



Centers for Disease Control and Prevention Global Health Programs: FY2001-FY2012 Request

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Summary

A number of U.S. agencies and departments implement U.S. government global health efforts. 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 neglected tropical diseases through the Neglected Tropical Diseases (NTD) Program. 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 mostly used in domestic and global responses to health issues. As such, CDC often leverages its resources in response to global requests for technical assistance in a number of areas that also have domestic components, such as outbreak response; prevention and control of injuries and chronic diseases; emergency assistance and disaster response; environmental health; reproductive health; and safe water, hygiene, and sanitation.

CDC also partners in programs for which it does not have specific appropriations, such as efforts to address international tuberculosis (TB) and respond to pandemic influenza globally. Congress does, however, appropriate funds to CDC to address these diseases domestically. In addition, the State Department and the U.S. Agency for International Development (USAID) transfer funds to CDC for its role as an implementing partner in U.S. coordinated initiatives, including PEPFAR, PMI, and the NTD Program.

From FY2001 to FY2011, Congress provided CDC roughly \$3.5 billion for global health activities, including \$330.2 million in FY2011. The President requested that in FY2012, Congress appropriate \$358.6 million to CDC for global health programs—an estimated 5% increase over FY2010-enacted levels.

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 FY2011, and discusses the FY2012 budget proposal for CDC's global health programs. For more information on U.S. global health funding more broadly, see CRS Report R41851, *U.S. Global Health Assistance: Background and Issues for the 112th Congress*.

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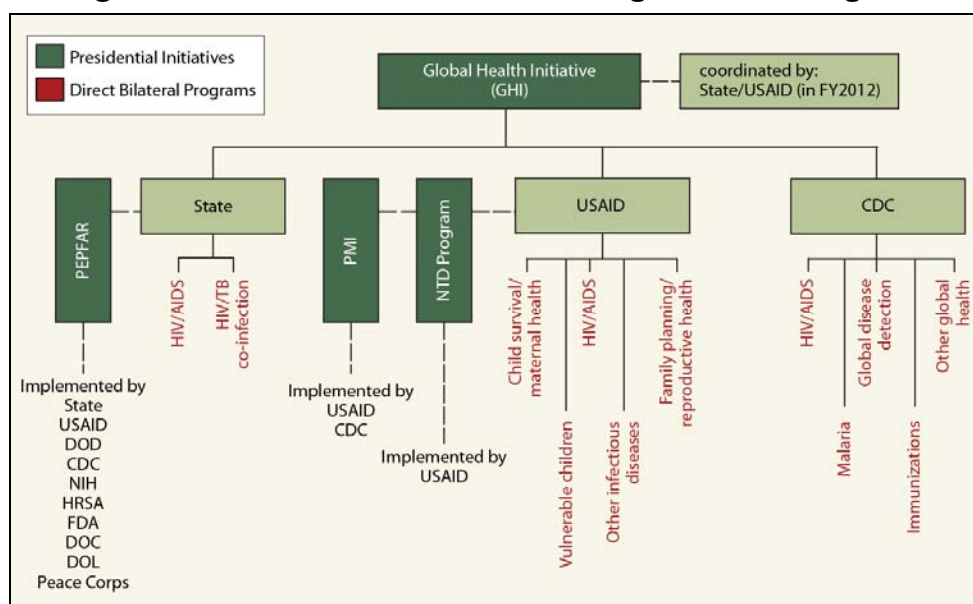
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Introduction

The U.S. Centers for Disease Control and Prevention (CDC) plays a central role in shaping and implementing U.S. global health policy. The agency is one of three agencies tasked with leading the Global Health Initiative (GHI),¹ an initiative created by the Obama Administration to coordinate ongoing presidential health initiatives and raise investments in other health areas, including maternal and child health, neglected tropical diseases, and family planning and reproductive health (**Figure 1**). CDC is also an implementing partner in three presidential initiatives that comprise the bulk of U.S. global health assistance: the President's Malaria Initiative (PMI) and the Neglected Tropical Diseases (NTD) Program, both of which are coordinated by USAID, and the President's Emergency Plan for AIDS Relief (PEPFAR), which is coordinated by the State Department.² In addition, CDC manages its own bilateral health programs.

Figure 1. U.S. Global Health Assistance: Agencies and Programs



Source: CRS analysis and design.

Notes: The chart above illustrates the structure of U.S. global health programs. It is important to note that the United States contributes additional resources to multilateral health efforts, such as the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund). For more information on the Global Fund, see CRS Report R41363, *The Global Fund to Fight AIDS, Tuberculosis, and Malaria: U.S. Contributions and Issues for Congress*, by (name redacted)

This report highlights the health-related activities conducted by CDC, outlines how much the agency has spent on such efforts from FY2001 to FY2011, and highlights FY2012 proposed funding levels.

¹ For more information on GHI, see CRS Report R41851, *U.S. Global Health Assistance: Background and Issues for the 112th Congress*, by (name redacted) and (name redacted).

² For more information on PEPFAR, see CRS Report R41802, *The Global Challenge of HIV/AIDS, Tuberculosis, and Malaria*, by (name redacted).

