



At the Clinton Global Initiative on September 20, 2006, First Lady Laura Bush announced the PlayPump Alliance, a new public-private partnership. With her, from left, are: Raymond Chambers, Chairman; MCJ and Amelie Foundations; former President Bill Clinton, and Jean Case and Steve Case, founders of the Case Foundation.

**“The President’s Emergency Plan for AIDS Relief is a key example of effective foreign assistance and transformational diplomacy in action. Our approach is to empower every nation to take ownership of its own fight against HIV/AIDS through prevention, treatment, and care.”**

**Secretary of State Condoleezza Rice  
Remarks at the Release of the  
Second Annual PEPFAR Report to Congress  
February 8, 2006**

## Chapter 4

# Building Capacity: Partnerships for Sustainability

**Table 4.1: Sustainability: Emergency Plan Support for Capacity-Building FY2004-FY2006**

	Number of individuals trained or retrained	Number of USG supported service outlets
Prevention of Sexual Transmission <sup>1</sup>	863,300	-
Prevention of Mother-to-Child Transmission	85,800	4,863
Prevention of Medical Transmission <sup>2</sup>	85,500	3,848
Provision of Antiretroviral Treatment	100,700	1,912
Provision of Care for Orphans and Vulnerable Children <sup>1</sup>	240,700	-
Provision of Palliative Care for HIV-positive People	216,900	8,019
Provision of Counseling and Testing	69,800	6,466
<b>Total</b>	<b>1,662,700</b>	<b>25,108</b>

**Notes:**

Upstream and downstream numbers above 100 are rounded to the nearest 100 and then added to get totals.

Numbers may be adjusted as attribution criteria and reporting systems are refined.

**Footnotes:**

<sup>1</sup> These services are provided in a variety of settings and are often not facility-based.

<sup>2</sup> Service outlets counted under prevention of medical transmission include only outlets that carry out blood safety activities.

The reality is that the fight against HIV/AIDS in hard-hit nations will have to continue for the long term. This fight will be sustainable only if it is owned by the people of each country. In many nations, this will require an increase in response of a magnitude that can best be described as a transformation. The primary responsibility for achieving such dramatic change ultimately rests with the leadership and citizens of developing nations themselves. The U.S. Government (USG) and other international partners can play a vital role, but outside resources for HIV/AIDS and other development efforts must be focused on transformational initiatives that are owned by host nations.

Governments and local civil society organizations – including non-governmental organizations (NGOs), faith-based organizations (FBOs), community-based organizations (CBOs), associations of health care workers, and the private sector – are crucial for this development, and are well-placed to identify the needs of their own countries and devise strategies for meeting them. In addition to working with governments, the Emergency Plan focuses on supporting local indigenous organizations, prioritizing funding to develop their capacity. A commitment to local ownership is the basis for the President’s Emergency Plan for AIDS Relief’s (Emergency Plan/PEPFAR’s) focus on working

with host nations and supporting their strategies to bring comprehensive national responses to scale.

International NGOs are indispensable partners in PEPFAR implementation, and there will always be more work to do in resource-poor settings. Yet international partners must support the building of sustainable, country-owned programs. Therefore, new grant language for international NGO partners requires them to take steps to build local capacity. The Emergency Plan also now requires such partners to develop “exit strategies” – plans for reducing their own role and devolving responsibility to local people and organizations on a reasonable time frame.

Review of annual Country Operational Plans (COPs) includes an evaluation of efforts to increase the number of indigenous organizations partnering with the Emergency Plan. This emphasis has led to impressive results: In fiscal year 2006, approximately 1,532 partners, or 83 percent of Emergency Plan partners, were indigenous organizations (that is, organizations based in the host nations). Reliance on such local organizations, while challenging, is essential for PEPFAR to fulfill its promise to partner with host nations to develop sustainable responses. As another step in the direction of sustainability, COPs for fiscal year 2007 are required to devote no more than eight percent of funding to a single partner (with exceptions made for host government partners, commodity procurement, and “umbrella contractors” for smaller organizations). This requirement will help to expand and diversify PEPFAR’s base of partners and facilitate efforts to reach out to new partners, particularly local partners – a key to sustainability.

Alongside efforts to support community capacity-building, other crucial activities for sustainability include: enhancing the capacity of health systems and health care workers; strengthening quality assurance; improving financial management and accounting systems; building health infrastructure; and improving commodity distribution and control. The Emergency Plan is intensively supporting national strategies to strengthen these critical systems. Focus country partners reported that, in fiscal year 2006, approximately 25 percent of all activities had components that directly supported sustainable network development. Because building capacity goes hand-in-hand with expanding services, the previous chapters on Prevention, Treatment, and Care also summarize Emergency Plan efforts to ensure sustainability.

The capacity of host nations to finance HIV/AIDS and other health efforts on the scale required varies widely. While it is true that many deeply impoverished nations are years from being able to mount comprehensive programs with their own resources alone, it is essential that these countries appropriately prioritize HIV/AIDS and do what they can to fight the disease with locally available resources, including financial resources. A growing number are doing so. Many other nations do have significant resources, and are in a position to finance much of their own HIV/AIDS responses. The USG has urged African governments to meet their commitments from the Abuja Declaration, including their pledge to devote at least 15 percent of their budgets to health. Progress is being made by some countries, and a growing number of nations are investing in fighting HIV/AIDS on a scale commensurate with their financial capacity. In some cases, for example, host nations are procuring all or a portion of their own antiretroviral drugs (ARVs), while PEPFAR provides support for other aspects of quality treatment. Such developments within hard-hit nations build sustainability in each country’s fight against HIV/AIDS.

While HIV/AIDS is unmistakably the focus of PEPFAR, the initiative’s support for capacity-building has important spillover effects that support nations’ broader efforts for sustainable development. Organizations whose capacity is expanded in order to meet USG fiduciary accountability requirements are also in an improved position to apply for funding for other activities or from other sources. Expanded health system capacity improves responses for diseases other than HIV/AIDS. Supply chain management capacity-building improves procurement for general health commodities. Improving the capacity to report on results fosters quality/systems improvement, and the resulting accountability helps to develop good governance and democracy. In a variety of ways, the Emergency Plan supports host nations in identifying their needs and in building the tools to address them in the future. (For further information please see PEPFAR’s 2006 *Report on Workforce Capacity and HIV/AIDS* located at <http://www.PEPFAR.gov/progress/>.)

### **Building Sustainable Institutional Capacity**

Because of the intensive focus of the Emergency Plan on sustainability, many activities are intended to build the institutional capacity of local organizations to plan, implement, evaluate and manage HIV/AIDS programs. The Emergency Plan recognizes that all sectors of society,

## Ethiopia: Improving Prevention of Mother-to-Child HIV Transmission Services at Bella Hospital

With support from PEPFAR, Bella Hospital in Ethiopia has been recognized for its high-quality prevention of mother-to-child HIV transmission (PMTCT) program, which was assessed using a nationally developed PMTCT performance standard. The performance assessment takes into consideration all the inputs and processes needed to provide a high-quality PMTCT program. According to the performance standards, hospitals that scored at least 80 percent in each of the assessment areas would be recognized for the quality of their PMTCT programs. Many initially considered the 80 percent target performance standard to be unreachable in the general context of health system performance in the country. Bella Hospital proved this thinking wrong.

With support from the Emergency Plan, the hospital began implementation of standards-based management for a high-quality PMTCT program. The hospital held a series of modular workshops that were carried out at three-month intervals. During the first stage of implementation, the hospital promoted agreed-upon standards, changed management practices, and conducted a baseline assessment of services. The next steps in the process included gap identification, cause analysis, intervention selection, and gap filling.

After implementing interventions to address performance gaps, a final external assessment of PMTCT services at Bella Hospital was conducted, and the hospital scored above the 80 percent standard of excellence. This was a great success for both the hospital staff and the partners, who worked closely through each step of the implementation process. The hospital's success shows that a standards-based management approach can successfully improve health care, even in resource-limited settings.

including governments, civil society institutions, and the private sector, must be involved.

The fiduciary accountability of local organizations is crucial to the Emergency Plan's effort to build capacity, and the Emergency Plan has made a major effort to provide technical assistance to partners in this area. An impediment to working with many local groups is the limited technical expertise in accounting, managerial and administrative skills, auditing practices, and other activities required to receive funding directly from the USG. In fiscal year 2006, several focus countries used local "umbrella contractors," including those that serve as local fiduciary agents for the Global Fund to Fight AIDS, Tuberculosis and Malaria.

The Emergency Plan also has begun to gather data on capacity-building via COPs and results reporting. USG partner agencies are instructed to review partner performance in strengthening indigenous organizations as part of portfolio reviews conducted in the field. As noted previously, in fiscal year 2007, country teams will devote no more than eight percent of resources to a single partner, unless one of several specified exceptions is satisfied, helping to broaden PEPFAR's partner base.

