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The United States Should Take a Proactive Stance on Polio Eradication Legacy Planning

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The U.S. government is a staunch supporter of the ongoing global effort to eradicate polio. It has contributed more than \$2 billion to the cause, providing invaluable resources for vaccine purchases, communications, and social mobilization. The U.S. Centers for Disease Control and Prevention (CDC) and the U.S. Agency for International Development (USAID) have provided funding and technical assistance for everything from program management to disease surveillance and response to laboratory strengthening. While eradication remains elusive—with Pakistan now producing the bulk of the disease—solid support from the United States has helped the Global Polio Eradication Initiative (GPEI)² reduce the number of reported polio cases worldwide by more than 99 percent. “The U.S. government—and countless Americans—have been unflagging supporters of a polio-free future,” said Hamid Jafari, director of polio operations and research at the World Health Organization (WHO). “The U.S. has been at the core of the science, the funding, the community support, and the leadership that have brought us so far.”³

Over its 26-year history, the GPEI has developed a rich collection of knowledge and assets that could provide important tools for other activities to prevent and control diseases. These include health workers, surveillance networks, communications techniques, and laboratory capacity. As more countries become polio free, GPEI international partners—WHO, CDC, Rotary International, the United Nations Children’s Defense Fund (UNICEF), and the Bill & Melinda Gates Foundation—are working with country programs and donors to plan a transition of polio eradication resources to priority immunization and health programs. While a sharp focus needs to continue on eradication until the goal is achieved, careful, deliberate transition planning is required to ensure important resources do not vanish along with polio. As the number of cases falls and program funding diminishes, countries may not have the infrastructure in place to continue important health activities. Donors may redirect their funding to other activities without considering the effects on existing operations and the potential polio program resources hold for addressing broader health issues. If the United States were to adopt a similar course, it would

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² Led by national governments and housed at the World Health Organization, the GPEI is a collaboration of international organizations, private-sector groups, professional societies, civil society, and others established to eradicate polio worldwide.

³ Author communication with Sona Bari, senior communications officer, World Health Organization, April 17, 2015.

miss opportunities to build on strong, capable resources that could feed into U.S. strategies for improving global health and protecting Americans from imported diseases.

Given its significant support for the polio program and the potential for polio resources to contribute to other global health priorities, the U.S. government should actively champion polio “legacy planning” over the next several years.

Polio Program Resources and U.S. Global Health Goals

Polio legacy planning focuses on three pillars:

- Move those polio eradication functions that must continue indefinitely to protect a polio-free world—including immunization, surveillance, outbreak response, and containment—into ongoing public health programs to ensure long-term polio cessation;
- Ensure that knowledge and lessons learned through polio eradication are shared with other health initiatives;
- Transition other GPEI capacities, processes, and assets to support other health priorities, where possible.⁴

Transition planning provides an opportunity for countries to determine whether and how resources and assets established for polio programs can be used to support and strengthen existing immunization and health systems after eradication. Over the next several years, the GPEI will encourage national governments to catalogue the polio resources in their public health systems, decide which ones they would like to continue, and determine how that can be accomplished. Where shortfalls exist either financially or in terms of technical assistance, plans could indicate what resources are needed. Involving international donors throughout the planning process will allow joint decisions to be made about how to move forward.

Many polio assets would benefit U.S. global health priorities, particularly those focused on vaccine-preventable diseases.⁵ There now are vaccines to aid in prevention and control of 25 diseases, yet those conditions still lead to 2 million deaths each year. Resources, systems, and knowledge gained through polio eradication can help improve global vaccination coverage levels, bolster disease surveillance, detection, and response, and contribute to strengthening health systems.

⁴ Global Polio Eradication Initiative, *Polio Eradication & Endgame Strategic Plan 2013–2018*, World Health Organization, 2013, 75, http://www.polioeradication.org/Portals/0/Document/Resources/StrategyWork/PEESP_EN_US.pdf.