Background

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.³ As the mission of CDC has expanded, so have the authorities under which it operates.⁴ Today, CDC is a partner in a number of global disease control and prevention efforts, including those related to HIV/AIDS, influenza (flu), polio, malaria, measles, tuberculosis (TB), and emerging diseases. In addition, 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 appropriates funds to CDC for global health efforts through Labor, Health and Human Services, and Education (Labor-HHS) appropriations. The bulk of funds for CDC's global health programs are provided by Congress to the Center for Global Health, historically through five main budget lines: Global HIV/AIDS, Global Malaria, Global Disease Detection, Global Immunization, and Other Global Health. CDC programs are implemented bilaterally and in cooperation with other U.S. agencies, international organizations, foreign governments, foundations, and nonprofit organizations.⁵ The section below explains these programs, and the **Appendix** illustrates funding levels between FY2001 and FY2012.

In addition to direct congressional appropriations, the CDC Center for Global Health receives funding from other sources in support of its global health initiatives. For example, CDC receives support transferred from the Office of the Global AIDS Coordinator (OGAC) at the U.S. Department of State, for the implementation of PEPFAR programs, and from USAID for its role in PMI and the NTD Program, among other programs. These funds are not included in the **Appendix**.

³ 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>.

⁴ 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.

⁵ For more information on CDC's partnerships, see <http://www.cdc.gov/cogh/partnerships.htm>.

Global HIV/AIDS

CDC launched its Global AIDS Program (GAP) in 2000 under the LIFE Initiative.⁶ GAP, now called the Division of Global HIV/AIDS (DGHA), supports HIV/AIDS interventions through technical assistance to over 75 PEPFAR countries, with in-country presence in 41 countries or regional offices, and offers technical assistance in an additional 29 others.⁷ CDC employs medical officers, epidemiologists, public health advisors, laboratory and behavioral scientists, and other public health experts to assist host country governments, local public health institutions, and other indigenous partners working on a range of HIV/AIDS-related activities. The key objectives of DGHA are to implement and strengthen HIV prevention, treatment, and care services and to bolster health systems. 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.⁸

President's Emergency Plan for AIDS Relief (PEPFAR)

In 2003, President Bush announced PEPFAR to create a coordinated U.S. approach for fighting global HIV/AIDS. Following the launch of the \$15 billion, five-year initiative, CDC's spending on global HIV/AIDS programs increased significantly, due to transfers from the State Department. Appropriations for CDC's HIV/AIDS programs, however, declined slightly from \$124.9 million in FY2004 (excluding support for programs to prevent the transmission of HIV from mother to child) to \$118.7 million in FY2011. 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. In FY2009, OGAC transferred about \$1.3 billion to CDC for implementation of PEPFAR programs and has not yet released how much it transferred to CDC for FY2010 or FY2011.⁹

According to the 2012 Congressional Budget Justification (CBJ), U.S. agencies, including CDC, supported HIV/AIDS treatments for 3.2 million people by the end of FY2010.¹⁰ When PEPFAR was announced, in 2003, only 66,911 people were receiving treatment. CDC has reportedly played an important role in expanding access to HIV/AIDS treatments as well as preventing the transmission of HIV/AIDS from mother to child. Between 2004 and 2009, PEPFFAR support

⁶ For background information on the LIFE initiative and PEPFAR, see CRS Report RL33771, *Trends in U.S. Global AIDS Spending: FY2000-FY2008*, by (name redacted).

⁷ For more information on CDC's global HIV/AIDS activities, see <http://www.cdc.gov/globalaids/about/>.

⁸ These bullets were summarized by CRS from e-mail correspondence with CDC Washington Office, February 2, 2009.

⁹ E-mail correspondence with CDC Washington Office, March 26, 2010.

¹⁰ CDC, *Congressional Budget Justification*, 2012, p. 215.

enabled 334,000 babies, whose mothers were HIV-positive, to be born HIV-free. By the end of FY2010, an additional 114,000 infants were born HIV-free through PEPFAR-supported programs.

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).¹¹ Several experts, including at the CDC, assert that expanding vaccine coverage is one of the most cost-effective ways to improve global health. Use of basic vaccines, including polio, measles, and DPT, prevents an estimated 2.5 million deaths per year among children younger than five.¹² 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 FY1991¹³ to \$150.8 million in FY2011. 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, strengthen routine immunization practices, and respond to global requests for technical assistance on immunization-related epidemiologic and laboratory science. For example, CDC has played an important role in introducing newer vaccines globally, including the Hib (which prevents meningitis, pneumonia, epiglottitis, and other serious infections caused by an influenza virus) and meningococcal and rotavirus vaccines (which can prevent severe diarrhea and vomiting).

CDC implements immunization programs bilaterally and through international partnerships with groups such as the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the Pan-American Health Organization (PAHO), the World Bank, the American Red Cross, and Rotary International. CDC staff are detailed to these organizations and offer technical and operational support in improving vaccine-preventable disease surveillance and properly using 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.¹⁴

In partnership with WHO and UNICEF, CDC developed the Global Immunization Vision and Strategy for 2006-2015 (GIVS),¹⁵ which among other goals, outlines how the international

¹¹ WHO Website, *Vaccine-Preventable Diseases*, http://www.who.int/immunization_monitoring/diseases/en/, accessed on June 17, 2011.