### **Host Governments**

The organizing structure, management, coordination, and leadership provided by capable, committed host governments are essential to an effective, efficient HIV/AIDS response. Without commitment from government, parallel

unlinked service delivery systems – usually dependent on large international funding and NGOs – dominate a country's response. This model puts host nations at the mercy of continued funding, and continued management, by outsiders – the antithesis of sustainability.

Strengthening the institutional capacity of host governments and national systems is a fundamental strategy of the Emergency Plan. As a result, more than 19 percent of Emergency Plan partners in fiscal year 2006 were host government entities, including ministries of health (MoHs) and associated institutions, research organizations, and AIDS coordinating authorities. The Emergency Plan has supported the development of national policy and training in planning, budgeting, performance improvement, monitoring of activities and finances, and other management skills.

In several focus countries, U.S. personnel are located in, or detailed to, MoHs. In others, PEPFAR has supported MoH personnel retention schemes or contractual staffing arrangements, bolstering the number of health professionals working in the public sector and in rural areas. This supports national health system development in the face of the dramatic human resource crises these countries are facing. In Namibia, for example, the USG partners with Potentia, a private sector Namibian personnel agency, to support doctors, nurses, and pharmacists for public hospitals, at the same salaries as government workers, thus supporting needed staff positions in an equitable fashion. The Kenyan Medical Research Institute uses PEPFAR funds to actively

train and support 260 healthcare workers, who provide such services as: technical assistance; personnel support to improve laboratory capacity; support for adherence to counseling; and assistance with monitoring and reporting on the progress of antiretroviral treatment (ART) regimens.

### *Local Civil Society Organizations*

Local community- and faith-based organizations also play critical roles as first responders to community needs, and often have access to hard-to-reach or underserved populations, such as orphans and people living with HIV/AIDS (PLWHA) in urban slums or remote rural areas. When trained in program management and HIV/AIDS best practices, these groups often design the most culturally appropriate and responsive interventions. They have the legitimacy and authority to implement successful programs that deal with sensitive subjects. In many focus countries, more than 80 percent of the citizens participate in religious institutions, and upwards of 50 percent of health services are provided through faith-based institutions, making them crucial delivery points for HIV/AIDS information and services.

The Emergency Plan thus recognizes the value that faith-based organizations can add to HIV/AIDS efforts. In fiscal year 2006, approximately 23 percent of all Emergency Plan focus nation partners were faith-based.

In addition, local civil society organizations play a key role in organizing citizens to work in effective partnership with their governments. Organizations of PLWHA are among the key community-based groups that have been integrated into the Emergency Plan. PEPFAR also has launched pilot programs in multiple countries that allow groups to apply directly to Emergency Plan country teams for rapid approval of small grants, in order to get funds quickly to local organizations doing needed work on the ground. One example of PEPFAR's impact comes from Côte d'Ivoire, where despite a fragile political environment, the Emergency Plan has worked with community leaders to create a local organization which has now become a PEPFAR partner, while also making grants to smaller community-based entities.

### *The New Partners Initiative*

Through the New Partners Initiative (NPI) announced by President George W. Bush on World AIDS Day 2005, the Emergency Plan builds the capacity of organizations at the

community level, while also building local ownership of HIV/AIDS responses for the long term.

### **The Need for New Partners**

- Many organizations have the capability to reach people who need HIV/AIDS services, but lack experience in working with the USG and its processes. Community- and faith-based organizations, in particular, represent vital but underutilized resources. Many such organizations are well-established within communities and well-placed to reach out to those infected and affected by HIV/AIDS.
- Building the capacity of organizations at the community level also helps to build local ownership of HIV/AIDS responses for the long term. In some countries, such organizations provide as much as 40-50 percent of all care for people living with HIV/AIDS – with little support from the USG. In some cases, existing U.S.-based organizations can serve as a “bridge,” due to their relationships with these entities in host countries.
- The alliance between PEPFAR and new partners will promote better care for people living with and affected by HIV/AIDS, and hope for stronger families and healthier communities.

### **New Partners Initiative Goals**

The Emergency Plan is reaching out to organizations through NPI, working to enable them to become new partners. The goals of the initiative are to:

- Increase the Emergency Plan's ability to reach people with needed services, by identifying potential new PEPFAR partner organizations, increasing their capacity to provide prevention and care services, and increasing the total number of Emergency Plan partners.
- Build capacity in host nations by developing indigenous capacity to address HIV/AIDS to promote the sustainability of host nations' efforts.

### **How the New Partners Initiative Works**

- **Competitive grants:** NPI includes a competitive process for \$200 million in grants to provide HIV/AIDS prevention and care services. Eligible entities are NGOs, working in any of the 15 Emergency Plan focus coun-

## The Promise of New Partnerships Against HIV/AIDS

Through the New Partners Initiative (NPI) announced by President George W. Bush on World AIDS Day 2005, the Emergency Plan builds the capacity of organizations at the community level, while building local ownership of HIV/AIDS responses for the long term.

The USG announced the first round of grant awards under the NPI on World AIDS Day 2006 – exactly one year after the President launched the initiative. Of the first 23 grants announced, 11 are to local organizations, and the remainder are to recipients with direct links to local organizations. The recipients who were announced are:

- Ajuda de Desenvolvimento de Povo para Povo – Machava, Mozambique
- Catholic Medical Mission Board – New York City, New York, USA
- Christian Reformed World Relief Committee – Grand Rapids, Michigan, USA
- Church Alliance for Orphans – Windhoek, Namibia
- Foundation for Hospices in Sub-Saharan Africa – Alexandria, Virginia, USA
- Genesis Trust (Ugu AIDS Alliance) – Port Shepstone, South Africa
- Geneva Global (Ethiopia) – Wayne, Pennsylvania, USA
- Geneva Global (Côte d'Ivoire) – Wayne, Pennsylvania, USA
- Global Outreach for Addiction Leadership and Learning – Aliquippa, Pennsylvania, USA
- Kara Counseling and Training Trust – Lusaka, Zambia
- Light and Courage Centre Trust – Francistown, Botswana
- Luapula Foundation – Mansa, Zambia
- Mothers 2 Mothers – Cape Town, South Africa
- Natural Family Planning Center of Washington, D.C. – Bethesda, Maryland, USA
- Nazarene Compassionate Ministries Inc. – Olathe, Kansas, USA
- Nordic Assistance to Vietnam – Oslo, Norway
- ONG Le Soutien – Abidjan, Côte d'Ivoire
- Réseau Ivoirien des Organisations de PVVIH (RIP+) – Abidjan, Côte d'Ivoire
- ServeHAITI, Inc. – Atlanta, Georgia, USA
- Universidade Católica De Moçambique – Beira, Mozambique
- Visions in Action – Washington, D.C., USA
- World Hope International – Alexandria, Virginia, USA
- Youth Health Organization – Gaborone, Botswana

With the support of the American people, this first group of new partners will work in 13 of the 15 focus countries to provide HIV prevention and care services, including prevention of mother-to-child transmission, abstinence and faithfulness, condoms and related prevention, palliative care, orphans and vulnerable children, and counseling and testing.

Under the NPI, the Emergency Plan will award a series of grants totaling approximately \$200 million to new partners to provide services in the Emergency Plan's 15 focus countries. This first round of three-year grants under the NPI will award a total of up to \$72 million.

tries, with little or no experience working with the USG – defined as no more than \$5 million in USG funding during the preceding five years, excluding disaster and emergency assistance or funding as a subcontractor.

- **Leadership:** NPI is led by the U.S. Global AIDS Coordinator, assisted by an interagency USG Executive Committee with representation from Emergency Plan in-country teams. The Coordinator set and approved policies and direction for NPI and appointed a New Partnerships Director, who manages the program.
- **Partner outreach:** In 2006, a series of regional bidders' conferences were held in the U.S. and abroad.
- **Pre-competition assistance:** NPI offered technical and capacity-building assistance to participants, to empower them to compete now and in the future – both within the NPI grant process and in other competitions. Technical assistance focused on topics such as: initial needs assessment; proposal writing; pre-award audits; personnel recruitment; competition processes; and monitoring and evaluation planning.
- **Postaward capacity-building assistance:** To ensure the sustainability of the response, NPI offers assistance to successful applicants, focusing on: successful program implementation; needs analysis; and organizational growth and strengthening.

