



# Centers for Disease Control and Prevention Global Health Programs: FY2001-FY2010

**Tiaji Salaam-Blyther**  
Specialist in Global Health

August 21, 2009

Congressional Research Service

7-5700

[www.crs.gov](http://www.crs.gov)

R40239

## Summary

A number of U.S. agencies and departments implement U.S. government global health interventions. Overall, U.S. global health assistance is not always coordinated. Exceptions to this include U.S. international responses to key infectious diseases. For example, U.S. programs to address HIV/AIDS through the President's Emergency Plan for AIDS Relief (PEPFAR), malaria through the President's Malaria Initiative (PMI), and avian and pandemic influenza through the Avian Flu Task Force. Although several U.S. agencies and departments implement global health programs, this report focuses on funding for global health programs conducted by the U.S. Centers for Disease Control and Prevention (CDC), a key recipient of U.S. global health funding.

Congress appropriates funds to CDC for its global health efforts through five main budget lines: Global HIV/AIDS, Global Immunization, Global Disease Detection, Malaria, and Other Global Health. Although Congress provides funds for some of CDC's global health efforts through the above-mentioned budget lines, CDC does not, in practice, treat its domestic and global programs separately. Instead, the same experts are used in domestic and global responses to health issues. As such, CDC often leverages its own resources in response to global requests for technical assistance in a number of areas that also have domestic components, such as outbreak response; the prevention and control of injuries and chronic diseases; emergency assistance and disaster response; environmental health; reproductive health; and safe water, hygiene, and sanitation.

From FY2001 to FY2009, Congress provided about \$3.3 billion to CDC for global health programs. In addition, CDC received transfers from the Office of the Global AIDS Coordinator (OGAC) as an implementing partner of PEPFAR, and transfers from the U.S. Agency for International Development (USAID) for PMI. Including these transfers, CDC's spending on global health activities from FY2004 to FY2008 totaled \$5.2 billion, of which 78% was targeted at HIV/AIDS programs. Data on FY2009 transfers have not yet been provided to CRS.

President Barack Obama has indicated early in his Administration that global health is a priority and that his Administration would continue to focus global health efforts on addressing HIV/AIDS. When releasing his FY2010 budget request, President Obama indicated that his Administration would increase investments in global health programs and, through his Global Health Initiative, improve the coordination of all global health programs. The President requested that in FY2010, Congress approve \$9.1 billion for all global health programs, including \$479.8 million to CDC for global health programs—an estimated 3.4% increase over FY2009 enacted levels for CDC global health activities. In the House (H.Rept. 111-220) and Senate Appropriations Committee (S.Rept. 111-66) reports accompanying the FY2010 Labor, HHS, Education Appropriations (H.R. 3293), funds for CDC's global health activities exceed the President's request by some \$4 million and \$14 million, respectively.

There is a growing consensus that U.S. global health assistance needs to become more efficient and effective. There is some debate, however, on the best strategies. This report explains the role CDC plays in U.S. global health assistance, highlights how much the agency has spent on global health efforts from FY2001 to FY2010, and discusses how funding to each of its programs has changed during this period. For more information on U.S. funding for other global health efforts, including those implemented by USAID, the Department of Defense (DOD), and the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) and debates about making U.S. global health assistance more efficient, see CRS Report R40740, *U.S. Global Health Assistance: Background, Priorities, and Issues for the 111th Congress*.

## Contents

Introduction .....	1
CDC's Global Health Programs.....	1
Global HIV/AIDS .....	2
President's Emergency Plan for AIDS Relief (PEPFAR).....	3
Global Malaria.....	3
President's Malaria Initiative.....	4
Global Tuberculosis .....	4
Global Disease Detection .....	5
Pandemic and Avian Influenza .....	5
Global Immunization .....	9
Polio .....	10
Measles.....	11
Other CDC Global Health Programs.....	11
CDC Global Health Spending: FY2001-FY2009 .....	12
CDC Global Health Spending: FY2001-FY2003 .....	12
CDC Global Health Spending: FY2004-FY2008 .....	13
Apportionment of CDC Global Health Funding: FY2004-FY2008 .....	15
CDC Global Health Funding: FY2009-FY2010.....	15
Related Policy Issues .....	17
What Role Should CDC Play in U.S. Global Health Assistance? .....	17
Coordination of Global Health Programs.....	18
Workforce Levels.....	19

## Figures

Figure 1. CDC Global Health Funding: FY2001-FY2009 .....	20
--	----

## Tables

Table 1. U.S. Assistance for International H1N1 Responses, FY2009 .....	8
Table 2. CDC Global Health Spending: FY2001-FY2003.....	13
Table 3. CDC Global Health Spending: FY2004-FY2008.....	14
Table 4. Apportionment of CDC Global Health Funding: FY2004-FY2008 .....	15
Table 5. CDC Global Health Funding: FY2009-FY2010.....	16
Table 6. CDC Global Health Spending: FY2001-FY2010.....	21

## Contacts

Author Contact Information .....	22
----------------------------------	----

## Introduction

Several U.S. agencies and departments implement global health interventions. With the exceptions of initiatives to fight HIV/AIDS through the President's Emergency Plan for AIDS Relief (PEPFAR), malaria through the President's Malaria Initiative (PMI), and pandemic flu through the Avian Flu Task Force, the funding and implementation of U.S. global health initiatives are not always coordinated among agencies and departments. There is a growing consensus that U.S. foreign assistance needs to become more efficient and effective. There is some debate, however, on the best strategies. As Congress considers how best to improve foreign assistance, some Members are attempting to identify the scope and breadth of U.S. global health assistance.<sup>1</sup> This report highlights the global health efforts that the Centers for Disease Control and Prevention (CDC) undertakes, outlines how much CDC has spent on such efforts from FY2001 to FY2009, highlights FY2010 budget proposals from the Administration, House, and Senate Appropriations Committee, and discusses some issues the 111<sup>th</sup> Congress and the incoming director face.

Since 1958, CDC has been engaged in global health efforts. At first, CDC's global health engagement focused primarily on malaria control. CDC's global health mandate has grown considerably since then. In 1962, CDC played a key role in the international effort that led to smallpox eradication and in 1967 expanded its surveillance efforts overseas to include other diseases, when the Foreign Quarantine Service was transferred to CDC from the U.S. Treasury Department.<sup>2</sup> As CDC's mission expanded, so have the authorities under which it operates.<sup>3</sup> Today, CDC is a partner in a number of global disease control and prevention efforts, including those related to HIV/AIDS, influenza, polio, measles, and tuberculosis (TB). In addition to its work in controlling the spread of infectious diseases, CDC's global health efforts aim to address other global health challenges, such as chronic disease, injury prevention, child and maternal health, and environmental health concerns.

## CDC's Global Health Programs

Congress provides funds to CDC for global health efforts through Labor, Health and Human Services (HHS), and Education appropriations. The bulk of funds for CDC's global health programs are provided through five main budget lines: Global HIV/AIDS, Global Malaria, Global Disease Detection, Global Immunization, and Other Global Health. In practice, CDC does not

---

<sup>1</sup> For more information on debates about making U.S. global health assistance more efficient and U.S. funding for other global health efforts, including those implemented by USAID, the Department of Defense (DOD), and the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund), see CRS Report R40740, *U.S. Global Health Assistance: Background, Priorities, and Issues for the 111th Congress*.

<sup>2</sup> In 1962, CDC established a smallpox surveillance unit, and a year later developed an innovative vaccination technique that the World Health Organization (WHO) later adopted in its smallpox eradication efforts. In 1977, smallpox was eradicated; the United States had invested \$32 million on this effort. For more information, see CDC, "Historical Perspectives History of CDC," *MMWR*, vol. 45, no. 25 (June 28, 1996), pp. 526-530, <http://www.cdc.gov/mmwr/preview/mmwrhtml/00042732.htm>. For more information on the Federal Quarantine Service, see CDC Website, History of Quarantine at <http://www.cdc.gov/ncidod/dq/history.htm>.

<sup>3</sup> CDC's global health work is authorized under a number of acts, including the Public Health Service Act; Foreign Assistance Act; Federal Employee International Organization Service Act; International Health Research Act; Agriculture Trade Development and Assistance Act; Economy Act; Foreign Employees Compensation Program; International Competition Requirement Exception; and relevant appropriations.

treat its domestic and global programs separately. Instead, it uses the same experts to address domestic and global health issues. As such, CDC is engaged in a wider range of activities than what Congress appropriates for global health initiatives.

CDC programs are implemented bilaterally and in cooperation with other U.S. agencies, international organizations, foreign governments, foundations, and nonprofit organizations.<sup>4</sup> In addition to the funds Congress provides to CDC for global health programs, the Office of the Global AIDS Coordinator (OGAC) at the U.S. Department of State transfers funds to CDC as an implementing partner of PEPFAR, which is implemented by a number of agencies and departments.<sup>5</sup> U.S. Agency for International Development (USAID) also transfers funds to CDC as an implementing partner of PMI.<sup>6</sup> The section below describes global health activities that Congress funds CDC to implement.