⁵ These include measles, rubella, polio, influenza, diphtheria, pertussis, meningococcal disease, cholera, typhoid fever, Japanese encephalitis, and yellow fever. See WHO’s *Global Vaccine Action Plan 2011–2020*, 17, for a full listing: http://www.who.int/immunization/global_vaccine_action_plan/GVAP_doc_2011_2020/en/.

The U.S. government should begin working with partner countries to plan reprogramming of polio eradication capacities. While the GPEI hopes that all countries can use its planning guidelines, the initiative has identified 10 “focus countries” for polio legacy transition planning and immunization strengthening both where the majority of polio-funded resources are concentrated and where national immunization coverage levels remain low. They are Afghanistan, Pakistan, India, Nigeria, Chad, Democratic Republic of the Congo, Angola, Somalia, Ethiopia, and South Sudan.⁶ Many of these also are priority countries for U.S. global health support.⁷ ⁸ U.S. staff engaged with these countries should work with national governments to plan for polio resource transitions and look for ways polio resources can bolster U.S. programs there.

International Disease Control Is a U.S. Priority

As the 2014 Ebola outbreak in West Africa affirmed, infectious disease anywhere in the world can potentially threaten Americans. As a result, the U.S. government in recent years has increased its efforts to help prevent and control disease internationally. Beyond polio, the United States has been a staunch partner in expanding the use of vaccines to prevent disease by implementing the Measles & Rubella Initiative, strengthening general support to immunization programs, and introducing new and underused vaccines globally through Gavi, the Vaccine Alliance.⁹ More broadly, the Obama administration has developed the Global Health Security Agenda to help developing countries establish capabilities for disease prevention, detection, and response.

Resources developed through the polio eradication process can aid these efforts. The long struggle to eradicate polio has resulted in an unprecedented collection of global health assets. As authors Stephen L. Cochi et al. write, “During more than 25 years of operations, the GPEI has mobilized and trained millions of volunteers, social mobilizers, and health workers; accessed households untouched by other health initiatives; mapped and brought health interventions to chronically neglected and underserved communities; and established a standardized, real-time global surveillance and response capacity.”¹⁰

⁶ Global Polio Eradication Initiative, *Polio Eradication & Endgame Strategic Plan 2013–2018*.

⁷ Centers for Disease Control and Prevention, “Where We Work,” <http://www.cdc.gov/globalhealth/countries/default.htm>.

⁸ U.S. Agency for International Development, “Interactive Map,” <http://map.usaid.gov/>.

⁹ The U.S. government contributes generously to Gavi, with activities supported by U.S. agencies including CDC and USAID. For more information, see Katherine Bliss, *Replenishing GAVI in 2014: Options for U.S. Engagement*, CSIS, April 2014, http://csis.org/files/publication/140422_Bliss_ReplenishingGAVI_Web.pdf.

¹⁰ Stephen L. Cochi et al., “Global Polio Eradication Initiative: Lessons Learned and Legacy,” *The Journal of Infectious Diseases*, 2014, 210 (Sup 1) S540–46, http://jid.oxfordjournals.org/content/210/suppl_1/S540.abstract.

The GPEI currently supports a 29,000-person global workforce largely conducting social mobilization, disease surveillance, and immunization planning and supervision.¹¹ This support is particularly critical in Africa, where the GPEI funds 90 percent of the more than 1,000 personnel focused on immunization and vaccine development in WHO’s Africa office.¹² Further, important physical assets are owned by governments and other parties but supported operationally through GPEI funds.¹³ The GPEI also funds and helps operate a 145-site Global Polio Laboratory Network capable of attending to other diseases. Important networks and processes developed by the initiative include successful public–private partnerships that could be continued to address other health issues¹⁴ along with important systems for reaching underserved populations including microplanning of neighborhoods to ensure all households are approached during vaccination campaigns, providing services to transient and migrant groups, and community engagement techniques.

Many of these resources already are contributing to improved global immunization coverage and disease detection and control. Polio laboratory and surveillance systems in many countries have been expanded to also monitor for outbreaks of measles, rubella, and other diseases. In Nepal, for example, the polio surveillance system now also covers neonatal tetanus, Japanese encephalitis, influenza, and measles. In Nigeria, a GPEI-funded polio Emergency Operations Center was instrumental in controlling a potentially devastating Ebola outbreak in that country.¹⁵ A concerted emphasis on polio legacy planning could help ensure that other countries also benefit more broadly from polio program resources.