¹² CDC, "Ten Great Public Health Achievements," *Morbidity and Mortality Weekly Report*, vol. 60 (May 20, 2011), pp. 814-818.

¹³ 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.

¹⁴ 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; and the Meningitis Vaccine Project, see <http://www.who.int/vaccines/en/olddocs/meningACproject.shtml>.

¹⁵ For more on the Global Immunization Vision and Strategy for 2006-2015, see <http://www.who.int/vaccines-> (continued...)

community will collaborate to reduce vaccine-preventable deaths by at least two-thirds from 2000 levels. The GIVS initiative has evolved into the “Decade of Vaccines” initiative, a collaborative effort spearheaded by WHO, UNICEF, the National Institutes of Health, and the Bill & Melinda Gates Foundation, aimed at increasing coordination across the international vaccine community and create a Global Vaccine Action Plan. The Decade of Vaccines aims to sustain the gains made over the past decades in eradicating polio and eliminating measles (see below) by helping to ensure universal application of routine immunizations and using those efforts to strengthen health systems. From FY2001 to FY2011, CDC spent roughly \$1.5 billion on expanding global access to polio and measles immunizations.

Polio

Polio is a highly contagious virus that mostly affects children under five years of age.¹⁶ 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 1,349 cases reported in 2010.¹⁷

CDC provides technical expertise and support to national governments and international organizations in support of the global effort to eradicate polio.¹⁸ 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 200,000 lab specimens in 2010. According to CDC, polio laboratory methods pioneered by the agency have become the gold standard in the global polio laboratory network. 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.¹⁹ From FY2001 to FY2011, CDC has spent approximately \$1.1 billion on polio immunizations worldwide.

Measles

Measles is another highly contagious virus that mostly affects children younger than five years of age.²⁰ In 2008, measles killed about 164,000 people worldwide, most of whom were children.²¹

(...continued)

documents/DocsPDF05/GIVS_Final_EN.pdf.

¹⁶ Information about polio was summarized by CRS from WHO Website on polio at <http://www.who.int/mediacentre/factsheets/fs114/en/index.html>.

¹⁷ CDC, *Congressional Budget Justification*, 2012, p. 218.

¹⁸ 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, 110th Cong., 1st sess., May 2, 2007, S. Hrg. 110–443, pp. 9 and 10.

¹⁹ For more information on the Global Polio Eradication Initiative, see <http://www.polioeradication.org/>.

²⁰ Information about measles was summarized by CRS from WHO, *Measles*, Fact Sheet, December 2008, <http://www.who.int/mediacentre/factsheets/fs286/en/index.html>.

²¹ See WHO webpage on measles at <http://www.who.int/mediacentre/factsheets/fs286/en/index.html>, accessed on June 17, 2011.

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.

CDC has played an important role in eliminating measles in several countries across the globe. In 1996, for example, the agency partnered with PAHO to develop a measles elimination strategy that led to the elimination of the diseases in the Americas by 2002. The agency is also responsible for the technical and much of the financial support for the Measles/Rubella LabNet, a network of 679 laboratories worldwide that were built on the framework of the aforementioned polio laboratory network. CDC seeks to expand the Measles/Rubella LabNet to meet the global goal to eliminate measles worldwide.

From FY2001 through FY2011, CDC spent about \$438.9 million on global measles control activities in 42 sub-Saharan African countries and 6 Asia ones.²² 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.²³

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 2008. During this period, about 576 million children who live in high risk countries were vaccinated against the disease.²⁴ 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% by 2006, some four years earlier than the 2010 target date.²⁵ At the end of 2008, CDC's global measles campaign contributed to the decline in measles-related deaths from an estimated 733,000 deaths to about 164,000 in 2008.²⁶

²² 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, 110th Cong., 1st sess., March 19, 2007, S. Hrg. 110-400, p. 650.

²³ 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.

²⁴ WHO, *Measles*, Fact Sheet, December 2008, <http://www.who.int/mediacentre/factsheets/fs286/en/index.html>.

²⁵ CDC, *Congressional Budget Justification*, 2012, p. 25.

²⁶ FY2011 CBJ for CDC, p. 247.

Global Malaria

Through its malaria programs, CDC conducts research and engages in prevention and control efforts.²⁷ CDC staff provide technical assistance that helps malaria endemic countries strengthen their malaria control activities. Their work includes policy development, program guidance and support, laboratory and applied field 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—the Lantos Hyde U.S. Government Malaria Control Strategy—for implementing the President’s Malaria Initiative.²⁸ 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 WHO.

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 control programs.²⁹ Specific activities include

- designing and implementing 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;
- improving surveillance with the use of hand-held computers equipped with global positioning systems to conduct household surveys in remote villages;
- evaluating the performance of health workers; and
- improving the delivery of quality diagnosis and treatment services for malaria and monitoring anti-malarial therapeutic efficacy.

From FY2001 to FY2011, CDC has provided roughly \$111.7 million on global malaria programs. These funds have been used to provide 19 million insecticide-treated nets, 3.5 million treatments to prevent the transmission of malaria from mother to child, and 40 million anti-malarial treatment doses.³⁰

²⁷ 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>.

²⁸ For more information on the Lantos Hyde strategy, see http://www.fightingmalaria.gov/resources/reports/usg_strategy2009-2014.pdf.