## **Global HIV/AIDS**

CDC launched its Global AIDS Program (GAP) in 2000 under the LIFE Initiative.<sup>7</sup> GAP supports HIV/AIDS interventions in 41 countries and offers technical assistance in an additional 29 others.<sup>8</sup> To combat HIV/AIDS, CDC sends clinicians, epidemiologists, and other health experts to assist foreign governments, health institutions, and other entities that work on a range of HIV/AIDS-related activities. The key objectives of GAP are to help resource-constrained countries prevent HIV infection; improve treatment, care, and support for people living with HIV; and build health care capacity and infrastructure. Specific activities within the projects include:

- developing and implementing integrated evidence-based prevention, care, and treatment programs;
- building sustainable public health capacity in laboratory services and systems;
- evaluating the scope and quality of global HIV/AIDS programs;
- strengthening in-country capacity to design and implement HIV/AIDS surveillance systems and surveys; and
- supporting host government capacity to monitor and evaluate the process, outcome, and impact of HIV prevention, care, and treatment programs.<sup>9</sup>

---

<sup>4</sup> For more information on CDC's partnerships, see <http://www.cdc.gov/cogh/partnerships.htm>.

<sup>5</sup> First authorized in 2003 through the U.S. Leadership Against HIV/AIDS, Tuberculosis, and Malaria Act (P.L. 108-25), PEPFAR is a coordinated approach to combating HIV/AIDS globally. In 2008, Congress extended authorization of PEPFAR through the Tom Lantos and Henry J. Hyde United States Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act (P.L. 110-293). For background information on PEPFAR, see <http://www.pepfar.gov/> and CRS Report RL34569, *PEPFAR Reauthorization: Key Policy Debates and Changes to U.S. International HIV/AIDS, Tuberculosis, and Malaria Programs and Funding*, by Kellie Moss.

<sup>6</sup> For background information on PMI, see <http://www.pmi.gov/> and CRS Report R40494, *The President's Malaria Initiative and Other U.S. Global Efforts to Combat Malaria: Background, Issues for Congress, and Resources*, by Kellie Moss.

<sup>7</sup> For background information on the LIFE initiative and PEPFAR, see CRS Report RL33771, *Trends in U.S. Global AIDS Spending: FY2000-FY2008*, by Tiaji Salaam-Blyther.

<sup>8</sup> For more information on GAP see <http://www.cdc.gov/globalaids/about/>. For more information on outcomes of GAP, see CDC, *FY2009 Congressional Justification*, pp. 317-322, [http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations\\_budget\\_form\\_pdf/FY09\\_CDC\\_CJ\\_Final.pdf](http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/FY09_CDC_CJ_Final.pdf).

<sup>9</sup> These bullets were summarized by CRS from E-mail correspondence with Anstice Brand, Program Analyst, CDC (continued...)

## President's Emergency Plan for AIDS Relief (PEPFAR)

CDC's spending and engagement on addressing HIV/AIDS expanded significantly after the launching of PEPFAR. From FY2004 through FY2008, appropriations to GAP changed little and amounted to \$753.2 million, representing about 40% of CDC's global health spending. As an implementing partner of PEPFAR, CDC also receives funds from the Office of the Global AIDS Coordinator (OGAC) to combat HIV/AIDS globally.<sup>10</sup> These transferred funds account for the majority of CDC spending on international HIV/AIDS efforts. From FY2004 to FY2008, OGAC transferred some \$3.4 billion to CDC for global HIV/AIDS activities. When OGAC transfers are added, from FY2004 to FY2008, HIV/AIDS spending accounted for nearly 80% of all spending by CDC on global health. OGAC has not yet released how much it will transfer to each PEPFAR implementing agency or department in FY2009.

## Global Malaria

Through its malaria programs, CDC conducts research and engages in prevention and control efforts.<sup>11</sup> CDC staff provide technical assistance that helps several malaria endemic countries strengthen their malaria control activities. Their work includes policy development, program guidance and support, scientific research, and monitoring and evaluation. CDC malaria programs are implemented bilaterally, in partnership with other multilateral organizations, and as part of the coordinated U.S. strategy—PMI. CDC combats malaria bilaterally with foreign Ministries of Health, through international initiatives such as Roll Back Malaria (RBM), and with multilateral partners, such as the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) and the World Bank. Through its multilateral partnerships, CDC has staff posted at the Global Fund; UNICEF; the World Bank.

CDC's global malaria efforts focus on utilizing data and applying research to develop evidence-based strategies for malaria prevention and control; and monitoring and evaluating existing malaria projects.<sup>12</sup> Specific activities include:

- designing technical and programmatic strategies, which include training, supervision, laboratory, communications, monitoring and evaluation, and surveillance systems;
- developing plans to estimate the impact of malaria control and prevention efforts;
- evaluating impact of long-lasting insecticide-treated nets (LLINs) and monitoring the spread of insecticide resistance;

---

(...continued)

Washington Office, February 2, 2009.

<sup>10</sup> For background information on transfers made to CDC as an implementing partner of PEPFAR, see CRS Report RL33771, *Trends in U.S. Global AIDS Spending: FY2000-FY2008*, by Tiaji Salaam-Blyther.

<sup>11</sup> Information about CDC's global malaria activities was summarized by CRS from CDC's international malaria Website at <http://www.cdc.gov/malaria/cdcactivities/index.htm>.

<sup>12</sup> For more on outcomes of CDC's malaria interventions, see CDC, *FY2009 Congressional Budget Justification*, p.333, [http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations\\_budget\\_form\\_pdf/FY09\\_CDC\\_CJ\\_Final.pdf](http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/FY09_CDC_CJ_Final.pdf).

- improving surveillance with the use of hand-held computers equipped with global positioning systems to conduct household surveys in remote villages; and
- evaluating the performance of health workers.

### **President's Malaria Initiative**

In addition to appropriations CDC receives for global malaria efforts, USAID transfers funds to CDC as an implementing partner of the President's Malaria Initiative. In June 2005, President Bush proposed the initiative and asserted that with \$1.2 billion spent between FY2006 and FY2010, PMI would seek to halve malaria deaths in 15 target countries. PMI is led by USAID and jointly implemented by CDC and USAID. From FY2006 through FY2008, USAID transferred an estimated \$25 million to CDC for global malaria programs. USAID has not yet released how much it will transfer to CDC for global malaria programs in FY2009.

### **Global Tuberculosis**

CDC collaborates with U.S. and multilateral partners to provide technical support in the global effort to eliminate tuberculosis (TB).<sup>13</sup> Bilateral partners include the National Institutes of Health (NIH) and USAID; multilateral partners include the Global Fund and WHO. Key activities in CDC's bilateral TB interventions include:

- operations research;<sup>14</sup>
- improvement of TB screening and diagnostics;
- surveillance of TB/HIV prevalence and multi-drug resistant TB (MDR-TB) prevalence;
- laboratory strengthening; and
- infection control.

CDC also provides technical assistance to multilateral efforts to contain TB, including the Directly Observed Therapy Short Course (DOTS) program and the Green Light Committee Initiative, which helps countries access high-quality second-line anti-TB drugs for those infected with multi-drug resistant TB (MDR-TB).<sup>15</sup> Multilateral partnerships also include joint efforts with WHO to conduct surveillance of drug resistant TB. From 2000 through 2004, CDC and WHO (with support from USAID) conducted research to determine the extent of TB-drug resistance.<sup>16</sup> Just two months after releasing its findings, in May 2006, South African officials invited CDC and WHO officials to investigate an outbreak of extremely drug-resistant (XDR-TB), which caused several deaths in Kwazulu-Natal, South Africa. Many health experts were alarmed by the

---

<sup>13</sup> For background information on CDC's efforts to address tuberculosis globally and on TB drug resistance, see CRS Report RL34246, *Tuberculosis: International Efforts and Issues for Congress*, by Tiaji Salaam-Blyther.

<sup>14</sup> CDC defines operations research as the application of scientific methods and models to improve decision-making, resource allocation, and processes to predict and improve program performance.

<sup>15</sup> For more information on DOTS, see <http://www.who.int/tb/dots/en/> and for more information on the Green Light Committee Initiative, see <http://www.who.int/tb/challenges/mdr/greenlightcommittee/en/>.

<sup>16</sup> CDC, "Emergence of Mycobacterium tuberculosis with Extensive Resistance to Second-Line Drugs Worldwide, 2000-2004," *MMWR*, vol. 55, no. 11 (March 24, 2006), pp. 301-305, <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5511a2.htm>.

high mortality rates that occurred in May 2006. The team observed 544 patients and diagnosed 221 (41%) with multi drug-resistant (MDR-TB), 53 of which were determined to have XDR-TB. Only one of the 53 patients with XDR-TB survived. The mortality rate for the MDR-TB patients was higher than 70% and about 98% for XDR-TB patients. CDC continues to support efforts to improve surveillance of disease-resistant tuberculosis, including efforts by WHO to bolster XDR-TB surveillance in southern Africa.

## Global Disease Detection

Established in 2004, CDC's Global Disease Detection (GDD) efforts aim to "protect the health of Americans and the global community by developing and strengthening public health capacity to rapidly detect and respond to emerging infectious diseases and bioterrorist threats."<sup>17</sup> The GDD program draws upon existing international expertise across CDC programs to strengthen and support public health surveillance, training, and laboratory methods; build in-country capacity; and enhance rapid response capacity for emerging infectious diseases.

