150,000 in 2015 (12). Capitalizing in turn on this continuing U.S.-nurtured progress, African governments have been investing to extend the reach and sustainability of these programs.

Current challenges that Fogarty is tackling include the spread of drug resistance, rising rates of cervical cancer, and amelioration of trauma (Table 1). These are shared problems that transcend national boundaries. Mental health disorders, including depression, substance use, and post-traumatic stress disorder, collectively result in the loss of over 185 million disability-adjusted life-years annually, affect societal prosperity, and exacerbate other

diseases (13). The U.S. is disproportionately impacted, with rates of mental health disorders far exceeding the global average (14). Fogarty has sponsored research around cost-effective approaches to alleviate mental health disorders in settings with a shortage of mental health care specialists, a challenge that is relevant to many American communities. For example, the mobile-based health solutions (mHealth) being developed by Fogarty investigators is helping extend mental health services to less accessible or marginalized populations in the U.S. Other mental health research includes the identification of risk factors associated with dementia, which could cast light on American lifestyle factors that elevate this same risk.

When a public health intervention is successful, outbreaks are averted, risks mitigated and transmission curtailed. In other words, public health strives to eliminate events — pandemics, heart attacks, childhood infections — detrimental to health and longevity. It is easy to take for granted the absence of an event that might have happened but did not. Such an underappreciation of public health is reflected on the national level by disproportionately high spending on treatment relative to more cost-effective prevention approaches that could have circumvented the need for treatment (15). Capacity-building and disease prevention both require tenacity to return substantial dividends for current and future generations. Global health training is essential to protect America. Once dismantled, the expense of rebuilding the Fogarty after its demolition would likely be far higher than its continued running costs.

The unpredictability of disease emergence poses a threat to any and every country across the globe. The U.S. is no exception. With investment in sustainable global health, health risks to Americans are reduced and money is saved. For Americans concerned with their own health security, the Fogarty International Center should be preserved. For Americans with compassion for all of humanity, the Fogarty International Center should be preserved. It is a national investment with overwhelmingly cost-effective impact from which all Americans benefit.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

The Fogarty response to global health challenges. This is a selection of the programs that were active in FY 2017, as reported through NIH RePORTER (<https://report.nih.gov/>).

Global Health Priority	Example Fogarty Program
Infectious Disease Emergence and Re-emergence	<ul style="list-style-type: none"> • Characterization of Acute Undifferentiated Febrile Illnesses • TB/MDR-TB Research Capacity Building in Southeast Asia • Translational Research Training on Leishmaniasis & Emerging Infectious Diseases
HIV/AIDS	<ul style="list-style-type: none"> • Expanding Independent Research Capacity in HIV-associated Malignancies in Uganda • Improving the HIV Care Cascade in Kenya through Implementation Science Training • Xiangya-UCLA HIV/AIDS Nursing Research Initiative
Non-Communicable Diseases	<ul style="list-style-type: none"> • Cancer and Tobacco Control Training and Research across the Lifespan in Kenya • Haiti Research Training Program in the Prevention of Cervical Cancer • Family Smoking Cessation in Romania during Pregnancy
Injury and Trauma	<ul style="list-style-type: none"> • Biobehavioral Research Approaches to Reduce Effects of Trauma on Mental and Physical Health and Cognitive Outcomes in South Africa • Injury Prevention Research Training in Egypt and the Middle East • Testing a Refugee Family Dynamics Model: a Study with Sri Lankan Tamils
Mental Health	<ul style="list-style-type: none"> • Gene-Environment Interaction in Cognition in Venezuelan Families • A Psychobiological Follow-up Study of Transition from Prodrome to Early Psychosis
Environmental Health	<ul style="list-style-type: none"> • Environmental and respiratory health across the lifespan in Mongolia • Neurotoxicant exposures: impact on maternal and child health in Suriname
Technological Innovation	<ul style="list-style-type: none"> • Lay-operator mHealth Network: Real-time Syndromic Surveillance and Intervention • mHealth-assisted Conditional Cash Transfers to Improve Timeliness of Vaccination
Ethical Conduct of Research	<ul style="list-style-type: none"> • Building Local Capacities in Ethics Training and IRB Review in Guatemala • Caribbean Research Ethics Education Initiative