²⁹ For more on outcomes of CDC’s malaria interventions, see CDC, *FY2009 CBJ*, p.333, http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/FY09_CDC_CJ_Final.pdf.

³⁰ CDC, *Congressional Budget Justification*, 2012, p. 221.

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 in Africa. PMI is led by USAID and jointly implemented by CDC and USAID. According to USAID, an evaluation of the first five years of PMI will be conducted between 2011 and mid-2012.³¹ USAID reports, however, that child mortality rates have declined in PMI-focus countries and that malaria interventions have contributed to this phenomenon.³² From FY2006 through FY2008, USAID transferred an estimated \$25 million to CDC for global malaria programs. In FY2009, USAID transferred \$15 million to CDC, of which some \$13 million was for PMI and nearly \$2 million for malaria efforts in the Greater Mekong sub-region. Information is not yet available on transfers for FY2010 and FY2011.

Global Disease Detection

Established in 2004, CDC's Global Disease Detection (GDD) program develops and strengthens global public health capacity to rapidly identify and contain disease threats from around the world.³³ 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.

By the end of FY2010, CDC had established eight GDD centers, which work to build broad-based public health capacity in host-countries and within the region in support of the International Health Regulations (IHR). These centers were located in China, Egypt, Guatemala, India, Kazakhstan, Kenya, South Africa, and Thailand. In 2011, due to budget reductions, CDC reduced capacity in the Kazakhstan center, and the center no longer serves as a GDD regional center. As such, CDC now manages seven GDD regional centers. The regional centers work to develop six core capacities: (1) emerging infectious disease detection and response, (2) training in field epidemiology and laboratory methods, (3) pandemic influenza preparedness and response, (4) zoonotic disease detection and response at the animal-human interface, (5) emergency preparedness and risk communication, and (6) laboratory systems strengthening. Since 2006, the regional centers assisted in 665 outbreak investigations and other public health emergencies, including typhoid fever; influenza H5N1, H5N2, and H3N2; Congo-Crimean hemorrhagic fever; anthrax; dengue; and Rift Valley fever. From FY2001 to FY2011, CDC spent about \$248.6 million on GDD activities worldwide. This figure includes funding for International Emergency and Refugee Health efforts.³⁴

³¹ See USAID's webpage on the five-year evaluation of PMI at http://www.pmi.gov/about/five_year_evaluation.html.

³² See USAID, *Fast Facts The President's Malaria Initiative*, Fact Sheet, April 2011, http://www.pmi.gov/resources/reports/pmi_fastfacts.pdf.

³³ For more information on GDD, see CDC, *Global Disease Detection Program*, Monitoring and Evaluation Report, 2009, http://www.cdc.gov/globalhealth/GDD/pdf/GDD_report_FF_508_52510.pdf.

³⁴ The International Emergency Refugee Health (IERH) program aims to reduce morbidity and mortality and improve the health of populations affected by humanitarian emergencies through humanitarian public health action, operational research, emergency public health policy development, and global capacity building activities. For more information on IERH, see <http://www.cdc.gov/globalhealth/ierh/default.htm>.

Global Public Health Capacity Development

In FY2012, CDC requested that Congress provide \$35.8 million to fund several programs aimed at building public health capacity among recipient country leaders, particularly health ministries, through the budget line entitled “Global Public Health Capacity Development.” These activities include

- the Field Epidemiology (and Laboratory) Training Program [FE(L)TP];³⁵
- the Sustainable Management Development Program (SMDP);
- Global Safe Water Sanitation and Hygiene;
- Maternal and Child Health;
- Afghanistan Health Initiative; and
- Health Diplomacy Initiative.

Until FY2012, this budget category was called “Other Global Health,” and it was used primarily to fund the FELTP and SMDP programs. The FY2012 budget proposes that the other four programs, currently funded through other CDC and HHS offices, be funded through the new Global Public Health Capacity Development program. This section focuses on FELTP and SMDP, the two programs Congress authorized the Center for Global Health to support. Additional information on the other programs can be found in the FY2012 congressional budget justification.

Field Epidemiology and Laboratory Training Program

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.³⁶ 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 2010, CDC has consulted with and supported 41 FE(L)TPs and similar programs in 57 countries. As of March 2011, CDC is supported 18 programs covering 34 countries. In 2010, CDC supported 335 trainees in the FE(L)TPs. These trainees conducted 148 outbreak investigations, 47 planned investigations, and 188 surveillance studies.

Sustainable Management Development Program

The Sustainable Management Development Program, established in 1992, also aims to strengthen public health systems by bolstering leadership and management capacity of health workers.

³⁵ The Field Epidemiology Training Program (FETP) and the Field Epidemiology and Laboratory Training Program (FETLP) are two different programs. FETLP offers an added laboratory component and is an applied epidemiology program. FE(L)TP refers to both.

³⁶ This section on “Other Global Health Programs” was summarized by CRS from e-mail correspondence with CDC Washington Office, June 23, 2011, and CDC, <http://www.cdc.gov/smdp/about.htm>.

