



Saving lives and creating impact:

Why investing in global health research works



The Government of the United States (US) has long played a role in the development of new global health products that have transformed communities in the poorest countries in the world and saved the lives of millions. However, with increasing political pressure to scale back US Government investment in global health R&D and to focus instead on programs that further national security and demonstrate quick impacts, a review of evidence on the benefits of global health R&D investments and the cost-effectiveness of US Government funding is critical.

This report aims to assess the impact of past US Government investments in global health R&D and to review the role of ongoing US Government investments in global health R&D.

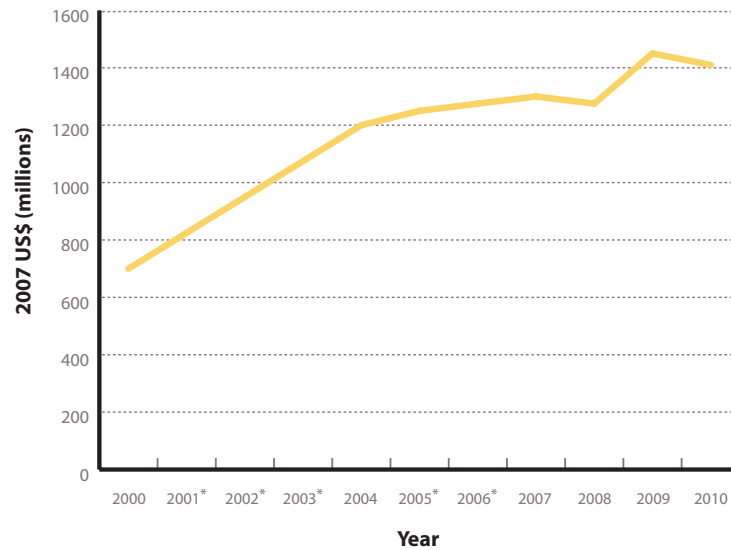
WHAT HAS THE US GOVERNMENT CONTRIBUTED TO GLOBAL HEALTH R&D?

The US Government is the largest funder of global health R&D in the world

The US Government contributes around 45% of the total investment in global health R&D each year and 70% of all government investment worldwide. In the last decade, the US Government invested \$12.7 billion in global health R&D and more than doubled its yearly financial commitment (from \$685 million to \$1.4 billion). Yet despite the critical role these investments play in sustaining research, they are a negligible imposition on US taxpayers, at less than 0.01% of GDP.

Figure 1.
US Government
funding for global
health R&D between
2000 and 2010*

* estimates



Five federal agencies make significant contributions to global health R&D

Five federal agencies—the National Institutes of Health (NIH), US Agency for International Development (USAID), Department of Defense (DoD), Centers for Disease Control and Prevention (CDC), and Food and Drug Administration (FDA)—contribute funding, infrastructure and their own unique capabilities and expertise to global health R&D. Financial support is driven by three agencies—the NIH, USAID, and DoD—that are responsible for 87%, 6% and 6% of US Government global health R&D funding respectively; while all five agencies provide scientific or regulatory expertise, clinical facilities to conduct R&D and intellectual property and technology transfer.

The US Government is the leading funder of R&D for 26 of the 30 most neglected diseases and conditions affecting the developing world

US Government funding for global health R&D is distributed across many conditions. In the last decade, the largest portion of funds went to HIV/AIDS (57%), while sizeable investments were made in tuberculosis (12%) and malaria (10%). A handful of diseases and conditions received 2–4% of total funding each, including diarrheal diseases, kinetoplastids (such as sleeping sickness and Chagas’ disease), dengue fever, parasitic worms, and contraceptive technologies. For all but four of the diseases considered for this report—bacterial pneumonia and meningitis, dengue fever, and Buruli ulcer—the US Government is the leading funder of research worldwide.

WHAT NEW GLOBAL HEALTH PRODUCTS HAVE BEEN DELIVERED OR ARE BEING CREATED?

The US Government was involved in development of half of all new global health products in the last decade

Investment in global health R&D has led to a remarkable increase in global health products, with 45 new products registered between 2000 and 2010. The US Government was involved in the development of 24 (53%) of the 45 products introduced between 2000 and 2010, although its input varied in degree and type.

HAS THE US GOVERNMENT INVESTMENT PAID OFF?

WHY THE US GOVERNMENT SHOULD CONTINUE TO INVEST IN GLOBAL HEALTH R&D

Ongoing US Government investment is supporting development of the largest pipeline ever of new global health products

US federal agencies are working with others to support development of 200 (55%) of the 365 products in the pipeline that will deliver the next generation of life saving global health products. The pipeline includes what is likely to be the first ever vaccine against malaria, three HIV vaccine candidates, and a new generation of improved TB drugs.

The US Government investment in global health R&D has paid off resoundingly. Four global health technologies developed with US Government support, and highlighted in the report—a new meningitis vaccine, a new test to diagnose TB, the next generation of HIV preventives, and improved TB drugs—provide a clear-cut case for global health R&D investment. These four technologies alone have already saved or are projected to save millions of lives, and often also millions of dollars, just as polio and measles vaccines did for previous generations throughout the world.