A Long U.S. History in Polio Eradication Activities

Through CDC and USAID, the U.S. government has been a pivotal partner in global efforts against polio since they began in the mid-1980s. In its initial involvement, USAID provided the Pan American Health Organization, WHO’s regional office in the Americas, with \$50 million for polio elimination.¹⁶ The funding backed regional advisers and staff training, as well as operational support for polio surveillance and laboratories. CDC experts served as policy advisers, provided

¹¹ Global Polio Eradication Initiative, “Polio Legacy Planning Workshop,” slide 17, PowerPoint to the Polio Partners Group, October 20, 2014, http://www.polioeradication.org/Portals/0/Document/Aboutus/PPG/PPG_Mtg20141020_PolioLegacyWorkshop.pdf.

¹² Global Polio Eradication Initiative, *Polio Eradication & Endgame Strategic Plan 2013–2018*, 2013, 56.

¹³ Global Polio Eradication Initiative, “Polio Legacy Planning Workshop.”

¹⁴ For example, Rotary International officials in both India and Nepal are now involved with improving routine immunization coverage in those countries.

¹⁵ Centers for Disease Control and Prevention, “Ebola Virus Outbreak—Nigeria, July –September 2014,” *Morbidity and Mortality Weekly Report*, Vol. 63 (39) 867–72 October 3, 2014, <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6339a5.htm>; and Joanne Silberner, “It Turns Out That Fighting Polio Is Good Training to Fight Ebola,” NPR, November 3, 2014, <http://www.npr.org/blogs/goatsandsoda/2014/11/03/361162520/it-turns-out-that-fighting-polio-is-good-training-to-fight-ebola>.

¹⁶ Elimination refers to removing a disease from a geographic area, while eradication involves permanently reducing to zero the incidence of a disease worldwide.

laboratory support, and offered technical expertise to develop diagnostic and surveillance capacity.¹⁷

When the WHO's World Health Assembly passed a resolution in 1988 targeting polio for global eradication, the U.S. government's role continued to grow. The United States has since devoted \$2.2 billion to polio eradication¹⁸ and become a leading partner in the effort. In addition to participating in GPEI management, CDC has provided key scientific and public health expertise. In fiscal year 2014, CDC spent \$150 million to support polio eradication.¹⁹ The funding supported the following activities:

- Outbreak investigations and provision of scientific expertise in control measures and prevention;
- Vaccine purchases;
- Capacity building of public health professionals;
- Vaccine operations and social mobilization;
- Activities related to CDC's role as polio reference laboratory and strengthening the capacity of other laboratories to analyze samples;
- Immunization system strengthening;
- Operational research to develop new approaches for eradication activities and to address barriers to achieving the goal.²⁰

Many of the activities conducted by CDC for polio eradication can appropriately be extended to support other global immunization and health security goals and therefore make use of effective public health assets created by the GPEI. For example, in its *Global Immunization: Strategic Framework 2011–2015*,²¹ CDC lays out several goals whose achievement could be bolstered through continuing and expanding assets developed through polio program activities. These include decreasing global measles morbidity and mortality; accelerating global rubella control

¹⁷ Nellie Bristol, *The U.S. Role in Global Polio Eradication* (Washington, DC: CSIS, December 2012), 7, <http://csis.org/publication/us-role-global-polio-eradication>.

¹⁸ Global Polio Eradication Initiative, "Contributions and Pledges to the Global Polio Eradication Initiative, 1985–2018," <http://www.polioeradication.org/Portals/0/Document/Financing/HistoricalContributions.pdf>.

¹⁹ Department of Health and Human Services, "Fiscal Year 2016 Centers for Disease Control and Prevention Justifications for Estimates for Appropriations Committees," 331, http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/FY2016_CDC_CJ_FINAL.pdf.