SMDP helps countries improve program operations and advance the science base through applied research and evaluation. With partners, SMDP provides technical assistance to programs that are helping to prevent mother-to-child transmission of HIV/AIDS, reduce the transmission of tuberculosis, and improve management of district public health programs that prevent and control diseases. CDC also partners with other groups to analyze the quality of organizational leadership, assess management skills, and identify performance gaps in health systems. Through the program, CDC helps health leaders to create action plans 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 (e.g., laboratory systems), and improve practices to reduce natural or manmade infections that could eventually affect U.S. citizens. From 1992 to 2010, 414 faculty from over 60 countries graduated from SMDP's Management for Improved Public Health (MIPH) course, which builds the capacity of ministries of health and educational institutions by focusing on the skills of planning, priority setting, problem solving, budgeting, and supervision. In addition, 42 participants from 15 countries attended SMDP's inaugural Global Health Leadership Forum in 2010, which focused on helping senior leaders from developing countries create a comprehensive vision and project plan for strengthening their country's health system. From FY2001 to FY2011, CDC spent approximately \$49 million on these programs.

CDC Global Health Activities Funded Outside the Center for Global Health

CDC's activities related to improving global health outcomes expand beyond those funded through the Center for Global Health. CDC also leverages other resources to respond to global requests for technical assistance related to disease outbreak response; prevention and control of injuries and chronic diseases; emergency assistance and disaster response; environmental health; reproductive health; and safe water, hygiene, and sanitation.³⁷ Specifically, CDC supports global health programs aimed at TB, influenza, and neglected tropical diseases. The section below highlights those activities.

Global Tuberculosis

CDC collaborates with U.S. and multilateral partners to provide technical support in the global effort to eliminate TB.³⁸ Bilateral partners include the National Institutes of Health (NIH) and USAID; multilateral partners include the Global Fund, the International Union Against TB and Lung Disease, and WHO. Key activities in CDC's bilateral TB interventions include

- research (including operations research, research to improve treatment, and epidemiological research);³⁹

³⁷ For more information on other global health efforts, see <http://www.cdc.gov/globalhealth/>.

³⁸ 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 (name redacted).

³⁹ 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.

- improvement of TB screening and diagnostics;
- surveillance of TB/HIV prevalence and multi-drug resistant TB (MDR-TB) prevalence;
- laboratory strengthening;
- infection control;
- program evaluation;
- outbreak investigation control; and
- subjective matter expertise for policy development.

CDC also provides technical assistance to multilateral efforts to contain TB, including the Directly Observed Therapy Short Course (DOTS) program, the Global Stop TB Strategy, and the Green Light Committee Initiative, which helps countries access high-quality second-line anti-TB drugs for those infected with MDR-TB and extensively drug resistant TB (XDR-TB).⁴⁰ The agency also partners with WHO to conduct surveillance of drug-resistant TB worldwide.

Influenza

CDC works in over 40 countries around the world to prevent, control, and respond to influenza outbreaks in general, and help high-risk countries develop rapid response in particular. The agency also serves as one of four WHO Collaborating Centers for Influenza. Its responsibilities in this capacity include support of the Global Influenza Surveillance Network. During the 2009 H1N1 influenza pandemic, for example, CDC shipped 2,100 test kits (each able to perform 1,000 test reactions) to 545 laboratories in 150 countries at no cost to the countries, and sent experts to the field to help strengthen laboratory capacity and train health experts to control the spread of the 2009 H1N1 influenza virus. Global influenza operations are implemented bilaterally with countries and in cooperation with groups such as DOD and WHO. Additional related activities include

- building laboratory capacity of foreign governments for the prompt detection of novel influenza viruses;
- strengthening epidemiology and 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.⁴¹ In each fiscal 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, which have included support for CDC's influenza-

⁴⁰ 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/>.

⁴¹ For background information on U.S. global influenza efforts, see CRS Report R40588, *The 2009 Influenza Pandemic: U.S. Responses to Global Human Cases*, by (name redacted).

related activities, though past appropriation measures have not specified how much of those funds CDC should spend on global efforts.

Neglected Tropical Diseases

For more than two decades, CDC has worked to reduce the illness, disability, and death caused by neglected tropical diseases. CDC partners with other U.S. agencies to implement the NTD Program.⁴² In that capacity, CDC helps to develop global policy and guidelines for NTD control programs; conduct research to improve existing diagnostic and other tools needed to monitor programs; monitor and evaluate progress toward control/elimination of NTDs; provide technical assistance to countries and other partners to build capacity and improve programs; and study additional NTDs to identify and develop better tools and approaches to control and eliminate them. Much of CDC's current work focuses on the seven NTDs—lymphatic filariasis (LF), onchocerciasis, schistosomiasis, infections from soil-transmitted helminths (hookworm, *Ascaris*, whipworm), and trachoma—that can be controlled or eliminated through mass drug administration.