Current investments in global health are already on course to save millions of lives and dollars in the developing world

New global health technologies have already delivered substantial health and economic benefits in the developing world.

The next generation of global health products is imminent and promises to deliver even greater health and economic gains

A number of promising global health products have already entered late-stage development and will require continued investment to ensure they reach patients and deliver their projected health benefits and economic gains to the developing world. Among these products are several HIV vaccines, with modeling suggesting that a vaccine with even 50% efficacy provided to just 30% of the population could reduce the number of new HIV infections in the developing world by a quarter over 15 years—preventing 5.6 million new infections.

The US Government's role in global health R&D decreases risk and leverages inputs from the philanthropic sector and the pharmaceutical and biotechnology industries

The partnership between the US Government, industry, and the philanthropic sector decreases risk, improves R&D outcomes, and enables partners to bring their complementary skills and capabilities while building on their areas of comparative advantage.

Funding global health R&D benefits the United States and the domestic economy

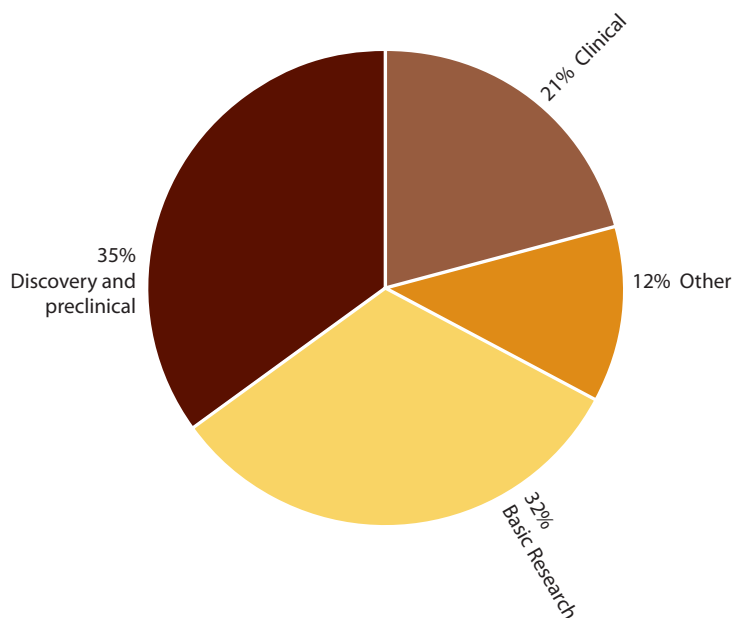
Funding global health R&D creates products and technologies that save lives and money in the developing world, but also protect US citizens, including US troops. The US contribution to global health R&D is an important instrument of foreign policy and diplomacy that highlights the United States at its best, sharing knowledge in developing countries and creating products that are not only needed but also appreciated. Funding global health R&D also brings significant benefits to the US domestic economy. Around 64 cents in every dollar spent by the US Government on global health R&D goes directly to United States-based researchers and product developers, creating jobs, building US research and technological capacity, and providing a direct injection of investment into the US economy.

HOW CAN THE US GOVERNMENT GENERATE GREATER IMPACT FROM ITS INVESTMENT?

The US Government can increase consistency across the value chain

US Government investment is not consistent across the R&D value chain with two-thirds of its funding directed to early stages of the R&D process and only around one-fifth to clinical studies in humans. The US Government's investment in early basic research is so great that it now provides nearly two-thirds (62%) of global funding in this area. But when it comes to the final clinical stages of product development, which are the most expensive and the most in need of funding, other groups (in particular the Bill & Melinda Gates Foundation and industry) are providing around 60% of all funding. This is unlikely to be sustainable as more products move into expensive late-stage clinical trials.

Figure 2.
US Government
funding by R&D
stage, 2010



The US Government can increase support for translation mechanisms, including partnerships aimed at converting research into products for patients in the developing world

Despite the US Government's substantial investment, research has not always translated sufficiently into successful products. Current programs—such as the NIH's Small Business Innovative Research (SIBR) program and Cooperative Research and Development Agreements (CRADAs)—are poorly suited to global health product development. US Government support for product development partnerships (PDPs)—responsible for over 40% of new global health products registered between 2000 and 2010—has also been slow and limited. The US Government has provided only 11% of PDPs' global funding commitments from 1993 to 2019.

RECOMMENDATIONS

1. The US Government should maintain its funding for global health R&D, and increase this funding where possible.
2. The US Government needs to have a greater focus on translational research, in particular clinical development, to fully leverage its global health R&D investments.
3. The US Government should increase funding to partnering mechanisms that are focused on translation of global health research, including PDPs and other partnering approaches.

Note: A complete list of references is available with the full report, which is available online at www.ghtcoalition.org.