

## Free Executive Summary



### **Healers Abroad: Americans Responding to the Human Resource Crisis in HIV/AIDS**

Committee on the Options for Overseas Placement of U.S Health Professionals, Fitzhugh Mullan, Claire Panosian, Patricia Cuff, Editors

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*Healers Abroad: Americans Responding to the Human Resource Crisis in HIV/AIDS calls for the federal government to create and fund the United States Global Health Service (GHS) to mobilize the nation's best health care professionals and other highly skilled experts to help combat HIV/AIDS in hard-hit African, Caribbean, and Southeast Asian countries. The dearth of qualified health care workers in many low-income nations is often the biggest roadblock to mounting effective responses to public health needs. The proposal's goal is to build the capacity of targeted countries to fight the HIV/AIDS pandemic over the long run. The GHS would be comprised of six multifaceted components. Full-time, salaried professionals would make up the organization's pivotal "service corps," working side-by-side with other colleagues already on the ground to provide medical care and drug therapy to affected populations while offering local counterparts training and assistance in clinical, technical, and managerial areas.*

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## Executive Summary

Human beings are the heart of health care. It is their labor and their intellect that translate science and technology into healing and hope. Just as oils and brushes without painters cannot create art, drugs and diagnostics without health workers cannot create health care. Nowhere is this more evident today than in the fight against global HIV/AIDS, the greatest health crisis of our time. As of this writing in 2005, close to 40 million people harbor HIV, 95 percent of whom live in resource-poor areas. Even before the pandemic hit, the health systems in these areas were weak and understaffed. Since the disease emerged, the dearth of health workers to treat and care for these HIV-infected individuals has reached crisis proportions.

The few health professionals practicing in many of the countries highly impacted by HIV/AIDS—workers often stressed, ill prepared, and scant in number—must now cope with a staggering new burden of disease while at the same time acquiring the knowledge, skills, and technology to deliver lifelong antiretroviral drug regimens, HIV/AIDS clinical and palliative care, and prevention services. Arguably, their task represents the most profound challenge in the scaling up of health care the world has ever known. They cannot accomplish this task alone.

In this context, this report explores potential strategies for mobilizing U.S. health personnel and technical experts to assist in the battle against HIV/AIDS in 15 African, Caribbean, and Southeast Asian countries highly affected by the disease. Commissioned by the U.S. Department of State as part of a historic global health initiative—the President's Emergency Plan for AIDS Relief (PEPFAR)—the report presents the results of a study conducted by the Institute of Medicine's Committee on the Options for Over-

seas Placement of U.S. Health Professionals. In carrying out this study, the committee:

- Reviewed available data sources to project the optimum size and composition of a U.S. global health professions service program to augment, train, and collaborate with the public health and clinical professionals residing in the host countries
- Assessed the relative strengths and weaknesses of existing and potential organizational models for such a program that could rapidly be activated or adapted to recruit, train, and place program participants
- Articulated principles that can be applied in evaluating the advantages and disadvantages of those models
- Examined other contextual issues bearing on the successful implementation of a U.S. global health professions service program

In this report, the committee recommends a set of interconnected workforce enhancement programs that would meet the need to augment the health professional currently waging the fight against HIV/AIDS and other global diseases. The committee believes that, given adequate resources, talent, and political will, these programs would make an enormous contribution to the eventual control of these terrible afflictions.

## HUMAN RESOURCES FOR HEALTH

The health workforce in low-income countries has suffered from years of national and international neglect. Indeed, the dearth of qualified health care professionals represents the single greatest obstacle to meeting health care needs in most low-income countries (Narasimhan et al., 2004). The World Health Organization's (WHO) Commission on Macroeconomics and Health recently advocated a greatly increased investment in health, reaching a per capita expenditure of \$34 per year in low-income countries. At the same time, WHO stated that the main barrier to implementing this increased investment is not funding, but the capacity of the health sector itself to absorb the increased flow (Habte et al., 2004). As new resources continue to be mobilized to fight HIV/AIDS, tuberculosis, malaria, and other diseases, it is most unfortunate that an insufficient workforce is impeding the success of these investments. External grants and funding to address global HIV/AIDS, estimated at \$5 billion in 2003, could reach \$20 billion by 2007 (UNAIDS, 2004). At present, however, there is simply too little human capacity in many developing countries to absorb, apply, and make efficient use of these new funds and critical health initiatives.

What underlies the health workforce crisis? In many countries, including those with a high prevalence of HIV/AIDS, the inability to recruit and

retain an effective, well-motivated, appropriately skilled health workforce stems not only from HIV/AIDS itself, but from other problems as well, including low pay and morale, poor work conditions, and weak management. Some workers experience a combination of understaffed workplaces, low compensation, and civil service or public expenditure reforms that prevent recruitment of new staff. In recent years, these factors have fueled a trend for some health professionals to move from the public to the private sector, to migrate internationally in pursuit of more favorable opportunities, or to abandon their profession altogether.