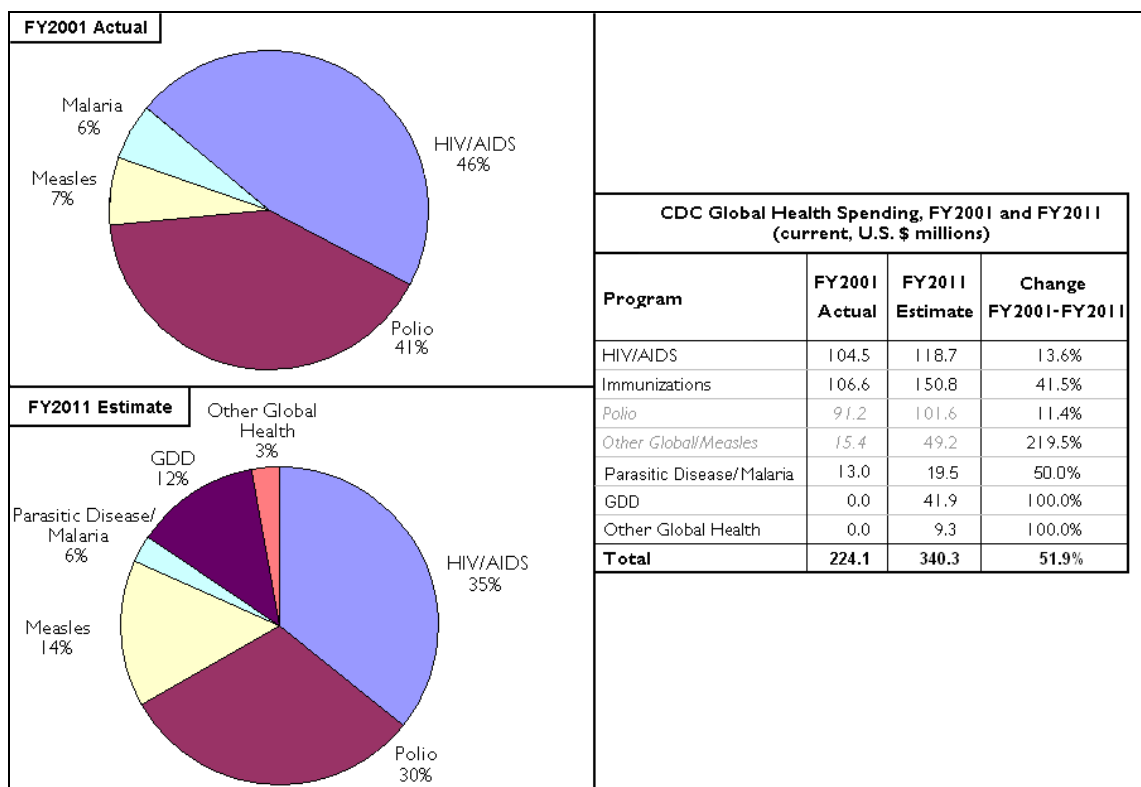
CDC Global Health Spending: FY2001-FY2012

From FY2001 to FY2011, Congress provided CDC roughly \$3.5 billion for global health activities. Over that decade, CDC increased the size and scope of its global health programs. In FY2001, for example, CDC spent \$224.1 million on three key global health programs (HIV/AIDS, immunizations, and malaria), with nearly half of those funds aimed at HIV/AIDS programs (**Figure 2**). By FY2011, CDC's global health budget had grown by nearly 50%, having reached \$330.1 million, and had come to support two additional health areas: Global Disease Detection and health system strengthening through "Other Health Programs."

⁴² For more information on U.S. global NTD efforts, see CRS Report R41607, *Neglected Tropical Diseases: Background, Responses, and Issues for Congress*, by (name redacted).

Figure 2. CDC Global Health Spending, FY2001 and FY2011

(current, U.S. \$ millions)



Source: Created by CRS from congressional budget justifications.

Notes: In FY2011, CDC began to combine funding for ongoing activities supported through parasitic diseases (such as neglected tropical diseases) programs with funding for malaria programs. Also in FY2011, CDC began to combine funding for ongoing activities supported through International Emergency and Refugee Health programs with funding for Global Disease Detection (GDD). These additional funds amount to \$16.3 million. Without these programs, CDC spending in FY2011 would have reached \$324.0 million and would have grown by 51.9%.

In the early 2000s, concerns about HIV/AIDS dominated discussions about U.S. global health engagement and prompted the development of several initiatives, including the LIFE Initiative (Clinton Administration), International Mother and Child HIV Prevention Initiative (Bush Administration), and the President's Emergency Plan for AIDS Relief (Bush Administration).⁴³ Through these efforts, Congress provided substantial increases for tackling HIV/AIDS through ongoing U.S. bilateral efforts, coordinated government-wide programs (like PEPFAR), and multilateral initiatives like the Global Fund to Fight AIDS, Tuberculosis and Malaria. The bulk of the increases, however, were provided through the State Department-coordinated PEPFAR.

By 2004, global infectious disease outbreaks prompted greater congressional support for programs that would bolster countries' capacity to respond to infectious disease outbreaks. In that year, Congress began funding GDD and "Other Health Programs." The growth in spending on

⁴³ For more information on the LIFE Initiative, see USAID, *USAID/India: LIFE Initiative*, Fact Sheet, March 20, 2000, <http://www.usaid.gov/press/releases/2000/fs20000079.htm>. For more information on the International Mother and Child HIV Prevention Initiative, see White House, *Mother and Child HIV Prevention Initiative*, June 19, 2002, <http://georgewbush-whitehouse.archives.gov/infocus/motherchild/>.

such programs meant that HIV/AIDS ultimately became a smaller portion of CDC's global health budget (**Figure 2**).