### **The Private Sector**

The nations where the Emergency Plan is at work have private sectors in a wide variety of stages of development. In many of the nations of sub-Saharan Africa, the private sector remains small, while in such nations as China, India, and South Africa, it is large and growing. Every nation does have a business community on some scale, however, and in every nation businesses have special contributions to make to the national HIV/AIDS response. Key strengths businesses bring to the fight include:

- Leveraging products, expertise and core competencies;
- Educating employees and surrounding communities on HIV/AIDS prevention;

- Making voluntary, confidential HIV counseling and testing available;
- Supporting lifesaving ART;
- Combating stigma and advocating for people living with HIV/AIDS;
- Adopting company-wide policies to protect against HIV/AIDS discrimination; and
- Forming strategic partnerships with governments and civil society to address the needs of the broader community.

### **Public-Private Partnerships**

PEPFAR seeks to develop public-private partnerships (PPPs) to bring HIV/AIDS interventions to scale, enhance the effectiveness of programs, and fully integrate the initiative into the future health and development plans of partner countries. PEPFAR defines public-private partnerships as collaborative endeavors that combine resources from the public sector with resources from the private sector to accomplish the goals of HIV/AIDS prevention, treatment, and care. PPPs enable the USG and private sector entities to maximize their efforts through jointly defined objectives, program design, and implementation. These mutually beneficial arrangements enhance local and international capacity to deliver high-quality health services and prevention programs, and leverage the core competencies of each sector to multiply their impact.

PPPs bring outside resources to bear on areas of local need. PPPs contribute to the fight against HIV/AIDS by:

- **Ensuring sustainability** of programs by enhancing the skills and capacities of local organizations, and by increasing the public's access to the unique expertise and core competencies of the private sector;
- **Facilitating scale-up** of proven, cost-effective interventions through private sector networks and associations;
- **Expanding the reach of interventions** by accessing target populations in their milieu (e.g., through workplace programs); and

## Sub-Saharan Africa: Harnessing the Power of Play

Ten sub-Saharan African nations will benefit from the groundbreaking \$60 million PlayPump Alliance announced by First Lady Laura Bush at the Clinton Global Initiative on September 20, 2006. The alliance will bring the benefits of clean drinking water to up to 10 million people in sub-Saharan Africa by 2010.

The PlayPump Alliance is a public-private partnership with PlayPumps International, the Case Foundation, USAID, PEPFAR, and other private sector partners. The goal is for every USG tax dollar to be matched by five dollars from the private sector.

This partnership will improve access to clean drinking water by installing PlayPump™ water systems throughout the region. Through an innovative water delivery system, a merry-go-round attached to a water pump and storage tank pumps water from underground. Children's play, a limitless source of energy, powers the system, making it both a sustainable and child-friendly water delivery system.

The USG, through USAID and the Emergency Plan, will provide a combined \$10 million to the alliance over three years. This will directly support the provision and installation of PlayPump water systems in approximately 650 schools, health centers and HIV-affected communities.

"Around the world, more than a billion people do not have safe water to drink, or to use to keep themselves and their homes clean," Mrs. Bush said during the announcement. Limited access to clean drinking water and basic sanitation facilities adversely impacts the quality of life of children and families in sub-Saharan Africa.

For people living with HIV/AIDS, clean water, proper hygiene, and sanitation facilities are of the utmost importance. Access to these resources helps HIV-infected people remain healthy as long as possible and avoid opportunistic infections.

Easy access to clean water will enhance PEPFAR's ability to support quality care in rural and peri-urban areas where the Emergency Plan supports hospitals, health facilities, and clinics. In addition, HIV/AIDS messages on PlayPump billboards will spread the word about healthy behaviors.

Invented and manufactured in Africa and first installed in South Africa, PlayPump water systems also benefit the community by spurring economic growth. Long-term jobs are created by hiring and training workers to maintain the PlayPump water systems.



PlayPump™ Water System

Through the power of play, children use the PlayPump™ water system to bring clean drinking water to their communities in sub-Saharan Africa.

- **Sharing program costs** and promoting synergy in programs. Additionally, partners contribute in-kind contributions that otherwise would be beyond the reach of implementers.

Potential private sector partners include a wide range of organizations, U.S. and non-U.S. private businesses, multinational corporations, small and medium-sized enterprises, business and trade associations, labor unions, foundations, and philanthropic leaders, including venture capitalists. PEPFAR engages the private sector in various ways and many countries are actively and creatively pursuing this objective.

The Emergency Plan works in partnership with a growing number of local industries, supporting their efforts to grow

their capacity to meet the needs of their employees and their families, as well as the larger communities of which they are a part. In South Africa, for example, the large mining company Anglo American is a PEPFAR partner, reaching out to the community with effective programs and building the nation's capacity to address HIV/AIDS.

The following examples illustrate the diversity of PEPFAR's PPPs in support of HIV/AIDS prevention, treatment, and care programs:

- **Promoting HIV Prevention through Zambia's Tourism Industry.** The USG has partnered with Sun Hotel International and the Livingstone Tourist Lodge Association to conduct a series of music and artistic performance events that call for social and behavioral

change to reduce sexual transmission of HIV among employees and clients. This newly-developed partnership includes mobile counseling and testing services at these events, as well as HIV information booths and educational materials. In addition, Sun Hotel will provide a training facility for all HIV/AIDS-related training to the tourism industry, free of charge. This PPP will provide a sustainable means of continuing support to HIV prevention beyond PEPFAR, as ownership of these activities is in the hands of the local tourism industry.

■ **Expanding Care and Treatment through Sugar Companies in Kenya.** Kenya Medical Research Institute (KMRI), the USG, and four sugar companies in the Migori and Nyando districts of Kenya are working together in partnership to expand HIV treatment and care. Sony, Chemelil, Muhoroni, and Miwani Sugar Companies all provide health care services for approximately 16,000 workers, their families, and community residents, totalling approximately 60,000 people. This ongoing partnership will be scaled up to more than double the number of patients on ART in this population, from 274 to 600, and will create an enabling environment for long-term prevention, treatment, and care.

■ **Building Human Capacity through Pfizer.** The USG has partnered with Pfizer, through its Global Health Fellows program, to strengthen skills and build capacity of PEPFAR partners locally. Through this partnership, Pfizer Fellows are placed in healthcare settings in

heavily HIV/AIDS affected countries. For example, Pfizer's program provided a fellow with financial expertise to support the Mothers to Mothers to Be (M2M2B) program in Cape Town, South Africa, a PEPFAR partner in the prevention of mother-to-child transmission program. The Pfizer contribution assisted M2M2B to open 15 new sites and plan for 17 more.

■ **Extending Care to the Community.** In South Africa, a new PEPFAR-supported PPP with the Global Business Coalition, Xstrata mining company, and Mpumalanga Health Department has been formed to build ART capacity in eight public-sector clinics in the communities surrounding the mining facility. This program is a community extension of Xstrata's HIV/AIDS program. The main activities will include support for palliative care, counseling and testing, and ARV services, with a strong focus on TB/HIV integration.

■ **Training Prevention Programs in the Workplace.** PepsiCo India has 5,500 employees in 39 offices. They requested support from the International Labor Organization to address HIV/AIDS in the workplace. Working together as part of the USG's workplace education program, they trained 60 Master Trainers in four regions, who received a Master Trainer/Peer Educator Manual, the PepsiCo HIV/AIDS Policy, a Card Game, key presentation materials, posters, and red ribbon. The Master trainers held a series of awareness programs to educate employees, and enlisted 383 volunteers for a peer educator program. The program is now being developed to cover workers in the supply chains and set up effective links with ART treatment centers.

■ **Life Skills Training for Orphans and Vulnerable Children.** PEPFAR and USAID partnered with Coca-Cola's East Africa Bottling Share Company PLC, to pioneer a Vendor Employment Model for orphans and vulnerable children in Ethiopia. This PPP supports older adolescent orphans and vulnerable children deemed "head of household," via income generated through employment as vendors of Coca-Cola products. The job candidates receive marketing and business skills training from Coca-Cola, as well as life skills training, guardian counseling, educational support and psychosocial counseling through the Emergency Plan. Currently, half of the job candidates are young women. Plans are in place to scale up this project in other PEPFAR countries for

### Scaling Up Pediatric HIV/AIDS Treatment

Launched by First Lady Laura Bush, PEPFAR's pediatric AIDS public-private partnership brings the USG and many partners together to overcome major barriers to scaling up pediatric HIV treatment. Partners include eight innovator companies – Abbott Laboratories, Bristol-Myers Squibb, Boehringer Ingelheim, Gilead Sciences, Inc., GlaxoSmithKline, Merck & Co., Pfizer, and Tibotec, and five generic companies – Aspen Pharmacare, Aurobindo Pharma, Cipla Limited, Emcure Pharmaceuticals, and Ranbaxy Laboratories – as well as the Elizabeth Glaser Pediatric AIDS Foundation, UNAIDS, UNICEF, WHO, and the Clinton Foundation. In particular, the partnership is working to expand the number of pediatric ARV formulations, improve forecasting and supply of ARVs, coordinate provider education and training, and expedite drug registration. The partnership offers children and parents the hope that their families will stay together, leading healthy lives and living positively with HIV/AIDS.