The problem of insufficient human resources for health care is most acute in sub-Saharan Africa, which bears 25 percent of the world's overall burden of disease but houses only 1.3 percent of the world's health workforce. Currently, an estimated 750,000 health workers serve the 682 million people of sub-Saharan Africa. By comparison, the ratio of health care workers to population is 10 to 15 times higher in the countries of the Organization for Economic Cooperation and Development (HLF, 2004).

### COMPREHENSIVE CARE FOR HIV/AIDS IN DEVELOPING COUNTRIES

The prevention, care, and treatment of HIV/AIDS in developing countries will require unprecedented health systems and human resources to deliver medications and oversee patients *for the rest of their lives*. Ideally, a comprehensive approach to HIV/AIDS includes a range of components, including the following:

- Community and national treatment, care, and prevention guidelines
  - Education and awareness programs
  - Programs to address stigma and discrimination
  - Voluntary counseling and testing with informed consent in health facilities, along with services targeting vulnerable and difficult-to-reach populations
    - Prevention of mother-to-child transmission
    - Prevention and treatment of opportunistic and sexually transmitted infections
      - Antiretroviral therapy and monitoring, including essential laboratory and clinical backup and drug management systems
      - Embedded operations research programs designed to elucidate the most effective approaches to HIV/AIDS care and delivery in resource-limited settings
    - Adherence support
    - Social protection, nutrition, and welfare and psychosocial services

- Palliative and home-based care
- Bereavement support

In reality, however, models of health care delivery for HIV/AIDS must first reflect the capacities of host countries. For example, antiretroviral therapy should be initiated only if certain minimum conditions are met, including community preparedness, counseling and testing with informed consent, training of personnel for provision of antiretroviral drugs and follow-up, clinical and laboratory monitoring, reliable drug delivery systems, and education to maximize adherence. Should these conditions not be met, one of the gravest outcomes could be the emergence and wide-scale spread of resistance to antiretroviral drugs, an occurrence that would ultimately jeopardize the future treatment of all infected persons and populations around the world. Preventing such a catastrophe will require appropriate training, support, accreditation, and quality control of providers in both the public and private sectors during the scale-up of antiretroviral therapy (WHO, 2003a).

Experience with pilot programs has revealed several ways to integrate prevention and care efforts through various clinical entry points, including voluntary counseling and testing, sexual and reproductive health services, and other health services.

### **Voluntary Counseling and Testing**

Voluntary counseling and testing with informed consent is the key point at which people learn their HIV status and are offered care services, as well as behavioral and preventive advice. Studies have shown that voluntary counseling and testing consistently increases safe-sex behaviors (CDC, 2000; Spielberg et al., 2003; The Voluntary HIV-1 Counseling and Testing Efficacy Study Group, 2000; Weinhardt et al., 1999). Until recently, however, access to such services in countries most severely affected by HIV/AIDS has been limited. As a result, there are few developing countries in which more than 10 percent of the adult population has been tested (Fylkesnes and Siziya, 2004). Increased provision of voluntary counseling and testing services in developing countries—reaching geographically remote areas as well as community clinics and networks—must parallel the scale-up of other HIV-related efforts. Otherwise, limited availability of these services could prove to be an impediment to expanded treatment and care (Heiby, 2004).

### **Maternal–Child Services**

Antenatal services provide access to programs designed to prevent mother-to-child transmission of HIV and to allow HIV-infected women to

receive treatment and care during and after pregnancy, as well as advice for future pregnancies (WHO, 2003b). As part of worldwide efforts to expand access to such services and to antiretroviral therapy, routine testing of pregnant women (with the right to refuse) is recommended in the 2004 joint United Nations/WHO policy statement on HIV testing (UNAIDS Global Reference Group on HIV/AIDS and Human Rights, 2004). Without intervention, 35 to 40 percent of HIV-positive women transmit the infection to their infants; with drug prophylaxis and formula feeding, transmission is reduced to 5 to 10 percent, while with combination antiretroviral therapy, transmission falls below 1 percent (Nolan et al., 2002).

### Caregiving and Palliation

Despite new global initiatives, many medically eligible patients in developing countries will not receive antiretroviral therapy over the next few years. Caregiving and palliative measures—generally defined as pain and symptom management, advance care planning, prioritization of life goals, and support for individuals and families throughout the course of disease—will be essential elements of all comprehensive HIV/AIDS programs. The provision of such services is a pressing need in Asia (Coughlan, 2003) as well as in Africa (Ramsay, 2003). One survey of 48 palliative care services for patients with AIDS in Africa found that 94 percent had faced obstacles, especially a lack of trained providers, stigma, and government restrictions on access to such palliative treatments as oral morphine. Yet medically treating and controlling pain and other symptoms in the terminal phases of AIDS allows many patients to stay in their homes without the cost or disruption of transferring them to hospitals (Harding et al., 2003).

