

The US commitment to global immunization

Protecting communities from infectious disease

The United States' investments in global health are among the most impactful and cost-effective solutions our nation can support.

Measurable progress has been made toward achieving an HIV/AIDS free generation, ending preventable child and maternal deaths, and ridding the world of polio, measles, rubella, guinea worm, diphtheria, whooping cough, tetanus, deadly diarrhea, respiratory infections, and malaria. These efforts save millions of lives overseas, while strengthening the US economy and promoting security.



Doane Porter

Investing in global immunization saves lives. Effective vaccines and immunization systems are a critically important element of US global health programs. With strong American support, the world has made tremendous progress in fighting vaccine-preventable diseases. For example, efforts to immunize every child have reduced new polio cases by 99.9 percent, leaving the world nearly polio free.

Investing in global immunization benefits Americans. Infectious diseases are just a plane, train, or car ride away. US support for global immunization programs protect Americans from disease outbreaks overseas, before they reach us at home. Strong immunization systems also provide a platform for better disease detection and response. For example, in 2014, Nigeria was able to rapidly replicate its polio immunization infrastructure and emergency operating center to respond to and contain an imported case of Ebola.¹

Facts

- Immunization prevents between **2 and 3 million deaths** every year.²
- Worldwide, nearly **19 million children** under the age of five **remain unimmunized**. An estimated **1.5 million** of those children **die** every year from diseases **that can be prevented** by vaccination.⁴
- In the countries account for 80 percent of the world's under-five child deaths, **53 percent** of the poorest children **are not fully vaccinated**.⁴
- For every **US\$1 invested**, there is a **\$44 return** across the lifespan of an immunized child, reflective of lower treatment costs and productivity gains.⁵
- At an estimated cost of almost **US\$11,000 per case of measles** imported to the US, even a small outbreak can result in **millions of dollars in economic loss**.⁶
- Reducing vaccine-preventable diseases is critical to controlling **antimicrobial resistance**, a threat which could **kill 10 million people by 2050**.⁷

Immunization is among one of the most cost-effective health interventions available and grows economies.² For every dollar invested in global health, there is a 10- to 20-fold return in economic benefits, fostering greater independence and increased participation by low and middle-income countries in the global economy.³ The United States also leads the world in vaccine research, development, innovation, and production, driving jobs domestically. For example, new vaccines for diseases such as Zika have been fast-tracked for development to protect both Americans and global communities.

US leadership is critical to continued progress. Despite tremendous progress, too many individuals still do not receive the vaccines they need to survive and thrive.² Sustained US investments in immunization are important for America's continued prosperity and global stability.

1 Vaz RG, Mkanda P, Banda R, et al. The Role of the Polio Program Infrastructure in Response to Ebola Virus Disease Outbreak in Nigeria 2014. *The Journal of Infectious Diseases*. 2016;213(Suppl 3):S140-S146. doi:10.1093/infdis/jiv581.

2 Immunization coverage page. World Health Organization website. Available at <http://www.who.int/mediacentre/factsheets/fs378/en/>. Accessed March 22, 2017.

3 Stenberg, K, Axelson, H, et al. Advancing social and economic development by investing in women's and children's health: a new global investment framework. *The Lancet*. 2014; 383, 9925: 1333-1354. doi: 10.1016/S0140-6736(13)62231-X.

4 UNICEF. *The State of the World's Children 2016: A Fair Chance for Every Child*. New York: UNICEF; 2016. Available at https://www.unicef.org/publications/files/UNICEF_SOWC_2016.pdf.

5 Ozawa, S, Clark, S, et al. Return On Investment From Childhood Immunization In Low- And Middle-Income Countries. *Health Affairs*. doi: 10.1377/hlthaff.2015.1086.

6 Sugerman, DE, Barsky AE, et al. Measles outbreak in highly vaccinated population, San Diego, 2008: role of the intentionally under vaccinated. *American Academy of Pediatrics*. 2010; 125(4):747-55. doi: 10.1542/peds.2009-1653.

7 CDC. *Antibiotic Resistance Threats in the United States, 2013*. Atlanta: CDC; 2013. Available at <https://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf#page=11>.