CDC has established six GDD centers, which serve as regional resources to bolster laboratory capacity and epidemiology programs of the host countries and neighboring ones. Through the centers—which are in Thailand, Kenya, Guatemala, China, Egypt and Kazakhstan—CDC focuses on five key activities: (1) outbreak response, (2) surveillance, (3) pathogen discovery, (4) training, and (5) networking. During health emergencies—such as the emergence of pandemic flu in 2009—CDC can use the centers for bilateral response or as part of the Global Outbreak Alert and Response Network (GOARN), which is coordinated by WHO.<sup>18</sup> Examples of GDD activities include CDC responses to severe acute respiratory syndrome (SARS) outbreaks in 2003; the Asian tsunami in 2004; ongoing avian influenza outbreaks, which began in 2004; and cholera outbreaks in Zimbabwe in 2008.<sup>19</sup>

## Pandemic and Avian Influenza

CDC works in over 35 high-risk countries around the world to prevent the spread of avian influenza to humans and to help countries prepare and respond to any pandemic influenza that might arise, including the 2009 H1N1 pandemic flu (discussed below). CDC influenza work is implemented bilaterally and in cooperation with WHO, CDC's GDD centers, Department of Defense (DOD) international field stations and other groups. In this capacity, CDC helps governments and WHO respond to and control avian influenza outbreaks, and to develop rapid response teams in high-risk countries. Additional related activities include:

- helping foreign governments detect novel influenza viruses by building laboratory capacity;

---

<sup>17</sup> Information about GDD was summarized by CRS from CDC, *Global Disease Detection*, Policy Paper, June 2008, [http://www.cdc.gov/cogh/pdf/GDD\\_At\\_a\\_Glance\\_2008.pdf](http://www.cdc.gov/cogh/pdf/GDD_At_a_Glance_2008.pdf).

<sup>18</sup> For more information on GOARN, see <http://www.who.int/csr/outbreaknetwork/en/>.

<sup>19</sup> For more information on GDD outcomes see CDC, *FY2009 Congressional Budget Justification*, pp. 329-330, [http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations\\_budget\\_form\\_pdf/FY09\\_CDC\\_CJ\\_Final.pdf](http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/FY09_CDC_CJ_Final.pdf). For more on CDC's response to cholera outbreaks in Zimbabwe, see CDC, "CDC Responds to Cholera Outbreak in Zimbabwe," *CDC Global Health E-Brief*, Fourth Quarter 2008, p. 6, <http://www.cdc.gov/washington/EGlobalHealthEditions/pdf/4thQuarter2008GlobalHealthE-Brief.pdf>.

- strengthening epidemiology and avian influenza surveillance;
- enhancing laboratory safety;
- developing and training rapid response teams; and
- supporting the establishment of influenza treatment and vaccine stockpiles.

In FY2005, Congress provided emergency supplemental funds for U.S. efforts related to global pandemic influenza preparedness and response. In each appropriation year since, Congress has funded U.S. efforts to train health workers in foreign countries to prepare for and respond to a pandemic that might occur from any influenza virus, including H5N1 avian flu and H1N1. The U.S. Department of State announced in October 2008 that since FY2005, the United States has pledged about \$949 million for global avian and pandemic influenza efforts, accounting for 30.9% of overall international donor pledges of \$3.07 billion.<sup>20</sup> The United States is the largest single donor to global avian and pandemic preparedness efforts.<sup>21</sup> The funds have been used to support international efforts in more than 100 nations and jurisdictions. The assistance focused on three areas: preparedness and communication, surveillance and detection, and response and containment. The \$949 million was provided for the following efforts:

- \$319 million for bilateral activities;
- \$196 million for support to international organizations, including WHO, the U.N. Food and Agriculture Organization (FAO), the U.N. Development Program (UNDP), the International Federation of the Red Cross and Red Crescent Societies (IFRC), the U.N. System Influenza Coordinator (UNSIC), the World Organization for Animal Health (OIE), and the U.N. Children’s Fund (UNICEF);
- \$123 million for regional programs, including disease detection sites;
- \$83 million for a global worldwide contingency, available to address the evolving nature of the threat;
- \$77 million for international technical and humanitarian assistance and international coordination;
- \$71 million for international influenza research (including vaccines and modeling of influenza outbreaks) and wild bird surveillance, including the U.S. launch of the Global Avian Influenza Network for Surveillance (GAINS) for wild birds, with a collection of tens of thousands of samples for H5N1 analysis;<sup>22</sup>
- \$67 million for stockpiles of non-pharmaceutical supplies, including over 1.6 million PPE kits, approximately 250 laboratory specimen collection kits and

---

<sup>20</sup> Correspondence with Jeffrey Lutz, Avian Influenza Action Group, U.S. Department of State, April 28, 2009 and U.S. Department of State press release, “U.S. International Avian and Pandemic Influenza Assistance Approaches \$950 Million,” October 25, 2008, <http://2001-2009.state.gov/r/pa/prs/ps/2008/oct/111241.htm>. Also see, State Department, *Avian and Pandemic Influenza*, October 2008. For information on domestic spending on pandemic preparedness, see CRS Report RS22576, *Pandemic Influenza: Appropriations for Public Health Preparedness and Response*, by Sarah A. Lister. For information on domestic spending on H1N1, see CRS Report R40554, *The 2009 Influenza Pandemic: An Overview*, by Sarah A. Lister and C. Stephen Redhead.

<sup>21</sup> U.N. System Influenza Coordinator and World Bank, *Responses to Avian Influenza and State of Pandemic Readiness*, Fourth Global Progress Report, October 2008, p. 83, <http://un-influenza.org/files/081006-Synopsis2008.pdf>.

<sup>22</sup> For more information about GAINS, see <http://www.gains.org/>.

- 15,000 decontamination kits for use in surveillance, outbreak investigation and emergency response and containment efforts; and
- \$13 million for global communications and outreach.

The cumulative pledge of \$949 million consists of the following contributions, by agency:

- USAID: \$542 million.
- HHS, including CDC, the National Institutes of Health (NIH), and the Food and Drug Administration (FDA): \$353 million.
- U.S. Department of Agriculture (USDA): \$37 million.
- Department of Defense (DOD): \$10 million.
- Department of State (DOS): \$7 million.

In April 2009, an influenza virus that had never circulated among humans before began to spread around the world. The virus is called Influenza A/H1N1; it is mostly treatable, and less than 1% of those who have contracted the virus have died. By June 2009, WHO declared that the virus had spread so pervasively that it had become a pandemic. The characterization was based on the reach of the virus, not its virulence. As of August 12, 2009, WHO has confirmed 177,457 human H1N1 cases, including 1,462 deaths. About 87% of those fatalities occurred in the Americas, though the WHO European region reported the highest number of cases—more than 32,000. WHO and HHS maintain that the laboratory-confirmed cases are far lower than the actual number of cases, given that countries are no longer required to test and report individual cases. Many countries use laboratory tests to confirm H1N1 only in patients who are severely ill or have other high-risk health conditions.

CDC has been engaged in international H1N1 pandemic responses since the virus was identified. As one of four WHO collaborating centers around the world, the CDC influenza laboratory in Atlanta routinely receives viral samples from many countries, including Mexico.<sup>23</sup> CDC creates or develops reagents that are used to detect subtypes of influenza that are sent to national influenza centers around the world.<sup>24</sup> Once the subtype of influenza is identified, CDC generates testing kits that are sent to public health laboratories worldwide at no cost. At the onset of the outbreak, CDC sent experts out to the field to help strengthen laboratory capacity and train health experts to control the spread of a virus.

CDC has deployed 16 staff to Mexico and one health expert to Guatemala, including experts in influenza epidemiology, laboratory, health communications, and emergency operations, including distribution of supplies and medications, information technology, and veterinary sciences. These teams work under the auspices of the WHO/Pan American Health Organization Global Outbreak Alert and Response Network and a trilateral team of Mexican, Canadian, and American experts. The teams aim to better understand the clinical illness severity and transmission patterns of H1N1 and improve laboratory capacity in Mexico. CDC's Emergency Operations Center also

---

<sup>23</sup> The other collaborating centers are in Britain, Japan, and Australia. For more information on WHO Collaborating Centers, see <http://www.who.int/csr/disease/influenza/collabcentres/en/>.

<sup>24</sup> Taken from CDC, "Press Briefing: CDC Media Availability on Human Swine Influenza Cases," press release, April 27, 2009, <http://www.cdc.gov/media/transcripts/2009/t090427.htm>.

coordinates and collaborates with the European Centre for Disease Prevention and Control (ECDC) and the China CDC.

HHS Secretary Kathleen Sebelius announced on April 30, 2009, that the department “began moving 400,000 treatment courses—valued at \$10 million—to Mexico, which represent less than 1% of the total American stockpile.”<sup>25</sup> In July 2009, Secretary Sebelius announced at a high-level meeting held in Cancun, Mexico, with Mexican President Felipe Calderon, WHO Director-General Margaret Chan, Pan American Health Organization (PAHO) Director Mirta Roses, and other health ministers from throughout the Americas to discuss strategies to combat influenza that the United States would donate an additional 420,000 courses of Tamiflu to countries in Latin America and the Caribbean.<sup>26</sup> In total, the Administration aims to distribute 2 million courses in Latin America and the Caribbean.

As of May 18, 2009, the United States has provided more than \$16 million to assist countries in Latin America and the Caribbean respond to the H1N1 pandemic (**Table 1**). These funds are used for H1N1 responses specifically, and build on influenza pandemic preparedness efforts that began in earnest after the 2003 severe acute respiratory syndrome (SARS) outbreak and were expanded at the peak of H5N1 outbreaks. U.S. international responses to the H1N1 pandemic are conducted mostly by CDC and USAID, though the Department of Defense (DOD) has also provided support. Foreign assistance efforts largely focus on commodity delivery and disease detection and surveillance.