2007. PEPFAR is exploring opportunities to expand this partnership beyond Coca-Cola and include other companies that support the vendor employment model (such as cell phone companies).

- **System Strengthening through Health Care Financing.** The USG supports employer-funded health insurance schemes that include a comprehensive HIV/AIDS prevention, treatment, and care component. This cost-sharing mechanism strengthens quality and efficiency standards for public and private health care systems and supports workers' access to HIV/AIDS treatment.
- **Exploring Opportunities with the Information and Communication Technology (ICT) Sector.** PEPFAR is currently working with the ICT sector to generate creative, concrete programs to improve HIV/AIDS knowledge diffusion to peripheral rural sites and develop human capacity using innovative technology.

#### **Future Directions for Public-Private Partnerships**

PEPFAR is leading an unprecedented scale-up of HIV/AIDS prevention, treatment, and care, but the work of the USG is not enough. Much more must be done in collaboration with the private sector, NGOs, and PLWHA. PEPFAR has not tapped all potential partners, and recognizes that broader partnerships – with multilateral organizations such as the Global Fund or the World Bank's Multi-Country AIDS Programme (MAP) – are viable options in areas where all entities are working toward common goals. Additionally, there is potential to engage other developed governments in PEPFAR's current and future partnerships.

Goals for future PPPs include developing programs for training healthcare and ancillary workers, promoting treatment and care for orphans and vulnerable children (OVCs), providing resources for innovative workplace prevention programs and links to services, supporting laboratory systems, and developing information technology for clinical care and strategic information programs.

#### **Building Human Resource Capacity**

Over 25 million of the estimated 40 million people living with HIV/AIDS worldwide live in resource-poor areas – areas with weak and understaffed health systems. HIV/AIDS places a growing strain on already stressed health care systems and workers in these countries. The



With PEPFAR support, the Caribbean HIV/AIDS Regional Training Initiative (CHART) helps to build a cadre of highly-trained, committed professionals to help combat HIV/AIDS by training health practitioners and encouraging them to work together.

challenge of this disease is compounded by nations' struggles to acquire the capacity, knowledge, and skills to deliver prevention, treatment, and care to all those infected with and affected by HIV/AIDS.

In fiscal year 2006, PEPFAR provided approximately \$350 million in support of network development, human resources and local organizational capacity development, and training. However, systemic weaknesses in areas such as health networks and infrastructure are persistent obstacles to expanding health systems and building human resource capacity in many PEPFAR countries. The Emergency Plan, working with host countries, supports national strategies to strengthen these critical systems. In fiscal year 2006, partners reported that approximately 25 percent of all programmatic activities had components that directly supported development of networks, linkages and/or referral systems. This focus on strengthening networks provides a base from which to build institutional and human resource capacity, in order to rapidly expand prevention, treatment, and care services.

The Emergency Plan recognizes that quality and sustainability in HIV/AIDS prevention, treatment, and care require skilled providers of health services. However, many PEPFAR countries lack the trained health workers necessary to respond to the need. With this in mind, the Emergency Plan and its host country partners support:

- National strategies with innovative approaches to training and retention.
- Broadening of policies to allow for task-shifting from physicians and nurses to clinical officers, health extension workers, and community health workers.
- The use of volunteers and twinning relationships to rapidly expand the number of local service providers required to respond to this disease.

The Emergency Plan supports focused training for the development of human capacity to deliver HIV/AIDS services. In fiscal year 2006, the Emergency Plan supported training or retraining for more than 842,600 service providers (with some providers receiving multiple trainings). Approximately 428,600 individuals were trained or retrained in the prevention of sexual transmission; 32,600 in PMTCT; 58,700 in prevention of medical transmission; 52,000 to support antiretroviral treatment; 143,300 to care for OVCs; and 93,900 to provide care for PLWHA.

In addition to training existing health care workers, it is also essential to bring new workers into the health workforce. Policy change to allow task-shifting from more specialized to less specialized health workers is the one strategy that will have the most significant and immediate effect on increasing the pool of health workers to deliver HIV/AIDS services. The experience in Ethiopia, described in the accompanying text box, shows that changing national and local policies to support task-shifting can foster dramatic progress in expanding access to prevention, treatment, and care services. The Emergency Plan works with its host country partners to broaden national policies to allow trained members of the community – including people living with HIV/AIDS – to become part of clinical teams as community health workers.

Another challenge to providing high-quality HIV/AIDS treatment and care is the retention of skilled health workers such as physicians, nurses, pharmacists, and laboratory personnel. The Emergency Plan is supporting a number of innovative approaches to retaining health care workers. In a successful effort to prevent “brain drain” from Namibia, the MoH provides a package of benefits, including medical benefits, housing support, paid maternity leave, and competitive salaries. As part of a comprehensive strategy for strengthening human resources for health, the Malawi

## Human Resource Capacity-Building Fiscal Year 2006 Results

83 percent of Emergency Plan partners in fiscal year 2006 were indigenous organizations.

In fiscal year 2006, the Emergency Plan supported training or retraining for more than 842,600 service providers (with individuals being trained in multiple areas in certain cases) and supported approximately 25,100 service sites in the focus countries, including:

- Support for training of approximately 428,600 individuals in prevention of sexual transmission.
- Support for training of approximately 32,600 individuals in prevention of mother-to-child transmission and 4,863 service sites.
- Support for training of approximately 58,700 individuals in prevention of medical transmission and 3,848 service outlets that carry out blood safety activities.
- Support for training of approximately 52,000 individuals to provide antiretroviral treatment and 1,912 treatment sites.
- Support for training of approximately 143,300 individuals to care for orphans and vulnerable children.
- Support for training of approximately 93,900 individuals to care for HIV-positive people and 8,019 service sites.
- Support for training of approximately 33,500 individuals to provide counseling and testing (in addition to those trained in prevention of mother-to-child transmission) and 6,466 service sites.

MoH provides free housing and support for educational scholarships to nursing tutors, who are critical to creating a larger pool of new health workers. Kenya, like many sub-Saharan countries, faces a human resources crisis due to lack of health care workers to deliver treatment and care in high need areas.

With PEPFAR support, the Capacity Project is working with the health sector on the Kenya Emergency Hiring Plan to take advantage of Kenya’s surplus of unemployed nurses, physicians, and other health professionals. The plan – approved and endorsed by the MoH – creates a non-governmental outsourcing mechanism to quickly hire, train, and deploy 800 providers in public-sector health centers. In Botswana, the Botswana Retired Nurses Society is expanding access to palliative care services for people living with

## The HIV/AIDS Twinning Center and Volunteer Healthcare Corps

The Emergency Plan supports twinning partnerships to build sustainable local capacity. The PEPFAR-funded HIV/AIDS Twinning Center supports strengthening of human and organizational capacity through the use of health care volunteers and twinning relationships to facilitate skills transfer and rapidly expand the pool of trained providers, managers, and other health staff delivering HIV/AIDS prevention, treatment, and care.

The Twinning Center currently supports 17 partnerships, with several new partnerships in development. Twinning partnerships are typically formed between a U.S. partner and a country partner, but eligible participants may be U.S.-based, regional, or local. Eligible entities include government agencies; schools of medicine, nursing, public health, management, and public administration; health sciences centers; community- and faith-based organizations; and third party country governments or organizations with cultural or linguistic ties to host nations. A South-to-South twinning partnership between the Government of Botswana and the African Palliative Care Association, based in Uganda, has resulted in the training of 200 health care workers in palliative care.

The Volunteer Healthcare Corps, another project of the Twinning Center, recruits individuals with expertise in health care and HIV/AIDS for mid- and long-term assignments in twinning partnership projects and other endeavors supported by the Emergency Plan. Volunteers from the Ethiopian Diaspora were recently placed in USG-supported treatment sites in Ethiopia, to work with hospital staff on infection control and to develop and implement a health education program. In Zambia, discussions are underway to place volunteer nursing faculty in nursing schools in rural areas of the country. The Corps, a network of health care volunteers, HIV/AIDS professionals and support personnel, assists Emergency Plan partners with clinical, educational, and capacity-building services without interrupting ongoing efforts.

HIV/AIDS through an innovative program using volunteer retired nurses. With PEPFAR support, the Society has recruited 25 retired nurses to provide comprehensive health and support services, including pain management, to 200 PLWHA. These trained health professionals are able to assess pain, advocate for the provision of appropriate pain relief medications including opiates, prescribe analgesics to minimize pain, and assist patients in adherence to their ARV regimen. This program has been so successful that the Society is planning to recruit, train and deploy 50 additional volunteer retired nurses in fiscal year 2007.