FY2012 Budget Request

According to the FY2011 operating plan of CDC, Congress made available \$340.2 million for CDC's global health programs. The Administration requests that Congress provide about \$381.2 million for CDC's global health programs in FY2012, some 10% more than FY2010 (**Table 1**). The FY2012 budget request included several programmatic changes. First, CDC began requesting support for programs aimed at addressing parasitic diseases (like neglected tropical diseases) along with requests for global malaria programs. In the FY2011 operating plan, CDC followed this new budgetary structure to report on FY2010 and FY2011 funding levels for activities related to malaria and parasitic diseases. For comparability, malaria is a subset of the parasitic diseases and malaria budget category in **Table 1**.

The FY2012 budget request also renamed the "Other Global Health" program as the "Global Public Health Capacity Development" program. The Administration requests that this new program combine support for ongoing efforts related to FELTP and SMDP with activities related to water and sanitation, and maternal and child health. The agency also requests that two activities currently funded through the HHS Office of Global Health Affairs—the Afghan Health Initiative and Health Diplomacy—be funded through this new budgetary category.

Table 1. CDC Global Health Funding: FY2009-FY2012

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

Program	FY2009 Actual	FY2010 Actual	FY2011 Estimate	FY2012 Request	Change FY2010-FY2012
Global AIDS Program	118.9	119.0	118.7	118.0	-0.6%
Global Immunizations	143.3	153.7	150.8	163.6	8.5%
<i>Polio</i>	101.5	101.8	101.6	112.4	10.6%
<i>Other/Measles</i>	41.8	51.9	49.2	51.2	4.1%
Parasitic Diseases/Malaria	^a	19.8	19.9	19.5	-1.0%
<i>Global Malaria</i>	9.4	9.4	9.4	<i>n/s</i>	<i>n/s</i>
Global Disease Detection	33.7	44.2	41.9	44.2	0.0%
<i>International Emergency and Refugee Health</i>	^b	6.3	6.1	6.3	0.0%
Global Public Health Capacity Development	^c	^c	^c	35.8	<i>n/a</i>
<i>FELTP/SMDP</i>	13.8	8.5	8.0	15.3	80.0%
<i>Global Safe Water Sanitation and Hygiene</i>	^c	^c	^c	10.0	^c
<i>Maternal and Child Health</i>	^c	^c	^c	2.0	^c
<i>Afghanistan Health Initiative</i>	^c	^c	^c	5.8	^c
<i>Health Diplomacy Initiative</i>	^c	^c	^c	2.0	^c
Total CDC Global Health	319.1	346.6^d	340.3^d	381.2	10.4%

Sources: Congressional Budget Justifications, CDC FY2011 Operational Plan, and CDC officials.

Acronyms: not applicable (n/a), not specified (n/s), and Field Epidemiology Laboratory Training Program (FELTP)/Sustainable Management Development Program (SMDP).

Note: With the exception of FY2009, the italicized figures are not additional; they are subsets. The FY2012 Congressional Budget Justification proposed the creation of new funding categories that had not been established in FY2009. The FY2011 Operating Plan reported CDC global health spending for FY2010 and FY2011 using the new categories. As such, in some cases, FY2009 figures are not comparable to those of subsequent fiscal years.

- a. In FY2012, CDC combined requests for programs aimed at addressing parasitic diseases (like neglected tropical diseases) with requests for global malaria programs. In its FY2011 Operating Plan, the agency reported spending in this fashion for FY2010 and FY2011.
- b. In FY2012, CDC requested that Congress permit the transfer of funds normally provided to CDC's National Center for Environmental Health for International Emergency and Refugee Health activities to CDC's Center for Global Health, and that the funds be spent under the Global Disease Detection program. In its FY2011 Operating Plan, the agency reported spending in this fashion for FY2010 and FY2011.
- c. The Global Public Health Capacity Development program, as indicated in the FY2012 congressional budget justification, combines funding for several global health programs that were previously funded through other channels. The Afghan Health and Health Diplomacy initiatives, for example, are funded through the HHS Office of Global Health Affairs. CDC requested in FY2011 and FY2012 that these programs be transferred to CDC's Center for Global Health. The Afghan Health Initiative aims to improve the skills of health workers in Afghanistan and improve health outcomes in the country. The Health Diplomacy initiative aims to bolster ongoing efforts to control, eradicate, and eliminate diseases worldwide.
- d. The FY2012 Congressional Budget Justification proposes the creation of the Global Public Health Capacity Development program, which includes several activities, as listed in note c. Funding levels for these activities in FY2010 and FY2011 were not specified, however, in the FY2011 operational plan. According to the plan, CDC spent \$9.9 million on Global Public Health Capacity in FY2010, including \$8.5 million for FELTP/SMDP and \$9.3 million in FY2011 on the new funding category, including \$8.0 million. The plan does not indicate, however, what activities are supported with non-FELTP/SMDP funds. The non-FELTP/SMDP funds are not included in the above table.