**Table 1. U.S. Assistance for International H1N1 Responses, FY2009**

(U.S. \$ thousands)

Agency/Implementing Partner	Activity	Location	Amount
<b>HHS/Government of Mexico</b>	Health	Mexico	<b>10,000.0</b>
USAID/Government of Mexico	Emergency Relief Supplies	Mexico	875.0
USAID/Pan American Health Organization (PAHO)	Emergency Relief Supplies	Panama	262.0
USAID/PAHO	Health	Central America	2,500.0
USAID/World Health Organization	Health	Central America	2,500.0
USAID	Administrative Support	Mexico	100.0
<b>USAID Total</b>			<b>6,237.0</b>
<b>DOD/Ministries of Health</b>	Emergency Relief Supplies	Central America	<b>234.7</b>
<b>Total U.S. Assistance</b>			<b>16,471.7</b>

**Source:** USAID, *Global—Influenza A/H1N1*, Fact Sheet # 3, May 18, 2009.

<sup>25</sup> HHS, “Secretary Sebelius Takes Two Key Actions On Strategic National Stockpile,” press release, April 30, 2009, <http://www.hhs.gov/news/press/2009pres/04/20090430a.html>. For information about the value of the 400,000 treatment courses, see USAID, *Global—Influenza A/H1N1*, Fact Sheet # 3, May 18, 2009, p. 2, [http://www.usaid.gov/our\\_work/humanitarian\\_assistance/disaster\\_assistance/countries/pandemic\\_influenza/template/fs\\_sr/pandemic\\_influenza\\_fs03\\_05-18-2009.pdf](http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/countries/pandemic_influenza/template/fs_sr/pandemic_influenza_fs03_05-18-2009.pdf).

<sup>26</sup> PAHO, press release, “PAHO Recognizes Important US Contribution of Antivirals for Latin America and Caribbean,” July 3, 2009

In response to President Obama's request for supplemental funding for U.S. domestic and international pandemic preparedness and response activities,<sup>27</sup> Congress made available \$50 million for USAID pandemic preparedness activities and \$200 million to CDC for domestic and international H1N1 activities through the FY2009 Supplemental Appropriations (P.L. 111-32). The conference report did not specify, however, how much of the \$200 million CDC should spend on international efforts.

## Global Immunization

According to the latest estimates, which were based on data collected in 2002, 1.4 million children under age five die annually from vaccine-preventable diseases (VPDs).<sup>28</sup> CDC has increasingly supported efforts to prevent the transmission of vaccine-preventable diseases, particularly polio and measles. CDC global immunization activities primarily focus on children younger than age five, who are at the highest risk of contracting polio, measles, and other VPDs. Appropriations in support of these efforts have grown from \$3.1 million in FY1991<sup>29</sup> to \$143.3 million in FY2009. Nearly all of the funds that Congress provides CDC for global immunizations are earmarked for polio and measles interventions. CDC leverages funds from other sources to prevent other VPDs and respond to global requests for technical assistance on immunization-related epidemiologic and laboratory science.

CDC implements immunization programs bilaterally and through international partnerships with groups such as WHO, UNICEF, PAHO, the World Bank, the American Red Cross, and Rotary International. CDC staff are seconded to these organizations and offer technical and operational support in improving global usage of immunizations. In addition, CDC officials serve on the Global Alliance for Vaccines and Immunization (GAVI Alliance) and act as implementing partners in a number of initiatives, including GAVI's Hib and Accelerated Vaccine Introduction Initiatives and the Meningitis Vaccine Project, all of which seek to accelerate introduction of new or underutilized vaccines in developing countries that can reduce child mortality.<sup>30</sup>

In partnership with WHO and UNICEF, CDC developed the Global Immunization Vision and Strategy for 2006-2015 (GIVS),<sup>31</sup> which among other goals, outlines how the international community will collaborate to reduce vaccine-preventable deaths and sickness by at least two-thirds from 2000 levels. The strategy aims to sustain the gains made over the past decades in

---

<sup>27</sup> The White House, "Letter from the President to the Speaker of the House," press release, April 30, 2009, [http://www.whitehouse.gov/the\\_press\\_office/Letter-from-the-President-to-the-Speaker-of-the-House-of-Representatives/](http://www.whitehouse.gov/the_press_office/Letter-from-the-President-to-the-Speaker-of-the-House-of-Representatives/). Also see CRS Report R40531, *FY2009 Spring Supplemental Appropriations for Overseas Contingency Operations*, coordinated by Stephen Daggett and Susan B. Epstein.

<sup>28</sup> WHO Website, *Vaccine-Preventable Diseases*, [http://www.who.int/immunization\\_monitoring/diseases/en/](http://www.who.int/immunization_monitoring/diseases/en/).

<sup>29</sup> CRS summarized information about CDC's global immunization efforts from CDC, *Global Immunization Strategic Framework: 2006-2010*, <http://www.cdc.gov/vaccines/programs/global/downloads/gisf-2006-2010.pdf>. For more information on outcomes of CDC immunization efforts, see CDC, *FY2009 Congressional Justification*, p. 327, [http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations\\_budget\\_form\\_pdf/FY09\\_CDC\\_CJ\\_Final.pdf](http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/FY09_CDC_CJ_Final.pdf).

<sup>30</sup> For more on GAVI, see <http://www.gavialliance.org/>; the Hib Initiative, see <http://www.hibaction.org/>; and the Accelerated Vaccine Introduction Initiative, see [http://www.gavialliance.org/resources/6\\_\\_Accelerated\\_Vaccine\\_Introduction.pdf](http://www.gavialliance.org/resources/6__Accelerated_Vaccine_Introduction.pdf); and the Meningitis Vaccine Project, see <http://www.who.int/vaccines/en/olddocs/meningACproject.shtml>.

<sup>31</sup> For more on the Global Immunization Vision and Strategy for 2006-2015, see [http://www.who.int/vaccines-documents/DocsPDF05/GIVS\\_Final\\_EN.pdf](http://www.who.int/vaccines-documents/DocsPDF05/GIVS_Final_EN.pdf).

eradicating polio and eliminating measles (see below) by helping to ensure universal application of routine immunizations and using those efforts to strengthen health systems.

## Polio

Polio is a highly contagious virus that mostly affects children under five years of age.<sup>32</sup> There is no cure for polio; it can only be prevented through immunization. Less than 1% of those who contract polio (one in 200) become irreversibly paralyzed. Between 5% and 10% of those who become paralyzed die of respiratory failure—when the lungs become paralyzed. As a result of global eradication efforts, polio cases have declined by more than 99% from an estimated 350,000 cases in 1998 to 1,648 cases reported in 2008.<sup>33</sup>

The number of polio-endemic countries has decreased from 125 in 1988 to four in 2008: Afghanistan, India, Nigeria and Pakistan.<sup>34</sup> Polio was nearly eradicated but resurged in 2003, when some northern states in Nigeria suspended inoculations citing safety concerns. This action led to a national epidemic and many global outbreaks. Between 2003 and 2007, the wild poliovirus originating in Nigeria reached 20 countries and an Indian strain reached six additional countries. By May 2007, most of the resulting outbreaks were arrested. However, six of the 26 countries that reported polio reinfection had not yet stopped transmission (Angola, Bangladesh, Democratic Republic of the Congo, Ethiopia, Myanmar, Somalia); four additional countries that border endemic areas continued to experience sporadic importations (Cameroon, Chad, Nepal, Niger).<sup>35</sup> Polio threatens not only countries bordering endemic countries, but all countries until its transmission has been stopped globally.

CDC provides technical expertise and support to national governments and international organizations in support of the global effort to eradicate polio.<sup>36</sup> Its laboratory support is an important component of such efforts. Over more than 20 years, CDC has helped countries build laboratory capacity in polio, resulting in a global polio network that now involves 145 laboratories around the world, which processed almost 180,000 lab specimens in 2008. In its multilateral efforts, CDC works closely with the other founding partners of the Global Polio Eradication Initiative—WHO, UNICEF, and Rotary International—and houses the global reference laboratory for polio.<sup>37</sup>

---

<sup>32</sup> Information about polio was summarized by CRS from WHO Website on polio at <http://www.who.int/mediacentre/factsheets/fs114/en/index.html>.

<sup>33</sup> Estimated polio cases for 2008 were taken from Global Polio Eradication Initiative, *Wild Poliovirus Weekly Update*, February 3, 2009, <http://www.polioeradication.org/casecount.asp>.

<sup>34</sup> For a history of polio eradication efforts, see <http://www.polioeradication.org/history.asp>.

<sup>35</sup> Dr. Margaret Chan, WHO Director General, *The Case for Completing Polio Eradication*, WHO, May 10, 2007, p. 1, [http://www.polioeradication.org/content/general/TheCase\\_FINAL.pdf](http://www.polioeradication.org/content/general/TheCase_FINAL.pdf).

<sup>36</sup> Information on CDC's polio programs was summarized by CRS from U.S. Congress, Senate Committee on Appropriations, Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, *Global Health*, Prepared Statement by Michael Leavitt, Secretary of the U.S. Department of Health and Human Services, 110<sup>th</sup> Cong., 1<sup>st</sup> sess., May 2, 2007, S. Hrg. 110-443, pp. 9 and 10.

<sup>37</sup> For more information on the Global Polio Eradication Initiative, see <http://www.polioeradication.org/>.

## Measles

Measles is another highly contagious virus that mostly affects children younger than five years of age.<sup>38</sup> In 2007, measles killed about 197,000 people worldwide, most of whom were children. Healthy people usually recover from measles or suffer moderately from the disease. Measles severely affects those who are poorly nourished, particularly those suffering from Vitamin A deficiency or immune suppressing diseases, such as HIV/AIDS. Those who survive severe measles infection may become blind or suffer from encephalitis (an inflammation of the brain), diarrhea and related dehydration, ear infections, or respiratory infections such as pneumonia. Among populations with high levels of malnutrition and a lack of adequate health care, up to 10% of measles cases result in death.