Twinning partnerships are another important tool to build local capacity. The resources of the PEPFAR-supported

Twinning Center, described in the accompanying text box, are used to expand and strengthen local expertise in administrative as well as clinical capacity building.

MoHs throughout Africa are recognizing the importance of building their capacity in human resources management and human capacity development. The Emergency Plan, along with other international partners such as the Global Fund and the World Bank, is working with host governments to support these institutions, many of which suffer from severe shortages of staff. In the Rwanda MoH, the USG funds and mentors a specialist in human resources for health (HRH). Strong leadership has made a significant difference on several important HRH initiatives, such as:

- Advising on recruitment criteria and contributing to plans for a staff appraisal system.
- Preparing and presenting a draft HRH policy for an interagency HRH technical working group.
- Developing a human resources strategic plan.
- Identifying the need for, and guiding the development of, an HRH information database.
- Arranging 32 postgraduate scholarships for Rwandan health professionals.

## Ethiopia: Task-Shifting to Health Officers and Health Extension Workers

In Ethiopia, a country with one doctor per 34,000 people, PEPFAR works with the Ministry of Health's Ethiopian Public Health Officer Training Program, developed and implemented by the Carter Center, to train 5,000 health officers to improve access to HIV/AIDS treatment and care in rural communities. The goal is to have one extension worker per 5,000 residents. With HIV/AIDS as a central component of the program, 2,400 students began their training to be Public Health Officers in 2006. Emphasis on task-shifting from physicians to health officers will enable health centers and health offices in rural and hard-to-reach areas of Ethiopia to retain staff and allow physicians to manage more complicated HIV/AIDS cases. In addition to the 5,000 health officers, 30,000 health extension workers will be trained by 2010 and will be assigned to rural areas to serve as the first point of contact for most Ethiopians accessing public health services. To date, 9,000 health extension workers have been trained, with an additional 7,000 expected to graduate in January 2007.

This model of supporting the human resource planning and management functions within the MoH is currently being considered for other countries, as well.

### **Training Networks**

The Emergency Plan supports efforts to train individuals to provide services at the hospital, clinic, community, and home levels, helping to expand the reach of a limited pool of trained medical doctors, nurses, and pharmacists. Collaboration with the International Training and Education Center on HIV (I-TECH), which is active in Africa, East Asia, India, and the Caribbean, is a key part of efforts to develop highly trained HIV/AIDS educators, providers, and managers. In fiscal year 2006, PEPFAR funded a Nursing Capacity Building program with the goal of developing a critical mass of nurse leaders – linked in regional support networks of colleagues – who can receive ongoing mentoring, as needed, from global expert HIV nursing professionals.

In collaboration with WHO, PEPFAR has developed a PMTCT Generic Training Package, building provider capacity and collaborative partnerships within countries. The Emergency Plan has sought to anchor the training in advanced centers to ensure quality, while developing tools to assess the quality of the training. One example of a training assessment tool is the Instructional Design and Materials Evaluation Form. This research and evaluation tool evaluates and scores curricula in terms of instructional design elements, content review, and evaluation methodology. USG training efforts are directed not only at expanding clinical capacity, but at developing the pool of trained managerial personnel. The non-clinical staff is a key element of effective health networks, which fosters quality programs. The Emergency Plan has made on-the-job HIV/AIDS training for health care workers a priority in order to avoid the disruption in care that can occur with off-site training.

### **Strengthening Essential Health Care Systems**

In most of the resource-poor countries served by the Emergency Plan, achieving the Plan's vision of a high-quality, sustainable HIV/AIDS response requires implementing and strengthening essential systems, including clinical quality assurance systems; health care networks, including infrastructure; and commodity procurement, distribution, and management systems. One critical area of PEPFAR's work with host nations is the development of surveillance

and monitoring and evaluation capacity, including training of host government staff to carry out surveillance activities, analyze data, and report results to key stakeholders. These activities are discussed in the chapter on Improving Accountability and Programming.

### **Clinical Quality Assurance**

The Emergency Plan reflects a belief that people in the developing world deserve HIV/AIDS prevention, treatment, and care services that are of high quality. In all of its clinical capacity-building work, PEPFAR seeks to support host nations as they expand their capacity to ensure quality.

Quality assurance capacity-building activities include support for monitoring and evaluating programmatic indicators, on-site supervision systems, and district, national, and international reviews. The Emergency Plan supports programs to adapt quality improvement approaches to the needs of developing countries. For example, the Quality Assurance and Workforce Development Project, implemented by USAID, uses a collaborative approach in which teams of providers have documented improvements in the quality of prevention, treatment, and care services. These teams may bring counselors, clinicians, laboratory professionals, and pharmacists together to discuss difficult cases and recommend courses of action, such as helping to oversee changes to costly second line therapies. The providers work in tandem with community volunteers, who help people living with HIV/AIDS to access appropriate services and develop self care skills.

Innovative methods of managing clinical information to monitor and evaluate the quality of HIV care also receive PEPFAR support. The Emergency Plan supports the development, distribution, training and support of HIV clinical care data management software (CAREWare), originally developed by the U.S. Department of Health and Human Services/Health Resource and Services Administration (HHS/HRSA) for providers of care in the U.S. The software promotes quality care by providing a clear, customizable, user-friendly, and confidential platform for entering, collecting, and reporting demographic, service, and clinical information. The international version of CAREWare has been implemented with PEPFAR support in Nigeria, Russia, Uganda, Vietnam, and Zambia.

In fiscal year 2006, PEPFAR and the National Hospice and Palliative Care Association supported the development of a

*Guide to Supportive and Palliative Care for HIV/AIDS in Sub-Saharan Africa.* This guide, written by African health care professionals, is now available on the web site of the Foundation for Hospices in Sub-Saharan Africa (<http://www.fhssa.org>).

The HIVQual software program is another tool currently in use in some PEPFAR host nations, such as in Uganda's HIV care programs. To facilitate quality improvement, HIVQual enables participants to measure key indicators and use these measurements to benchmark and make progress on working toward objectives. The HIVQual software includes validated HIV clinical indicators for measurement of HIV clinical care (including ART management, opportunistic infection prophylaxis, tuberculosis screening and others), algorithm-based prompts to guide data entry, the ability to generate reports of performance data, and the capacity to analyze data by subgroups.

#### ***Health Care Network and Infrastructure Development***

The HIV/AIDS epidemic has placed a huge burden on the health care systems of many high-prevalence countries. Major disparities often exist between urban and rural health services, with a concentration of health professionals and institutions in major cities. The Emergency Plan is supporting host nations in meeting the demand for services by rapidly expanding existing indigenous health networks. This includes supporting linkages and coordination between central health facilities and outlying health clinics, including those in rural areas, to deliver quality HIV/AIDS services.

Common infrastructure obstacles to national responses include under-resourced facilities; unreliable electricity and water supplies, especially outside urban areas; outdated or broken equipment; and lack of information and communications technology for basic program planning and monitoring. Flexible, computer-based data systems enable host nations to classify, store, and analyze scientific information, allowing them to set national priorities, make important decisions on resource allocation, and monitor program activities.

In support of national strategies and Emergency Plan goals, PEPFAR is addressing these barriers by supporting such activities as the renovation of existing health facilities; procurement of equipment, supplies, furniture, and vehicles; improvement of information systems; and financing for

### **South Africa: Building Capacity to Manage Treatment Regimes**

Frere Hospital is a 650-bed facility located in the Amatole district of South Africa's Eastern Cape province. At the facility, PEPFAR supports efforts to enable health care professionals to improve their management skills. Through the program, Frere Hospital pharmacists learn when to order pharmaceuticals, how much inventory to stock, and how to store medicines safely.

These efforts prompted Frere Hospital to develop professional policies and procedures to manage their pharmacy competently. Pharmacists now maintain stock levels that are appropriate for patients' needs, helping to ensure that the drugs are dispensed reliably and in the correct doses. Medical staff also identify factors that affect drug costs, so they can keep their inventory up-to-date and affordable for patients.

Technical training through the project emphasizes the importance of building well-organized health care settings, with staff capable of selecting suitable and inexpensive drug therapy. This process, known as a "formulary management system," enables medical professionals to work together to promote clinically sound, safe and cost-effective pharmaceutical care. Medical providers learn how to quickly identify and find solutions to potential problem areas and to improve the overall use of medicines.

expanded HIV/AIDS service delivery under the Emergency Plan. In South Africa, the Emergency Plan supports efforts at the Frere Hospital to enable health care professionals to improve their management skills (see text box on South Africa).