US DEPARTMENTS AND AGENCIES

US Agency for International Development (USAID) - USAID provides technical and commodity assistance to more than 70 countries supporting national child immunization programs in partnership with Gavi, UNICEF, and WHO, among others. This assistance is directed at increasing access to new and underutilized vaccines, generating demand, training health workers, strengthening capacity, and upgrading vaccine logistics.



Coverage rates for three doses of diphtheria-tetanus-pertussis vaccine in USAID's 25 priority countries - used as an indicator for how well countries provide routine immunization services - increased by 10 percent between 2008 and 2015, representing a total of more than 390 million children vaccinated during that time period.

US Centers for Disease Control and Prevention (CDC) - CDC's Global Immunization Division (GID) focuses on children, adolescents, and adults who are at the highest risk for illness and death from polio, measles, and other vaccine-preventable diseases. GID protects Americans at home by building public health infrastructure and capacity globally, responding to vaccine-preventable diseases where they occur and preventing importations.



CDC serves as the lead technical immunization agency, working to reduce polio cases by more than 99 percent and measles to decrease by 79 percent. These successes are supported by CDC's ability to monitor infectious diseases, having tracked 280 infectious outbreaks in over 150 countries since 2014.

US National Institutes of Health (NIH) - NIH engages in global health throughout its 27 institutes and centers, supporting vaccine research and development on infectious diseases such as Ebola, Zika, and HIV/AIDS, as well as translating promising vaccine technologies into products.



NIH is partnering with pharmaceutical company, GSK to develop several Ebola vaccine candidates and is sponsoring trials in Africa run by a Liberia-US clinical research partnership.

US Food and Drug Administration (FDA) - The FDA regulates products produced in other countries and used in the US, including vaccines and vaccine delivery technologies. The FDA also works with less experienced countries to build their own capacity to regulate the development and production of vaccines.



FDA's Center for Biologics Evaluation and Research serves as a mentor to the African Vaccine Regulatory Forum and helped develop a vaccine against meningitis A—the first vaccine ever developed specifically for Africa, which is expected to protect more than 400 million people by 2020.

US Department of Defense (DoD) - The DoD works to safeguard civilian and military health in areas where troops may be deployed and has supported the development of one of every four vaccines approved by the FDA. DoD conducts vaccine research for threats like malaria, dengue, Ebola, and HIV/AIDS.



The US Military HIV Research Program led the first HIV vaccine clinical trial to provide proof that a vaccine could prevent HIV infection. The Walter Reed Army Institute of Research helped develop the first malaria vaccine to be recommended for pilot implementation by WHO.

INTERNATIONAL EFFORTS

Gavi, the Vaccine Alliance - Gavi was launched in 2000 to fund vaccines for children in the world's poorest countries. Investments in Gavi have supported the immunization of nearly 580 million children against life-threatening diseases such as pneumonia, measles, and diarrhea since 2000, preventing approximately 8 million deaths. The Alliance's goal of immunizing an additional 300 million children by 2020 would prevent an additional 5 to 6 million deaths.



Gavi has mobilized contributions from local governments, increasing recipient-country investments and ownership of immunization programs, resulting in an additional \$113 million for the cost of Gavi-supported programs in 2015—a threefold increase since 2010.

UNICEF - UNICEF is a major partner with the United States in fighting vaccine-preventable diseases, including polio, measles, and maternal/neonatal tetanus, especially during humanitarian crises. UNICEF is the largest buyer of vaccines in the world, procuring vaccines for Gavi, and plays a critical role in delivering vaccines to children.



In 2016, UNICEF procured 2.5 billion doses of vaccines and 690 million syringes, helping reach 45% of the world's children with lifesaving vaccines

World Health Organization (WHO) - WHO's work in vaccines and immunization covers a range of activities including shaping vaccine research and development, evidence-based recommendations, strengthening routine immunization to meet elimination and coverage targets, improving national capacity and accelerating control of vaccine-preventable diseases.



WHO optimizes partnerships and addresses barriers to systematic collaboration, leveraging US investments while driving down costs. For example, the Strategic Advisory Group of Experts on Immunization brings together global experts on vaccines and recommend policies and strategies for immunization implementation.



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