From FY2001 through FY2009, CDC spent more than \$342 million on global measles control activities in 42 sub-Saharan African countries and 6 Asia ones (**Table 6**).<sup>39</sup> With the funds, CDC has purchased over 200 million measles vaccine doses and provided technical support to ministries of health in those countries. Key technical support activities include:

- planning, monitoring, and evaluating large-scale measles vaccination campaigns;
- conducting epidemiological investigations and laboratory surveillance of measles outbreaks; and
- conducting operations research.<sup>40</sup>

Along with WHO, UNICEF, the United Nations Foundation, and the American Red Cross, CDC is a partner in the Measles Initiative, which has facilitated the precipitous decline in measles-related deaths from 2000 to 2007. During this period, about 576 million children who live in high risk countries were vaccinated against the disease.<sup>41</sup> As a result, measles-related deaths decreased globally by 74% during that time. The greatest improvements in measles death rates occurred in the Middle East and sub-Saharan Africa, where measles deaths declined by about 90%. Although measles was eliminated from the United States in 2000, travelers can carry the disease and cause sporadic cases annually.

## Other CDC Global Health Programs

Congress funds CDC's efforts to build public health capacity among country leaders, particularly health ministries, through the budget line entitled "Other Global Health." Two key components of these efforts are the Field Epidemiology (and Laboratory) Training Program (FE(L)TP) and the Sustainable Management Development Program (SMDP).<sup>42</sup> While these two programs received

---

<sup>38</sup> Information about measles was summarized by CRS from WHO, *Measles*, Fact Sheet, December 2008, <http://www.who.int/mediacentre/factsheets/fs286/en/index.html>.

<sup>39</sup> Senate Committee on Appropriations, Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, *Hearing on the FY2008 Budget of HHS*, Hearing on H.R. 3043/S. 1710, 110<sup>th</sup> Cong., 1<sup>st</sup> sess., March 19, 2007, S. Hrg. 110-400, p. 650.

<sup>40</sup> CDC defines operations research as the application of scientific methods and models to improve decision-making, resource allocation, and processes to predict and improve program performance.

<sup>41</sup> WHO, *Measles*, Fact Sheet, December 2008, <http://www.who.int/mediacentre/factsheets/fs286/en/index.html>.

<sup>42</sup> The Field Epidemiology Training Program (FETP) and the Field Epidemiology and Laboratory Training Program (FETLP) are two different programs. FE(L)TP refers to both.

direct Congressional appropriations, they are also supported by funds from other sources, including USAID, DOD, and the private sector.

FE(L)TP, established in 1980, is a full-time, two-year postgraduate applied public health training program for public health leaders to help strengthen health systems, train health professionals, build capacity to assess disease surveillance, and improve health interventions.<sup>43</sup> The program is modeled after CDC's Epidemic Intelligence Service and is adapted to meet local needs. Participants spend about 25% of their time in the classroom and 75% in field placements, providing public health services to host countries' health ministries. CDC develops the FE(L)TP in conjunction with local health leaders to ensure sustainability and ultimately hand-off the trainings to local officials (typically after four to six years). From 1980 to 2008, CDC has consulted with and supported 30 FE(L)TPs and similar programs in 40 countries. CDC is currently supporting FETP programs in 13 countries, FE(L)TP operations in 23 countries, and is developing 10 new programs.

The Sustainable Management Development Program, established in 1992, also aims to strengthen public health systems by bolstering leadership and management capacity of health workers. SMDP participants take part in a six-week Management for International Public Health (MIPH) course that trains managers from developing countries in the basic management skills of planning, priority setting, problem solving, budgeting, and supervision. The program also works with its partners to analyze the quality of organizational leadership, assess management skills, and identify performance gaps in health systems. CDC helps the health leadership to create an action plan for capacity development that includes a budget, a timeline, and measurable outcomes. After concluding the program, CDC provides post-course technical assistance to support the development of sustainable management development programs and post-training incentives to stimulate lifelong learning. These incentives include website access, regional networking among alumni, conferences, fellowships, and career development opportunities.<sup>44</sup>

## **CDC Global Health Spending: FY2001-FY2009**

From FY2001 to FY2009, Congress provided CDC about \$2.3 billion for global health activities—increasing funding for global health activities by 108.1% (see **Figure 1**). Since PEPFAR was launched in 2004, the United States has apportioned the bulk of its global health spending on the plan. In light of the dominant role that PEPFAR has played in shaping U.S. global health assistance, analysis about funding for CDC's global health programs in this section is organized to reflect changes that occurred before and after PEPFAR authorization.

## **CDC Global Health Spending: FY2001-FY2003**

From FY001 to FY2003, Congress made available nearly \$1 billion to CDC for global health work (**Table 2**). During this time period, spending by CDC on global health increased by more than 300%. About 56% of that growth was targeted at HIV/AIDS interventions and about 40% at

---

<sup>43</sup> This section on "Other Global Health Programs" was summarized by CRS from E-mail correspondence with Anstice Brand, Program Analyst, CDC Washington Office, February 2, 2009 and CDC, <http://www.cdc.gov/smdp/about.htm>.

<sup>44</sup> For information on outcomes of SMDP, see CDC, *FY2009 Congressional Budget Justification*, p. 338, [http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations\\_budget\\_form\\_pdf/FY09\\_CDC\\_CJ\\_Final.pdf](http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/FY09_CDC_CJ_Final.pdf).

immunizations. At that time, there was vigorous debate about whether HIV/AIDS treatments could be safely and effectively used in low-resource settings, particularly in sub-Saharan Africa. In FY2002, Congress began to fund the International Mother and Child HIV Prevention Initiative, which included the provision of HIV/AIDS medication that prevented mother-to-child HIV/AIDS transmission (PMTCT). During this period, GDD had not yet been created and Congress had not yet funded interventions against the reemergent H5N1 bird flu or the FE(L)TP programs. Global efforts to detect infectious diseases and strengthen health systems were underway, however.

**Table 2. CDC Global Health Spending: FY2001-FY2003**

(current U.S. \$ millions, actual)

Program	FY2001	FY2002	FY2003	FY2001-FY2003	% Change: FY2001-FY2003	% of Total Global Health
Global HIV/AIDS	104.5	168.7	266.9	540.1	155.4%	55.9%
PMTCT	<i>n/s</i>	25.0	182.6	207.6	730.4%	—
Global Malaria	13.0	13.0	9.2	35.2	170.8%	3.6%
Global Tuberculosis	0.0	1.0	1.1	2.1	110.0%	0.2%
Global Disease Detection (GDD)	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Pandemic/Avian Flu	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Global Immunization	106.6	133.7	147.8	388.1	264.1%	40.2%
<i>Polio</i>	91.2	102.3	105.7	299.2	228.1%	—
<i>Other Global/Measles</i>	15.4	31.4	42.1	88.9	477.3%	—
Other Global Health	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<b>Total Global Health</b>	<b>224.1</b>	<b>316.4</b>	<b>425.0</b>	<b>965.5</b>	<b>330.8%</b>	<b>100.0%</b>

**Source:** Appropriations legislation and correspondence with Anstice Brand, CDC Washington, and Julie Racine-Parshall, CDC Atlanta.

## CDC Global Health Spending: FY2004-FY2008

From FY2004 to FY2008, Congress made available almost \$2 billion to CDC for global health work and global health spending by CDC increased by about 16% (excluding funds provided for PMTCT efforts). During that time period, Congress became increasingly concerned about the spread of infectious diseases, such as SARS and H5N1 avian flu, and began funding GDD. Congress also appropriated funds for pandemic/avian flu preparedness and response efforts through Labor, HHS, and Education appropriations acts, though legislation did not specify how much CDC should spend on global efforts.

With mounting concerns about the global spread of infectious diseases, provisions for HIV/AIDS comprised a smaller proportion of CDC's global health budget. While Congress apportioned about 56% of CDC's global health appropriations on HIV/AIDS efforts from FY2001 to FY2003; from FY2004 to FY2008, spending on HIV/AIDS interventions amounted to about 16% of CDC's global health budget (excluding PMTCT efforts) and funding for GDD and pandemic/avian influenza interventions comprised nearly 20% of CDC's global health budget (Table 3).

Although funds for HIV/AIDS efforts comprised a smaller portion of CDC's global health budget through direct appropriations, due to transfers provided to CDC from OGAC for its role in

PEPFAR, spending on programs to combat the virus internationally accounted for about 78% of CDC's global health spending from FY2004 through FY2008 (**Table 4**), while the transfers alone comprised about 64% of CDC's total global health budget during that five-year period. Transfers from OGAC also included funds for CDC to continue ongoing PMTCT activities. In FY2004, when PEPFAR was launched, Congress provided its last appropriation to CDC for PMTCT activities and directed the funds at OGAC to coordinate.

In addition to those transfers, USAID began to transfer funds to CDC in FY2006 for its work conducted as an implementing partner of PMI. When transfers for PEPFAR and PMI are included, CDC spent about \$5.3 billion on global health activities from FY2004 through FY2008. Transfers for HIV/AIDS and malaria programs from FY2004 through FY2008 (\$3.4 billion) exceeded congressional appropriations for all CDC global health activities (\$1.9 billion) by about \$1.5 billion.