#### ***Laboratory Support***

A good public health laboratory network is a cornerstone of a strong response to HIV/AIDS. Without laboratory support, it is very difficult to diagnose HIV infection and provide quality care and treatment for PLWHA. In many Emergency Plan countries, existing laboratories lack equipment and trained staff, as well as established quality assurance procedures to help ensure the reliability of laboratory services. In an effort to support laboratory sustainability, the Emergency Plan is devoting considerable resources to building capacity in a National Reference Laboratory (NRL) in each country. As the apex of a laboratory network, NRLs have an important responsibility to supervise and train personnel in other laboratory sites within a country. Perhaps most importantly, the NRL is usually responsible for quality assurance for the laboratory network.

## Key Components for Building Laboratory Capacity

- Developing comprehensive in-country laboratory policies, strategic plans and implementation strategies.
- Planning for and providing technical assistance to national laboratories.
- Facilitating communication between and among countries (including South-to-South technical assistance) on good laboratory practices.
- Providing technical review of laboratory activities, technical documents, papers, and abstracts.
- Integrating good laboratory practices into strategies, technical guidance, and technical assistance.
- Ensuring coordinated laboratory technical assistance.
- Integrating laboratory activities into prevention, treatment, care and strategic information programs within each country.

## Zambia: Project Supplies HIV Test Kits and ARVs, Conducts National Quantification of Lab Supplies

HIV test kits are in high demand, as more and more people are interested in knowing their HIV status. In response, with support from PEPFAR, the Supply Chain Management System (SCMS) project delivers HIV test kits to the Zambia Ministry of Health's Central Medical Stores, for use at various testing sites throughout Zambia. By delivering kits in smaller shipments on a monthly basis, rather than in one bulk shipment, clients receive test kits with a longer shelf life, and space-constrained warehouses keep a smaller amount of inventory on hand. In addition, the first shipment of a large order of ARVs arrived in Zambia on November 17, 2006. These drugs will be provided to patients served by the Ministry of Health's AIDS treatment program.

In September 2006, SCMS provided short-term technical assistance to the Zambia Ministry of Health's laboratory staff and other partners, to conduct the national level laboratory quantification of lab commodities. This produced an estimate of the quantities needed to meet short- and long-term planning. Based on this exercise, the Ministry will produce a procurement plan for lab commodities, which will be supported by the Emergency Plan.

## Building Laboratory Capacity and Supporting Quality Testing

With the rapid expansion of HIV treatment in resource-poor countries, and the accompanying need for HIV diagnosis and care that comes with it, there is a need to build capacity for high-quality laboratory services. This effort includes:

- **The use of rapid HIV tests.** These tests, which require minimal equipment and can be reliably performed by lay counselors, can dramatically expand a country's capacity to perform HIV testing. Rapid tests can detect HIV infection in less than an hour and are used in voluntary counseling and testing sites throughout PEPFAR countries. In 2006, several countries made great progress in implementing and scaling up rapid HIV testing, including Botswana, Ethiopia, Kenya, Mozambique, Nigeria, Rwanda, South Africa, Tanzania, Uganda, and Zambia. Rapid HIV tests are especially important at peripheral testing sites – those far from fully equipped laboratories.
- **Laboratory quality assurance.** This is critical for making an accurate diagnosis of HIV infection, determining when to start treatment, and monitoring patients while on treatment. It also includes on-site supervision and monitoring to support laboratories in smaller facilities.
- **Incidence testing.** This provides countries with the best data on where recent transmission has occurred. This information is essential for planning effective prevention programs and for measuring the success of programs.
- **Tests for early infant diagnosis of HIV infection.** Diagnosing newborns is technically complicated and costly. Laboratories providing such testing are usually not located near PMTCT sites. In an effort to expand access to vital infant testing, the Emergency Plan is promoting early infant HIV diagnosis through the use of dried blood spots. This simple, inexpensive sample collection approach allows for easier transportation and storage of samples than other collection devices, and requires less blood from the infant. This approach can help determine the HIV status of infants as young as six weeks old.
- **CD4 testing.** This is helpful for determining the level of immunosuppression of the HIV infection. It is an important component for determining when to initiate treatment and for monitoring response to treatment.
- **Detection of resistance to ARVs.** As more individuals are treated, the issue of resistance to ARVs will become more prominent. PEPFAR works with WHO to support its efforts to improve global, population-based surveillance for HIV drug resistance.
- **Diagnosing opportunistic infections, including sexually transmitted infections.**
- **Tuberculosis (TB) diagnosis and TB drug resistance testing.** Since up to half of all AIDS-related deaths are caused by TB, it is critically important to rapidly diagnose and treat people with TB to prevent illness and death, and to prevent the spread of TB to others.

## Uganda: Better Treatment Management through Better Labs

Fully functional laboratories are critical for a high-quality anti-retroviral treatment program. Special tests are required to monitor the progression of the disease in order to provide correct treatment. However, in many parts of Uganda, either the laboratories cannot perform the necessary tests or there are no labs at all.

The Joint Clinical Research Center (JCRC) works to address gaps in Uganda's overburdened health sector, and to scale up HIV/AIDS treatment. To respond to the critical need for high-quality laboratory services, JCRC has established four Regional Centers of Excellence in the northern, western, southwestern, and eastern regions of Uganda.

To create the Centers of Excellence, existing laboratories underwent extensive renovations. The Acting Head of JCRC in Mbale, Dr. William Kizito, explained: "If I could rate the change, it would be 150 percent improvement." With funding from PEPFAR, JCRC built extensions, installed computers, improved data collection systems, and provided clinical furniture, secure drug storage facilities, and communication equipment.

The renovated laboratories have the capacity to conduct the sophisticated tests required in ART management and monitoring. Although diagnostic and monitoring tests for children had previously been available only at JCRC in Uganda's capital of Kampala, these services now are available at the Mbale and Fort Portal laboratories. Located in the east and west of Uganda, these Centers of Excellence act as regional training and quality assurance centers.

JCRC has established laboratory management teams, whose role is to monitor and ensure delivery of high-quality laboratory services at the regional centers. In addition, strong links have been established with the laboratories and the Ministry of Health, the National Laboratory Technical Committee, and the National Public Health Laboratory. These links ensure that coordination of laboratory services is in line with national plans.



The Mbale Hospital JCRC AIDS Clinic underwent renovations with support from the Emergency Plan, providing the clinic with the capacity to conduct sophisticated tests required in ART management and monitoring that were not previously available.

Emergency Plan staff have worked to strengthen the capacity of all focus countries to diagnose HIV and related infections. This allows growing numbers of people to learn their HIV infection status, and enables physicians to reliably determine which patients will benefit from treatment and monitor the success of that therapy. In Uganda, the Joint Clinical Research Center works to provide additional laboratory support to address gaps in the country's overburdened health sector and to scale up HIV/AIDS treatment (see accompanying text box).

One priority is to support the use of rapid HIV tests. These tests, which require minimal equipment and can be reliably performed by lay counselors, can dramatically expand the capacity of countries that allow their use to perform HIV

testing, as described in the Care chapter. Rapid HIV tests are especially important in peripheral testing sites, far from fully equipped laboratories. Emergency Plan personnel have prepared a training package on Rapid HIV Testing. They have participated in training programs for trainers and other staff, to ensure that trained manpower will be available for conducting such testing at PMTCT and other counseling and testing sites. Similar training packages for hematology, chemistry, CD4 testing, and for the diagnosis of HIV infection in infants are being prepared, which can be used by national personnel for future trainings.

To this end, the Emergency Plan has supported the development of a rapid HIV test training package and a plan for integration of HIV rapid testing in HIV prevention, treat-

ment, and care programs. This training package has been customized by host nations and used to train hundreds of health care workers in Botswana, Kenya, Namibia, Tanzania, Uganda, and Zambia. Emergency Plan staff have been involved in supporting countries and collaborating agencies in the important task of evaluating rapid HIV test algorithms for use in-country. New rapid HIV tests are validated prior to their use in USG programs. This ensures that counseling and testing programs use the proper tests to identify people living with HIV/AIDS.

HIV incidence testing provides countries with the best data on where recent transmission has occurred. This information is essential for planning effective prevention programs and for measuring the success of programs in achieving the PEPFAR prevention goal. Emergency Plan teams have provided in-country/regional training on incidence testing in China, Ethiopia, Rwanda, South Africa, and Vietnam. Training in China and an Asia regional workshop are planned.

As discussed in the chapters on Children and Treatment, diagnosis of HIV infection in newborns is technically complicated and costly. Laboratories providing such testing are usually not located near PMTCT sites. In an effort to expand access to vital infant testing, Emergency Plan staff has trained local staff in the use of dried blood spots. This allows for the ready transport of specimens to central or provincial laboratories where testing is available. Training on the polymerase chain reaction (PCR) laboratory assay needed to detect HIV infection in infants has been provided to Ethiopia, Kenya, Mozambique, and Zambia and trainings in Nigeria and Tanzania are planned.