²⁰ Centers for Disease Control and Prevention, "Global Immunizations: Polio Eradication Budget Overview," March 21, 2014.

²¹ Centers for Disease Control and Prevention "CDC Global Immunization: Strategic Framework 2011–2015," <http://www.cdc.gov/globalhealth/immunization/docs/gid-strat-framework.pdf>.

and prevention of congenital rubella syndrome; and eliminating neonatal tetanus in all countries. Among other goals that could be supported by polio resources, the strategy calls for increasing the percentage of fully immunized children by 12 months of age, increasing vaccine coverage for older populations, and strengthening information and surveillance systems for vaccine-preventable diseases.

To bolster global health security, the Obama administration is planning to work with at least 30 countries to help them improve their disease detection and response capabilities. Part of the program's focus is preventing or controlling epidemic-prone vaccine-preventable diseases. It also targets improvements in surveillance systems, and encourages countries to create emergency operations centers to provide a more focused and coordinated response to critical health events. These all are functions in which polio eradication experiences and resources could play an important part.

USAID has a smaller role in global polio eradication than does CDC, but its contributions are no less important. Its fiscal year 2014 polio eradication budget of \$59 million supported activities in 24 countries and aided cross-border coordination. Through funding to WHO, UNICEF, and nongovernmental organizations, the agency supported program planning and management; laboratory accreditation; disease surveillance; community mobilization; communications; and monitoring and evaluation. It also contributed funding to help control a polio outbreak in the Middle East. Funding also supported staff costs, bilateral activities related to polio, and aided maternal and child health programs where appropriate.²²

In its fiscal year 2015 budget justification to Congress, USAID cites three goals as its main global health priorities: achieving an AIDS-free generation, ending preventable child and maternal deaths, and protecting communities from infectious disease.²³ Polio resources would be especially useful for the latter two goals. Vaccine-preventable diseases account for an estimated 1.5 million deaths each year in children under five.²⁴ Increasing childhood immunization coverage and supporting Gavi in its efforts to introduce new vaccines are primary tenets of USAID's drive to reduce preventable deaths and both are activities in which polio resources could play a role. Another major goal of the effort is to reach underserved populations, something that could be aided by methods developed by the GPEI. For example, through its polio funding in India, USAID contributed to the formulation of what is known as the 107 Block Plan. The plan used polio program social mobilizers to help disadvantaged communities improve sanitation conditions, treat diarrhea, and enhance routine immunization services.²⁵ The program now has

²² Author communication with Ellyn Ogden, USAID Worldwide Polio Eradication Coordinator, November 21, 2014.

²³ U.S. Department of State, "Congressional Budget Justification: Department of State, Foreign Operations, and Related Programs, Fiscal Year 2016," 68, <http://www.state.gov/documents/organization/236395.pdf>.

²⁴ World Health Organization, Global Health Observatory "Immunization," <http://www.who.int/gho/immunization/en/>.

²⁵ World Health Organization, South-East Asia Regional Office, "The 107 Block Plan: Completing Polio Eradication in the Remaining 107 Blocks," March 2010, http://www.searo.who.int/india/topics/poliomyelitis/Polio_107_block_plan_Mar_2010.pdf.

been extended successfully to other parts of the country and should be continued. USAID also has been a staunch supporter of disease surveillance for the GPEI, an activity that is critical to control of other infectious diseases as well.

The United States Should Champion Polio Legacy Planning to Improve Global Health

Resources and knowledge developed through polio eradication activities offer opportunities to further U.S. global health priorities, particularly in expansion of immunization services to reduce disability and death. These services can be linked with global health security by preventing or controlling epidemic-prone vaccine-preventable diseases. The U.S. government should seize the opportunity to actively engage with partner countries in developing plans that will maintain, protect, and expand on successful polio program systems and assets. When specific country plans become available, the United States can then move expeditiously to support and capitalize on polio eradication resources, thus ensuring they don't dissipate as GPEI funding dwindles. A proactive stance toward polio legacy planning will help reduce the overall global disease burden and protect Americans from imported infectious diseases while fostering developing-country ownership and investment in their own health capacity.

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