**Table 3. CDC Global Health Spending: FY2004-FY2008**

(Current U.S. \$ millions, actual)

Program	FY2004	FY2005	FY2006	FY2007	FY2008	FY2004- FY2008 (Total)	%Change: FY2004- FY2008	% of Global Health: FY2004- FY2008
Global HIV/AIDS	266.9	123.8	122.6	121.0	118.9	753.2	-55.5%	39.7%
<i>PMTCT<sup>a</sup></i>	<i>142.0</i>	<i>State</i>	<i>State</i>	<i>State</i>	<i>State</i>	<i>142.0</i>	<i>n/a</i>	—
Global HIV/AIDS w/out PMTCT	<i>124.9</i>	<i>123.8</i>	<i>122.6</i>	<i>121.0</i>	<i>118.9</i>	<i>611.2</i>	<i>-4.8%</i>	<i>16.2%</i>
Global Malaria	9.2	9.1	9.0	8.9	8.7	44.9	-5.4%	2.4%
Global Tuberculosis <sup>b</sup>	2.0	2.3	2.2	1.9	2.0	10.4	0.0%	0.5%
Global Disease Detection	11.6	21.4	32.4	32.0	31.4	128.8	170.7%	6.8%
Pandemic/Avian Influenza <sup>b</sup>	0.0	15.0	132.0	22.0	67.8	236.8	353.3%	12.5%
Global Immunization	137.9	144.4	144.3	142.3	139.9	708.8	1.5%	37.3%
<i>Polio<sup>c</sup></i>	<i>96.8</i>	<i>101.2</i>	<i>101.1</i>	<i>99.8</i>	<i>98.0</i>	<i>496.9</i>	<i>1.2%</i>	—
<i>Other Global/Measles<sup>c</sup></i>	<i>41.0</i>	<i>43.2</i>	<i>43.2</i>	<i>42.6</i>	<i>41.8</i>	<i>211.9</i>	<i>2.0%</i>	—
Other Global Health	2.4	3.4	3.4	3.3	3.5	16.0	45.8%	0.8%
<b>Total Global Health</b>	<b>430.0</b>	<b>319.4</b>	<b>445.9</b>	<b>331.4</b>	<b>372.2</b>	<b>1,898.9</b>	<b>-13.4%</b>	<b>100.0%</b>
<b>Total Global Health w/out PMTCT</b>	<b>320.5</b>	<b>319.4</b>	<b>445.9</b>	<b>331.4</b>	<b>372.2</b>	<b>1,789.6</b>	<b>16.2%</b>	
Transfers for HIV/AIDS	184.5	441.0	576.9	917.2	1,262.6	3,382.2	584.3%	63.7%
Transfers for Malaria	n/a	n/a	2.8	9.6	12.6	25.0	350.0%	0.5%
<b>Total with Transfers, including PMTCT</b>	<b>614.5</b>	<b>760.4</b>	<b>1,025.6</b>	<b>1,258.2</b>	<b>1,647.6</b>	<b>5,306.3</b>	<b>168.1%</b>	

**Sources:** Appropriations legislation and correspondence with Anstice Brand and Rebecca Miller, CDC Washington Office.

**Notes:** Spending levels on HIV/AIDS programs after FY2004 is lower because Congress began to include funds for the International Mother and Child HIV Prevention in appropriations to the Global HIV/AIDS Initiative (GHAI).

- Funds for PMTCT are italicized to indicate they are part of the Global HIV/AIDS total.
- Congress does not appropriate funds to CDC for global TB efforts and global pandemic/avian influenza activities. CDC allots a portion of its TB and pandemic/avian Influenza appropriations to global interventions. The figures for PMTCT, polio, and "other global/measles" are italicized to indicate that they are included in the Global Immunization total.
- Funds for Polio and Other Global/Measles are italicized to indicate that they are part of the Global Immunization total.

## Apportionment of CDC Global Health Funding: FY2004-FY2008

The greatest proportion of CDC's total global health spending from FY2004 through FY2008 was targeted at HIV/AIDS and immunization interventions and accounted for 40% and 37% of total spending, respectively (**Table 3**). After transfers for international HIV/AIDS and malaria activities are included, however, CDC spent almost 80% of its global health budget on HIV/AIDS programs and 13% on immunization efforts (**Table 4**).

**Table 4. Apportionment of CDC Global Health Funding: FY2004-FY2008**

(% without transfers [WOT] and with transfers [WT])

Program	FY2004		FY2005		FY2006		FY2007		FY2008		FY2004- FY2008 Total	
	WOT	WT	WOT	WT								
Global HIV/AIDS	62.1	73.5	38.8	74.3	27.5	68.2	36.5	82.5	31.9	83.9	39.7	77.9
Global Malaria	2.1	1.5	2.8	1.2	2.0	1.2	2.7	1.5	2.3	1.3	2.4	1.3
Global TB	0.5	0.3	0.7	0.3	0.5	0.2	0.6	0.2	0.5	0.1	0.5	0.2
Global Disease Detection	2.7	1.9	6.7	2.8	7.3	3.2	9.7	2.5	8.4	1.9	6.8	2.4
Pandemic/Avian Influenza	n/a	n/a	4.7	2.0	29.6	12.9	6.6	1.7	18.2	4.1	12.5	4.5
Global Immunization	32.1	22.4	45.2	19.0	32.4	14.1	42.9	11.3	37.6	8.5	37.3	13.4
Other Global Health	0.6	0.4	1.1	0.4	0.8	0.3	1.0	0.3	0.9	0.2	0.8	0.3

**Source:** Calculated by CRS from appropriations legislation and correspondence with Anstice Brand and Rebecca Miller, CDC Washington.

**Notes:** The first figure in each fiscal year column reflects the % of total CDC spending on each health category without transfers from OGAC and USAID for HIV/AIDS and malaria interventions. The second figure in each fiscal year column represents the % of total CDC spending on each health category including these transfers.

## CDC Global Health Funding: FY2009-FY2010

Global health has emerged as a key foreign policy goal early in the Obama Administration. When releasing his FY2010 budget request, President Obama indicated that his Administration would increase investments in global health programs.<sup>45</sup> On May 5, 2009, President Obama announced his new Global Health Initiative, a six-year plan to spend \$63 billion using an integrated approach to fight the spread of infectious diseases while addressing other global health challenges.<sup>46</sup> In announcing the initiative, the President stated,

<sup>45</sup> Office of Management and Budget, *A New Era of Responsibility: Renewing America's Promise*, FY2010 Budget, February 26, 2009, p. 32, [http://www.whitehouse.gov/omb/assets/fy2010\\_new\\_era/A\\_New\\_Era\\_of\\_Responsibility2.pdf](http://www.whitehouse.gov/omb/assets/fy2010_new_era/A_New_Era_of_Responsibility2.pdf).

<sup>46</sup> The White House, "Statement by the President on Global Health Initiative," press release, May 5, 2009, [http://www.whitehouse.gov/the\\_press\\_office/Statement-by-the-President-on-Global-Health-Initiative/](http://www.whitehouse.gov/the_press_office/Statement-by-the-President-on-Global-Health-Initiative/).

In the 21<sup>st</sup> century, disease flows freely across borders and oceans, and, in recent days, the 2009 H1N1 virus has reminded us of the urgent need for action. We cannot wall ourselves off from the world and hope for the best, nor ignore the public health challenges beyond our borders. An outbreak in Indonesia can reach Indiana within days, and public health crises abroad can cause widespread suffering, conflict, and economic contraction. We cannot simply confront individual preventable illnesses in isolation. The world is interconnected, and that demands an integrated approach to global health.

President Obama's first budget proposal did not include significant increases for CDC's global health activities. In his budget request, he proposed that CDC's global health programs be funded mostly at the same level and that Congress increase slightly provisions for immunization activities (**Table 5**). In addition, CDC anticipates that the Director might apportion a slightly higher level of funding for pandemic and avian flu activities. The House reported out \$323.2 million for CDC's global health programs, some \$4 million more than the Administrated requested, and the Senate Appropriations committee reported out \$332.8 million, some \$14 million higher than requested levels.

**Table 5. CDC Global Health Funding: FY2009-FY2010**

(current \$ U.S. millions and %)

Program	FY2009 Estimate	FY2010 Request	% Change from FY2009 Estimate to FY2010 Request	FY2010 House	FY2010 Senate
Global AIDS Program	118.9	119.0	0.1%	119.0	119.0
Global Malaria	9.4	9.4	0.0%	9.4	9.4
Global Tuberculosis	1.6	1.6	0.0%	n/s	n/s
Global Disease Detection	33.7	33.8	0.3%	37.8	37.0
Global Pandemic/Avian Flu	156.0	159.0	1.9%	n/s	n/s
Global Immunizations	143.4	153.5	7.1%	153.5	153.9
<i>Polio</i>	101.5	101.6	0.1%	101.6	102.0
<i>Other/Measles</i>	41.8	51.9	24.2%	51.9	51.9
Other Global Health	3.5	3.5	0.0%	3.5	13.5
<b>Total CDC Global Health</b>	<b>466.4</b>	<b>479.8</b>	<b>2.9%</b>	<b>323.2</b>	<b>332.8</b>

**Source:** FY2010 budget request figures compiled by CRS from CDC's FY2010 justification and Anstice Brand, CDC Washington Office, FY2010 House figures compiled by CRS from the House and Senate reports (H.Rept. 111-220 and S.Rept. 111-66, respectively) accompanying FY2010 House, Labor, and Education Appropriations (H.R. 3293).

In light of the 2009 pandemic flu, the House and Senate Appropriations Committee both provided higher funding levels to enhance existing GDD centers and expand their numbers. The Senate Appropriations Committee also boosted funding in the "other global health" category to enable CDC to address the burgeoning chronic health problem in developing countries and to bolster the human health workforce capacity in those areas. The committee expressed particular concern about the rising numbers of deaths related to tobacco use, injuries, and violence in developing countries. According to the Senate Appropriations Committee report, "70% of tobacco-related deaths are expected to occur in the developing world by 2030." The Committee also indicated that the additional funds in the "other global health" category should be used to expand and enhance FE(L)TP programs.