CD4 testing is very helpful for determining the level of immunosuppression in HIV infection. It also can be used as an important adjunct for determining when to initiate treatment and for monitoring response to treatment. Emergency Plan staff has been involved in the evaluation of lower cost and simpler assays for measuring CD4 cells. Training has been provided in conjunction with partners in Côte d'Ivoire, Ethiopia, Malawi, and Tanzania.

As more individuals are treated, the issue of resistance to ARVs will become more prominent. PEPFAR country teams are working with host nations to develop national or regional programs to conduct population-based resistance testing for monitoring resistance within a country. These



Sponsored by an Emergency Plan partner, the Djibouti Armed Forces deliver laboratory equipment, including a CD4 counter, to assist with antiretroviral treatment.

also will use dried blood spots, which will be transported to laboratories for analysis. Training of laboratory staff to perform resistance genotyping testing has been provided to Ethiopia and Kenya.

Laboratory quality assurance is critical in assuring accurate diagnosis of HIV infection, determining when to start treatment, and monitoring patients while on treatment. The Emergency Plan has supported extensive training of in-county staff on building and sustaining high-quality laboratory systems. PEPFAR also supports the establishment of proficiency testing programs for laboratory testing in such areas as hematology, chemistry, CD4 testing, and infant diagnosis. This will build confidence in the ability of the laboratories to support the HIV programs, as well as sexually transmitted infection (STI) and TB programs. The USG also supports the development of laboratory certification programs in each country.

### ***Commodity Procurement: Toward Sustainable Supply Chain Management***

Comprehensive HIV/AIDS programs that are sustained for the long term require a continuous inflow of high-quality medicines and supplies. In concert with in-country partners, the USG is partnering with host nations to build the necessary infrastructure to fight the global pandemic of HIV/AIDS. The Partnership for Supply Chain Management was established in 2005 by PEPFAR and leaders in international supply chain management, including four African organizations, to implement PEPFAR's Supply Chain Management System (SCMS). SCMS strengthens systems to deliver an uninterrupted supply of

## Rwanda: Pooled Procurement and Capacity-Building Help to Scale Up Treatment

The Rwandan Government and its international and implementing partners have pioneered an effective and accountable system to jointly procure antiretroviral drugs (ARVs) for Rwanda. Project partners include the U.S. Government, the Global Fund, the World Bank, and others.

In October 2004, the Rwandan Ministry of Health issued a Ministerial Order requiring that all ARVs be procured through the Centrale d'Achats des Médicaments Essentiels Consommables et Equipements Medicaux du Rwanda (CAMERWA), the national pharmaceutical procurement agency, in order to maximize purchasing power.

The CAMERWA-coordinated procurement in February 2006 included support from program partners, which purchased portions of Rwanda's overall ARV needs while adhering to their individual procurement requirements. PEPFAR funds were used to buy HHS/FDA-approved ARVs for first- and second-line treatment, while the Global Fund, World Bank and others purchased other WHO-prequalified drugs for first-line treatment. As a result of this new system, CAMERWA now distributes ARVs to pharmacies according to their patients' needs, regardless of which donor supports the site.

There are several benefits associated with the combined procurement system. Rwanda obtains a better price for the ARVs, due to the large quantities being ordered, and money is also saved through lower management costs and reduced transportation costs. The coordination also has a clinical benefit: since drugs are packaged with different shapes, quantities and inscriptions, leading to confusion and potential non-adherence, the coordinated procurement program reduces the risk of confusion.

In addition, the Partnership signed a landmark sub-agreement and Memorandum of Understanding with CAMERWA on November 13, 2006. The sub-agreement enables SCMS to contract with CAMERWA to provide port clearance, storage, and distribution services for all Emergency Plan commodities in Rwanda. The Memorandum of Understanding defines the roles and responsibilities of both CAMERWA and SCMS, in a collaborative relationship that will promote sustainable improvements to the HIV/AIDS commodity supply chain in Rwanda. SCMS will provide technical support, to enhance the capacity of CAMERWA so it can qualify to become a direct recipient of USG funds in the future.



Ambassador Zephyr Mutangwa, Director General of CAMERWA signs the Sub-Agreement and Memorandum of Understanding while Mme. Caroline Kayonga, Permanent Secretary of the Rwandan Ministry of Health witnesses.

high-quality, low-cost products that will flow through a transparent and accountable system.

SCMS's activities include supporting the purchase of life-saving antiretroviral drugs, including low-cost generic ARVs; drugs for PLWHA care, including drugs for OIs such as tuberculosis; laboratory materials such as rapid test kits; and supplies including gowns, gloves, injection equipment, and cleaning and sterilization items.

To meet the need for a range of ARVs that are proven to be safe, effective, and of low cost, HHS/Food and Drug Administration (FDA) introduced in May 2004 an expedited

process whereby ARVs from anywhere in the world, produced by any manufacturer, could be rapidly reviewed for purchase under PEPFAR. Approved or tentatively approved ARVs meet standards equal to those established for the U.S., ensuring that no drug purchased for use in PEPFAR programs abroad falls below standards for the U.S. market. Through January 7, 2007, 34 generic ARV formulations received approval or tentative approval from HHS/FDA under the expedited review, including eight pediatric formulations and eight fixed-dose combination (FDC) formulations containing at least two individual ARVs. FDCs are invaluable because they are easier to manage for patients, health workers, and program managers

and can serve as an important bulwark against the development of HIV drug resistance. Three co-packaged triple drug combinations and two triple FDCs are now HHS/FDA tentatively approved and available for use by Emergency Plan partners and others.

SCMS and Emergency Plan partners have worked together to ensure that the lowest-priced, highest-quality drugs are available for ART. By late 2006, 14 focus countries had imported HHS/FDA-approved generics. Most FDA-approved products to date are widely used, standard first-line generic ARVs such as Triimmune. In many countries, host governments also have requested USG support for more expensive second-line ARVs. As a side benefit, the process developed for PEPFAR also has expedited availability of generic versions of ARVs whose U.S. patent protection has expired.

SCMS supports delivery of essential lifesaving medicines to the front lines of Emergency Plan joint efforts with host nations. In its first year, SCMS established the infrastructure necessary to bring 17 organizations together to establish a global enterprise with the capability of procuring and delivering millions of dollars worth of life-saving HIV/AIDS drugs and supplies to those who need them. To date, approximately \$94 million of focus country prevention, treatment, and care resources have been provided to the Partnership to support procurement of commodities such as ARVs, technical assistance, logistics and other aspects of supply chain management. Usage of SCMS is expected to increase significantly during its second full year of operation in fiscal year 2007. The project not just met but exceeded its goal of making initial country visits to all 15 of the Emergency Plan focus countries. Moreover, SCMS responded to in-country requests for long-term technical assistance by opening 10 country offices.

Since October 2005, SCMS has ensured an uninterrupted supply of ARVs, test kits, and other vital commodities to HIV/AIDS programs in Botswana, Côte d'Ivoire, Guyana, Haiti, Nigeria, Rwanda, Vietnam, and Zambia. SCMS has filled commodity orders on behalf of country programs that were frequently in danger of stockouts. (For more information, please see the Stockouts Averted section in the Treatment chapter.) Additionally, SCMS was enlisted to contribute to the coordination of significant donor-funded initiatives such as the World Health Organization (WHO)/Joint United Nations Programme on HIV/AIDS

(UNAIDS) efforts to prepare a global ARV demand forecast, including active pharmaceutical ingredients, through 2008. As the technical secretariat of the Global Fund to Fight AIDS, Tuberculosis and Malaria, the World Bank, and PEPFAR's joint procurement planning initiative, SCMS facilitates national procurement planning and supply chain management of HIV/AIDS commodities in six countries (Ethiopia, Guyana, Haiti, Mozambique, Rwanda, and Vietnam). For more information on SCMS and PEPFAR's treatment programs, see the chapter on Treatment.

In collaboration with in-country and international partners, SCMS employs the following key strategies:

- Strengthen existing systems and avoid building parallel systems.
- Aggregate procurement across many countries using longer-term supplier contracts to leverage economies of scale.
- Freight forwarding and inventory management, using regional distribution centers for efficiency and cost savings.
- Improve availability and use of logistics information for supply chain decision-making at the local, national, and international levels.

### Pioneering Sustainable Supply Chain Systems

A sound and reliable global supply chain incorporates innovative elements, including:

- *Pooled procurement across countries:* Working with manufacturers to stabilize supply and plan for capacity expansion and achieving economies of scale.
- *Field-driven:* Ensuring a field-driven approach, from initial product selection and forecasting through product delivery to patients in need.
- *In-country supply systems:* Augmenting and improving in-country supply chains, rather than replacing functioning systems.
- *Regional warehousing and distribution:* Strengthening national supply chains by using regional distribution centers. Distributing commodities in quantities that existing infrastructure can handle reliably and safely.