Appendix. CDC Global Health Spending: FY2001-FY2012

Table A-I. CDC Global Health Spending: FY2001-FY2012
(current U.S. \$ millions and %)

CDC Program	FY2001 Actual	FY2002 Actual	FY2003 Actual	FY2004 Actual	FY2005 Actual	FY2006 Actual	FY2007 Actual
HIV/AIDS	104.5	143.8	183.8	266.9	123.8	122.6	121.0
Immunizations	106.6	133.8	148.8	137.8	144.4	144.3	142.4
<i>Polio</i>	91.2	107.4	106.4	96.8	101.2	101.1	99.8
<i>Other Global/Measles</i>	15.4	26.4	42.4	41.0	43.2	43.2	42.6
Malaria	13.0	13.0	12.6	9.2	9.1	9.0	8.9
GDD	0.0	0.0	0.0	11.6	21.4	32.4	32.0
Other Global Health	0.0	0.0	0.0	2.4	3.4	3.4	3.3
CDC Total	224.1	290.6	345.2	427.9	302.1	311.7	307.6
CDC Program	FY2008 Actual	FY2009 Actual	FY2010 Actual	FY2011 Estimate	FY2001-FY2011 Total	FY2012 Request	Change FY2010-FY2012
HIV/AIDS	118.9	118.9	119.0	118.7	1,541.9	118.0	-0.6%
Immunizations	139.8	143.3	153.7	150.8	1,545.7	163.6	8.5%
<i>Polio</i>	98.0	101.5	101.8	101.6	1,106.8	112.4	10.6%
<i>Other Global/Measles</i>	41.8	41.8	51.9	49.2	438.9	51.2	4.1%
Parasitic Diseases/Malaria	a	a	19.8	19.5	n/a	19.5	-1.0%
<i>Malaria</i>	8.7	9.4	9.4	9.4	121.1	n/s	n/s
GDD	31.4	33.7	44.2	41.9	248.6	44.2	0.0%
<i>International Emergency and Refugee Health</i>	b	b	6.3	6.1	b	6.3	0.0%
Global Public Health Capacity Development (Other Global Health)	c	c	c	c	c	35.8	n/a
<i>FELTP/SMDP</i>	3.5	13.8	8.5	8.0	49.0	15.3	80.0%
<i>Global Safe Water Sanitation and Hygiene</i>	c	c	c	c	c	10.0	c
<i>Maternal and Child Health</i>	c	c	c	c	c	2.0	c
<i>Afghanistan Health Initiative</i>	c	c	c	c	c	5.8	c
<i>Health Diplomacy Initiative</i>	c	c	c	c	c	2.0	c
CDC Global Health Total	302.3	319.1	346.6^d	340.2^d	3,517.4	381.2	10.4%

Sources: Congressional Budget Justifications, CDC FY2011 Operational Plan, FY2012 Congressional Budget Justification, and CDC officials.

Acronyms: not applicable (n/a), not specified (n/s), and Field Epidemiology Laboratory Training Program (FELTP)/Sustainable Management Development Program (SMDP).

Note: The FY2012 Congressional Budget Justification proposed adding activities supported through the International Emergency and Refugee Health program to the GDD budget category and creating two new funding categories—Parasitic Diseases/Malaria and Global Public Health Capacity Development—that had not been used prior to FY2010. The FY2011 Operating Plan reported CDC global health spending for FY2010 and FY2011 using these new categories. Since these categories had not been reported on prior to FY2010, from FY2001 through FY2009, figures for malaria and FELTP/SMDP are counted towards the CDC Total. Figures for malaria and FELTP/SMDP are included among the titles Parasitic Diseases/Malaria and Global Public Health Capacity Development, respectively, for subsequent fiscal years.

- a. In FY2012, CDC combined requests for programs aimed at addressing parasitic diseases (like neglected tropical diseases) with requests for global malaria programs. In its FY2011 Operating Plan, the agency reported spending in this fashion for FY2010 and FY2011.
- b. In FY2012, CDC requested that Congress permit the transfer of funds normally provided to CDC's National Center for Environmental Health for International Emergency and Refugee Health activities to CDC's Center for Global Health, and that the funds be spent under the Global Disease Detection program. In its FY2011 Operating Plan, the agency reported spending in this fashion for FY2010 and FY2011.
- c. The Global Public Health Capacity Development program, as indicated in the FY2012 Congressional Budget Justification, combines funding for several global health programs that were previously funded through other channels. The Afghan Health and Health Diplomacy initiatives, for example, are funded through the HHS Office of Global Health Affairs. CDC requested in FY2011 and FY2012 that these programs be transferred to CDC's Center for Global Health. The Afghan Health Initiative aims to improve the skills of health workers in Afghanistan and improve health outcomes in the country. The Health Diplomacy initiative aims to bolster ongoing efforts to control, eradicate, and eliminate diseases worldwide. The new funding category also includes support for maternal and child health and international clean water and sanitation efforts.
- d. The FY2012 Congressional Budget Justification proposes the creation of the Global Public Health Capacity Development program, which includes several activities, as listed in note c. Funding levels for these activities in FY2010 and FY2011 were not specified, however, in the FY2011 operational plan. According to the plan, CDC spent \$9.9 million on Global Public Health Capacity in FY2010, including \$8.5 million for FELTP/SMDP and \$9.3 million in FY2011 on the new funding category, including \$8.0 million. The plan does not indicate, however, what activities are supported with non-FELTP/SMDP funds. The non-FELTP/SMDP funds are not included in the above table.

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