## Related Policy Issues

There has been some concern among global health experts that U.S. global health programs, including those that CDC implements, do not address global health issues in a comprehensive manner. Critics of this process point to significant investments in diseases such as HIV/AIDS, while investments in other challenges remain relatively low. One observer contended that funding for CDC's global health programs disproportionately favors HIV/AIDS programs and does not sufficiently support other health assistance that CDC does well, particularly programs related to training health workers and strengthening health systems.<sup>47</sup> There is also growing congressional awareness of and interest in improving global health systems and integrating other health challenges.

On May 15, 2009, President Obama appointed Dr. Tom Frieden to be the new Director of CDC. Some health experts indicate that the recent appointment of Dr. Tom Frieden signals the Obama Administration's intention to raise the stature of CDC, expand its workforce, and address some of the world's most neglected health challenges, particularly those that CDC is most adept at confronting. The section below discusses some issues the 111<sup>th</sup> Congress, the Obama Administration and the incoming CDC Director might face.

### What Role Should CDC Play in U.S. Global Health Assistance?

Mounting debate has focused on what role CDC should play in implementing U.S. global health assistance. Some of the issues raised about CDC and global health have focused on the lack of sustained resources and support for long-term global health efforts, particularly given the increase in global health issues that CDC addresses, including responses to global disease outbreaks, rising chronic disease prevalence in developing countries, and development of public health capacities abroad. During the previous administrations, one critic contends, the agency mostly focused on addressing disease outbreaks as they occurred, such as avian flu, rather than boosting support for disease surveillance, which could be used to identify, prevent, and respond to any outbreak.<sup>48</sup> Many global health experts also accused former CDC Director Julie Gerberding of placing political concerns above scientific ones when developing CDC's budget, further eroding the stature of the organization. These practice, some contended, reduced CDC's credibility as a non-biased scientific institution.

Several health experts advocate for the incoming director to restore CDC's scientific credibility by using evidence-based research to address both emergent and long-term health problems—such as the growing disease burden of chronic disease—and make U.S. global health assistance more effective. In the 2008 World Health Report, WHO asserted that comprehensive data on chronic diseases and their determinants is “patchy and often lacks systematic focus.”<sup>49</sup> The capacity to contextualize the impact of this growing health challenge, WHO maintains, is threatened by deficient levels of data collection in most developing countries on basic health statistics, such as those related to population health, births, and deaths. Some observers expect that Dr. Frieden

---

<sup>47</sup> See Ruth Levine, *Incoming CDC Director Needs a Global Perspective*, Center for Global Development, Global Health Policy Blog, January 12, 2009, [http://blogs.cgdev.org/globalhealth/2009/01/incoming\\_cdc\\_directo.php](http://blogs.cgdev.org/globalhealth/2009/01/incoming_cdc_directo.php).

<sup>48</sup> Geoffrey Crowley, “A New Manifesto for CDC,” *The Lancet*, volume 373, June 6, 2009, p.1919.

<sup>49</sup> WHO, *World Health Report*, 2008, p.73.

might make the growing chronic disease problem in developing countries a priority, particularly since he has tackled health issues during his tenure as Health Commissioner of New York City that were not politically popular but had significant impacts on health outcomes, such as those related to smoking cessation, healthy diets, and XDR-TB.<sup>50</sup>

Some health experts contend that more resources should be provided to enhance and expand CDC's work in disease detection and surveillance. The Government Accountability Office (GAO) asserted that CDC is the "single largest contributor of expertise and resources" to WHO's Collaborating Centers, which among other things, provide developing countries with support and access to highly specialized laboratory services.<sup>51</sup> Despite the emergence and re-emergence of diseases such as severe acute respiratory syndrome (SARS), pandemic and avian flu, multi- and extremely-drug resistant tuberculosis (MDR- and XDR-TB) over the past decade, funding for GDD has consistently ranked third among the five global health areas—exceeding malaria and "other global health" and receiving less than HIV/AIDS and immunizations. Those expressing concern about GDD funding levels assert that higher funding levels for GDD would enable CDC to expand its global efforts to strengthen laboratory capacity, improve disease surveillance, prevent the spread of diseases, and identify and contain disease outbreaks before they become pandemics.

In the 111<sup>th</sup> Congress, both the House and Senate have demonstrated support for expanding resources to GDD. The House passed a FY2010 Labor, HHS, and Education Appropriations bill (H.R. 3293), which boosted funding for GDD by 12.2% over FY2009 levels. The Senate Appropriations Committee reported out support for GDD 9.8% above FY2009 levels. Despite the proposed increases, GDD remains the third highest funded global health category.

Some observers would like to see CDC's significant experience in monitoring and evaluating health programs more widely applied to U.S. global health programs. CDC's expertise in this area could be used to evaluate U.S. global health programs, as well as to identify data gaps. Evaluations could be used to determine the most efficient use of U.S. global health funds, particularly as it relates to identifying which health interventions would have the greatest impact on overall health outcomes, both within regions and within countries.

## **Coordination of Global Health Programs**

Although there is strong support in Congress for global health assistance, there are growing concerns that insufficient coordination and integration of U.S. global health programs limit the effectiveness and efficiency of these programs. On November 12, 2008, former U.S. Global AIDS Coordinator Mark Dybul asserted that the United States could reach between 20% and 40% more people with the same amount of funding by improving efficiency and minimizing duplication.<sup>52</sup>

---

<sup>50</sup> See Gardiner Harris and Anemona Hartocollis, "New York City Official is Obama Pick for CDC," *New York Times*, May 15, 2009; Rachel Nugent, "Bring on the Chutzpah at CDC!" *Center for Global Development*, May 18, 2009, <http://blogs.cgdev.org/globalhealth/2009/05/bring-on-the-chutzpah-at-cdc.php>; and Geoffrey Crowley, "A New Manifesto for CDC," *The Lancet*, volume 373, June 6, 2009, p.1919.

<sup>51</sup> U.S. General Accounting Office, *Challenges in Improving Infectious Disease Surveillance Systems*, GAO-01-722, August 2001, p.35, <http://www.gao.gov/new.items/d01722.pdf>.

<sup>52</sup> Ambassador Mark Dybul, "How Will Congress and the Next Administration Sustain Progress on HIV/AIDS, TB, and Malaria in the Face of the Global Financial Crisis?," Question and Answer Period at CSIS Event, November 12, 2008, [http://www.csis.org/component/option,com\\_csis\\_events/task,view/id,1847/](http://www.csis.org/component/option,com_csis_events/task,view/id,1847/).

Some global health experts advocate for Congress to increase provisions for life-saving interventions that target more than one disease. Supporters of this idea assert that it is more efficient and less expensive to deliver multiple child health interventions during a single campaign than to respond to diseases separately. Dr. Stephen Blount testified that CDC needed “to seek more ways to promote integration across global programs.”<sup>53</sup> Dr. Blount cited examples of what could be done, such as distributing insecticide-treated bednets within immunization campaigns or including information about making water clean and safe into PEPFAR basic care packages. Dr. Blount also warned that Congress needed to significantly increase resources to combat the increasing burden of non-communicable diseases (i.e., heart disease, diabetes, high blood pressure, and cancer) in developing countries.

In their FY2010 Foreign Operations Appropriations bills, the House and Senate Appropriations Committees emphasized the importance of improving the integration, coordination, monitoring, and evaluation of U.S. global health programs. They also underscored the importance of improving overall health systems. As passed by the House, the FY2010 House Foreign Operations Appropriations directs the Secretary of State to issue a report to the Appropriations Committees no later than 180 days after enactment that describes and examines all ongoing global health programs by country that are funded through Foreign Operations and other appropriations; discusses the impact, outcomes, and effectiveness of the programs; provides specific information about complementary work by other private and public donors; and recommends changes to such programs to improve results and enhance effectiveness. The Senate committee report calls for instituting a more integrated and sustainable approach to fighting disease, improving basic healthcare, and strengthening health systems. It also endorses the President’s Global Health Initiative and describes it as an opportunity to create a comprehensive and sustainable global health strategy that identifies specific initiatives, quantitative goals, and appropriate funding levels for global health. Though CDC is not funded directly through foreign operations appropriations, some of the programs that it implements—such as those related to HIV/AIDS, malaria, and avian/pandemic flu—could be affected by these directives, should they be enacted.