- Global quantification of needs and coordination of efforts.
- Sustainable solutions and capacity building in quantification, procurement, quality assurance, freight forwarding and inventory management, distribution, and logistics management information systems.
- Voxiva, Inc. – Washington, D.C.
- 3i Infotech, Inc. – Edison, N.J.

Each partner offers unique capabilities to ensure that high-quality ARVs, HIV tests, and other supplies for diagnosing and treating HIV/AIDS are available to the people – patients, clinicians, laboratory technicians, and others – who need them.

The implementing members of the Partnership for Supply Chain Management are:

- Affordable Medicines for Africa – Johannesburg, South Africa
- AMFA Foundation – St. Charles, Ill.
- Booz Allen Hamilton – McLean, Va.
- Crown Agents Consultancy, Inc. – Washington, D.C.
- Fuel Logistics Group (Pty) Ltd. – Sandton, South Africa
- International Dispensary Association – Amsterdam, Netherlands
- JSI Research and Training Institute, Inc. – Boston, Mass.
- Management Sciences for Health, Inc. – Boston, Mass.
- The Manoff Group, Inc. – Washington, D.C.
- MAP International – Brunswick, Ga.
- Net1 UEPS Technologies, Inc. – Rosebank, South Africa
- The North-West University – Potchefstroom, South Africa
- Northrop Grumman Information Technology – McLean, Va.
- Program for Appropriate Technology in Health – Seattle, Wash.
- UPS Supply Chain Solutions<sup>SM</sup> – Atlanta, Ga.

## Action to Ensure Effective Supply Chains

The Supply Chain Management System (SCMS) supports developing countries in rapidly scaling up HIV/AIDS prevention, treatment and care, programs in three ways: 1) strengthening capacity of national supply chains to ensure long-term sustainability; 2) operating a safe, secure, affordable and reliable supply chain to buy and distribute essential medicines, HIV test kits, lab supplies, and other commodities; and 3) supporting supply chain collaboration and information-sharing by global and local partners in the HIV/AIDS community.

SCMS brings together 17 organizations to take advantage of best practices in the private and public sectors, including: the prevention of overstocks and stockouts by supporting national quantifications and forecasting; achieving best-price by aggregating orders and forming long-term contracts with brand and generic drug manufacturers; and ensuring the rapid and reliable re-supply of drugs through the establishment of secure regional distribution centers.

Now entering its second year of operation, SCMS has the full capability to procure and deliver millions of dollars worth of life-saving HIV/AIDS drugs and supplies to those who need them, and is working in PEPFAR focus countries to build the capacity of national supply chains. Joint teams, comprised of staff from SCMS and the USG, completed initial visits to all 15 focus countries. The purpose of these visits was to meet key stakeholders, make preliminary inquiries about USG needs for HIV/AIDS product procurement and technical assistance, and discuss the strengths of SCMS in fulfilling them.

As part of a separate initiative, SCMS recently was appointed Technical Lead, to support enhanced collaboration among PEPFAR, the World Bank, and the Global Fund in order to facilitate joint national procurement planning and supply chain management of HIV/AIDS commodities. Six pilot countries have been selected for the first phase of this activity, including Ethiopia, Guyana, Haiti, Mozambique, Rwanda, and Vietnam.

Country highlights include:

**Botswana:** In September, SCMS received an urgent request from the Ministry of Health through the PEPFAR team in Botswana for the procurement of infant formula. SCMS identified potential sourcing options and sought the necessary core funds to finance the emergency procurement of 280,000 tins of infant formula. This quantity was enough to meet the country's needs and bridge the gap until their regularly scheduled order arrived.

**Côte d'Ivoire:** SCMS has made multiple deliveries of HIV/AIDS-related commodities, such as ARVs and laboratory supplies, for USG-supported partner sites. SCMS and the USG PEPFAR team collaborated with key partners in a national ARV quantification exercise, which included the Elizabeth Glazer Pediatric AIDS Foundation, Global Fund, United Nations Development Program, and the Ministry of Health. As part of the ongoing capacity building, SCMS will conduct a laboratory quantification exercise that will include all partners and stakeholders.

**Ethiopia:** In collaboration with the Ministry of Health and Pharmid, an Ethiopian parastatal company, SCMS will support the distribution of all HIV/AIDS commodities, including those funded by PEPFAR. SCMS also will provide support to the Ethiopian Health and Nutrition Research Institute for the development of a comprehensive laboratory logistics system.

**Guyana:** SCMS is supporting the Ministry of Health in its efforts to strengthen warehousing and inventory management systems, by providing technical expertise, personnel training, and resources. In July, SCMS partnered with the MoH to open a new warehouse that is secure and temperature-controlled, using best-practice operating procedures for storing and distributing HIV/AIDS-related commodities. Through the newly created Guyana Quantification Stakeholders Group, a national quantification has been completed for ARVs and drugs used to treat opportunistic infections and sexually-transmitted infections.

**Haiti:** In September 2006, the USG team asked SCMS to assist with an emergency procurement of HIV test kits in Haiti, in order to prevent a potential stockout. The next day, 16,200 test kits were delivered to the SCMS warehouse in Port au Prince. As part of a capacity building effort, SCMS has conducted trainings in ARV Dispensing Tool, a patient-tracking and drug consumption software tool, as well as trainings in inventory management. SCMS also has conducted a national level quantification for anti-retrovirals, drugs for opportunistic infections, and laboratory equipment and supplies. In addition, SCMS designed a PEPFAR program management information system for the USG team.

**Kenya:** In collaboration with the USG team, and in an effort to support established supply chains operated by faith-based organizations, SCMS has continued its discussions with Mission for Essential Drugs (MEDS) to identify areas of potential collaboration. SCMS is planning to open a regional distribution center (RDC) in Nairobi in early 2007 to serve the HIV/AIDS commodity needs of East African focus countries.

**Mozambique:** An initial procurement work-plan has been developed for Mozambique, and the first ARV order was delivered in early 2007 through the SCMS southern Africa regional distribution center.

**Namibia:** In addition to general supply chain support for anti-retroviral treatment, SCMS will provide support to the Namibia Institute of Pathology in the development of laboratory logistics systems. In order to better support voluntary counseling and testing centers in Namibia, SCMS also will be assisting the Social Marketing Association in the development of a logistics system for HIV test kits.

**Nigeria:** SCMS procured and delivered HIV test kits to the USG Team in Abuja, via the Ghana regional distribution center. An urgent procurement of ARVs for the Nigerian Department of Defense also was delivered on time in 2006.

**Rwanda:** With the goal of supporting a well-developed procurement system, SCMS staff signed a subcontract, a memorandum of understanding, and a technical assistance plan with CAMERWA, the national public sector drug procurement and supply agency, in 2006. SCMS has used a national quantification exercise, carried out by the Rwanda's Treatment and AIDS Research Centre, to develop estimates for the procurement costs of ARVs, drugs for opportunistic infections, test kits, and laboratory supplies needed through March 2008. SCMS and CAMERWA issued joint contracts for PEPFAR commodities in December 2006. The first antiretrovirals will arrive in January 2007.

**South Africa:** In 2006, SCMS established a regional distribution center in Johannesburg to serve focus countries throughout the region. The distribution center will enable SCMS to provide a more rapid and regular supply of vital drugs and other commodities for HIV/AIDS programs.

**Tanzania:** SCMS completed a national-level assessment of the supply chain systems related to HIV/AIDS programs. In response to a Ministry of Health request, SCMS procured one million tablets of an ARV.

**Uganda:** SCMS is working with the Inter-Religious Council of Uganda (IRCU), to prepare them to launch an antiretroviral program in January 2007 that will scale up to treat 1,500 patients by the end of September 2007. SCMS is assisting IRCU with quantification and procurement of drugs. SCMS also has contributed to the development of a memorandum of understanding between the IRCU and the Joint Medical Stores, a faith-based organization, which will handle in-country warehousing.

**Vietnam:** SCMS has been working with the Government of Vietnam to procure antiretrovirals in support of the national AIDS treatment and care program. In August 2006, SCMS delivered its first shipment of generic antiretrovirals, and in November 2006 its first shipment of pediatric antiretrovirals.

**Zambia:** In September 2006, SCMS provided short-term technical support to the Ministry of Health's laboratory staff and partners, to conduct the national-level quantification of lab commodities. SCMS has made multiple deliveries of HIV test kits and antiretrovirals to support the national HIV/AIDS treatment and care program.



A warehouse staff worker in Rwanda verifies ARV shipment contents at CAMERWA.

Greg Roche