## **Workforce Levels**

Although Congress has boosted appropriations to CDC for global health programs over the past decade, GAO contends that CDC’s ability to fulfill its mission and address its expanded scope of work is threatened by staff shortages. GAO cited a number of reasons for staff shortages, including low staff morale; changing workforce demographics, exacerbated by impending losses of essential personnel due to retirement; the limited supply of skilled public health professionals; deficient diversity of its workforce; inability to adjust its workforce to expanding scope of work and responsibilities; logistical difficulties involved in acquiring and retaining a skilled workforce; and difficulties in managing a workforce with a large and growing number of contractors.<sup>54</sup> Critics also maintained that the reorganization of CDC during the Bush Administration, which one critic

---

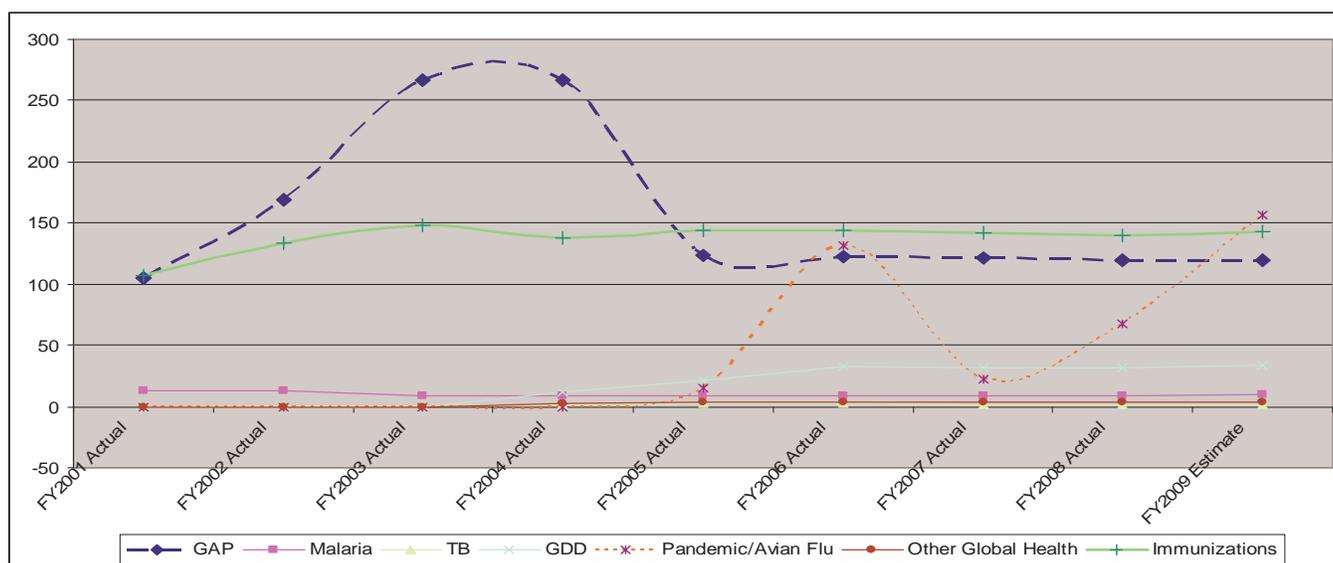
<sup>53</sup> U.S. Congress, Senate Committee on Appropriations, Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, Hearing on Global Health, 110<sup>th</sup> Cong., 1<sup>st</sup> sess., May 2, 2007, S. Hrg. 110-443 (Washington: GPO, 2007), p. 29.

<sup>54</sup> GAO, Centers for Disease Control and Prevention Human Capital Planning Has Improved, but Strategic View of Contractor Workforce Is Needed, GAO-08-582, May 2008, p. 1, <http://www.gao.gov/new.items/d08582.pdf>.

asserted consolidated the power of the CDC Director, also contributed to staff shortages and lower staff morale.<sup>55</sup>

In 2007, the House Oversight and Government Reform Committee expressed its concern about staff levels and how they affected CDC’s work abroad.<sup>56</sup> To demonstrate the impact of staff shortages on CDC’s work, the committee cited an internal memo that was leaked to the Atlanta Journal Constitution. In the memo, Dr. Stephen Blount, Director of the CDC Office of Global Health, reportedly indicated that “[s]ome positions have been delayed for so many months that our partners doubt our commitment and credibility.”<sup>57</sup> The committee noted constraints posed by statutory time limits for CDC experts detailed to international organizations; criticized the process by which CDC scientists are assigned to international organizations, including WHO; and expressed concern that a “political office review[s] each assignment [abroad].” The committee contended that this process unnecessarily extended the process.

**Figure I. CDC Global Health Funding: FY2001-FY2009**  
(Current U.S. \$ millions)



**Source:** Calculated by CRS from appropriations legislation and correspondence with Anstice Brand and Rebecca Miller, CDC Washington Office.

**Note:** This chart does not reflect a decline in support for HIV/AIDS activities. In FY2004, Congress began to fund PMTCT activities through OGAC, though CDC continues to implement related efforts.

<sup>55</sup> Gardiner Harris and Anemona Hartocollis, “New York City Official is Obama Pick for CDC,” *New York Times*, May 15, 2009.

<sup>56</sup> Letter from Congressman Henry Waxman, Chair of the House Oversight and Government Reform Committee, to Michael Leavitt, HHS Secretary, May 4, 2007, see <http://oversight.house.gov/documents/20070504174220.pdf>.

<sup>57</sup> *Ibid.*, p. 2.

**Table 6. CDC Global Health Spending: FY2001-FY2010**

(current U.S. \$ millions)

Program	FY2001 Actual	FY2002 Actual	FY2003 Actual	FY2004 Actual	FY2005 Actual	FY2006 Actual	FY2007 Actual	FY2008 Actual	FY2009 Estimate	FY2001- FY2009 Total	%Change FY2001- FY2009	FY2010 Request	%Change FY2009- FY2010	FY2010 House	FY2010 Senate
GAP	104.5	168.7	266.9	266.9	123.8	122.6	121.0	118.9	118.9	1,412.2	13.8%	119.0	0.1%	119.0	119.0
<i>PMTCT</i>	<i>n/s</i>	<i>25.0</i>	<i>182.6</i>	<i>142.0</i>	<i>State</i>	<i>State</i>	<i>State</i>	<i>State</i>	<i>State</i>	<i>349.6</i>	<i>n/a</i>	<i>State</i>	<i>State</i>	<i>State</i>	<i>State</i>
Malaria	13.0	13.0	9.2	9.2	9.1	9.0	8.9	8.7	9.4	89.5	-27.7%	9.4	0.0%	9.4	9.4
TB	0.0	1.0	1.1	2.0	2.3	2.2	1.9	2.0	1.6	14.1	100.0%	1.6	0.0%	n/s	n/s
GDD	0.0	0.0	0.0	11.6	21.4	32.4	32.0	31.4	33.7	162.5	100.0%	33.8	0.3%	37.8	37.0
Pandemic/Avian Flu	0.0	0.0	0.0	0.0	15.0	132.0	22.0	67.8	156.0	392.8	100.0%	159.0	1.9%	n/s	n/s
Immunizations	106.6	133.7	147.8	137.9	144.4	144.3	142.3	139.9	143.3	1240.2	34.4%	153.5	7.1%	153.5	153.9
<i>Polio</i>	<i>91.2</i>	<i>102.3</i>	<i>105.7</i>	<i>96.8</i>	<i>101.2</i>	<i>101.1</i>	<i>99.8</i>	<i>98.0</i>	<i>101.5</i>	<i>897.6</i>	<i>11.3%</i>	<i>101.6</i>	<i>0.1%</i>	<i>101.6</i>	<i>102.0</i>
<i>Other Global/Measles</i>	<i>15.4</i>	<i>31.4</i>	<i>42.1</i>	<i>41.0</i>	<i>43.2</i>	<i>43.2</i>	<i>42.6</i>	<i>41.8</i>	<i>41.8</i>	<i>342.5</i>	<i>171.4%</i>	<i>51.9</i>	<i>24.2%</i>	<i>51.9</i>	<i>51.9</i>
Other Global Health	0.0	0.0	0.0	2.4	3.4	3.4	3.3	3.5	3.5	19.5	100.0%	3.5	0.0%	3.5	13.5
<b>Total</b>	<b>224.1</b>	<b>316.4</b>	<b>425.0</b>	<b>430.0</b>	<b>319.4</b>	<b>445.9</b>	<b>331.4</b>	<b>372.2</b>	<b>466.4</b>	<b>3,330.8</b>	<b>108.1%</b>	<b>479.8</b>	<b>2.9%</b>	<b>323.2</b>	<b>332.8</b>

**Source:** Appropriations legislation; and correspondence with Anstice Brand, CDC Washington Office, and Julie Racine-Parshall, CDC Atlanta Office.

**Notes:** Congress began to fund PMTCT activities in FY2002; the “n/s” in the FY2001 column indicates that Congress did not specify funds for that activity. After FY2004, Congress funded PMTCT activities through the State Department, which oversees all global HIV/AIDS funds, though CDC continues to implement PMTCT programs. “State” reflects this change.

Congress does not appropriate funds to CDC for global TB and pandemic/avian influenza activities. CDC allots a portion of its TB and pandemic/avian Influenza appropriations to global programs. Figures for TB and pandemic/avian flu in the FY2010 Request column reflects how much CDC estimates it will spend on those diseases in FY2010, not formal requests. The “n/s” in the FY2010 House and Senate columns reflects the absence of language in House and Senate reports—H. Rept. 111-220 and S.Rept. 111-66, respectively—accompanying FY2010 Labor, HHS, and Education Appropriations (H.R. 3293) to indicate funding for global interventions against either disease globally, though CDC is likely to apportion funds to combat both.

Spending on combating these diseases is included here, however, because the related interventions are critical parts of CDC’s global health efforts. The conference report (H.Rept. 111-151) accompanying the FY2009 Supplemental Appropriations Act (P.L. 111-32) made available \$200 million to CDC for domestic and global pandemic influenza preparedness and response activities. Those funds are not included here, however, because language did not indicate how much of those funds should be used for global activities.

Figures related to polio and “other global/measles” are italicized to indicate that they are included in the Global Immunization total.

**Acronyms:** GAP—Global AIDS Program; PMTCT—Prevention of Mother-to-Child HIV Transmission; TB—Tuberculosis; GDD—Global Disease Detection

## **Author Contact Information**

Tiaji Salaam-Blyther  
Specialist in Global Health  
tsalaam@crs.loc.gov, 7-7677