### THE PRESIDENT'S EMERGENCY PLAN FOR AIDS RELIEF

During his State of the Union address on January 28, 2003, President George W. Bush announced the \$15 billion PEPFAR initiative, with the following 5-year goals: (1) providing antiretroviral therapy for 2 million people; (2) preventing 7 million new HIV infections; and (3) providing care to 10 million people infected with or affected by HIV/AIDS, including orphans and vulnerable children. In May 2003, the U.S. Congress passed authorizing legislation (United States Leadership against HIV/AIDS, Tuberculosis, and Malaria Act of 2003) for the plan. Legislative provisions recommended the following targeted distribution of funds: treatment (55 percent), prevention (20 percent), palliative care (15 percent), and care of orphans and vulnerable persons (10 percent). This unprecedented global health initiative placed the United States at the forefront of international efforts targeting HIV/AIDS. Today PEPFAR accounts for more than 50 percent of annual global funding.

PEPFAR now encompasses HIV/AIDS activities in more than 100 countries, but is focused on the development of comprehensive and integrated prevention, care, and treatment programs in 15 countries: Botswana, Cote d'Ivoire, Ethiopia, Guyana, Haiti, Kenya, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Uganda, Zambia, and Vietnam. The original 14 countries in Africa and the Caribbean represent 50 percent of the world's HIV/AIDS burden. Vietnam was added to the list in July 2004 as a result of its projected eight-fold rise in HIV infections from 2002 to 2010 (Office of National AIDS Policy, 2004).

## RECOMMENDATIONS

To meet the needs outlined above, the committee proposes the creation of a Global Health Service (GHS), a new national initiative encompassing six interconnected programs designed to mobilize, prepare, send, manage, and compensate U.S. health professionals for service in the 15 PEPFAR focus countries. The mission of the GHS is to be flexible and responsive to the needs for human resources for health identified by those countries whose citizens are most affected by the HIV/AIDS pandemic and other global scourges; to provide expertise in the form of clinicians, technical advisers, trainers, and mentors; and to establish enduring relationships among global colleagues. The following guiding principles frame the GHS effort as envisioned by the committee:

- Country responsiveness
- Interdisciplinary, cross-cutting approaches
- Training for self-sufficiency
- Nondepletion of the local health care workforce
- Multiplier effect
- Sustained involvement and ownership

The committee's first two recommendations address the creation of the GHS and the overall management of its six component programs. The six recommendations that follow deal in turn with each of those programs.

**Recommendation 1: *Create a U.S. Global Health Service.*** The committee discussed the importance of establishing a clear identity for programs designed to mobilize health personnel for service in combating HIV/AIDS in highly impacted countries. A well recognized identity—a brand—was felt to be essential to the creation of mission and the promotion of volunteerism. **Therefore the committee recommends the establishment of a U.S. Global Health Service to serve as the umbrella organization for the initiatives and programs to be proposed in this report.**



**Recommendation 1a: *Mobilize providers and capacity developers.*** The committee believes that a wide variety of health professionals and other key technical and management personnel will be essential for achieving the PEPFAR goals of treating 2 million HIV-infected people, preventing 7 million new HIV infections, and caring for 10 million HIV-affected individuals and vulnerable children (the 2-7-10 PEPFAR goals), as well as for building the long-term capacity necessary to control HIV/AIDS, tuberculosis, and malaria. Therefore, the committee recommends that the programs of the U.S. Global Health Service initially focus on the mobilization of clinicians, technicians, and management personnel in direct response to specified in-country needs to achieve PEPFAR goals. In view of the lack of human resources for health in PEPFAR focus countries and many other developing countries, education, training, and development of new, effective configurations of health care delivery in resource-poor settings will take high priority among the U.S. Global Health Service's activities.

As envisioned by the committee, the GHS encompasses a suite of programs under a single banner. The committee believes the parent program should be housed within the U.S. government, although certain activities and functions could be contracted to experienced nongovernmental organizations. A government-based program would enhance the international credibility, transparency, and clarity of purpose of the GHS; position it closer to the federal appropriations process; and sustain its close relationship to PEPFAR. In addition, a single management structure would serve as a focal point for legislation, budget, and administration while allowing the parent office to maximize efficiency and streamline operations. At the same time, however, the use of private-sector contracts and public-private partnerships is crucial to foster creative solutions, to supplement financing, and to enhance administrative flexibility. While a variety of programs to mobilize U.S. health professionals for service abroad already exist, none embodies the scope and values of the proposed GHS.

**Recommendation 2: *Manage the programs of the U.S. Global Health Service in a unitary fashion.*** The committee recommends that the programs of the U.S. Global Health Service be managed in a unitary fashion to provide maximum synergy, coordination, and clarity of purpose. Fiscal, administrative, and management matters should be handled by the single organizational entity that would be dedicated to the mission of mobilizing U.S. personnel to work in PEPFAR focus countries. Finally, in order for the U.S. Global Health Service to relate closely to PEPFAR and to participate in the annual federal budget process, the committee recommends that the U.S. Global Health Service should be a program of the federal government. In order to be



successful, the U.S. Global Health Service needs to collaborate with the private sector, nongovernmental organizations, and public–private matching programs.

Public input to the management of such a high-visibility global program is important for maintaining a balanced view. The committee believes that the best mechanism to this end would be an external advisory committee. Recognizing the fundamental importance of involving partners in the development and ongoing operation of the GHS, the committee believes further that the members of the advisory committee should include colleagues from the PEPFAR focus countries and nongovernmental organizations, as well as other key collaborators from the United States and abroad.

**Recommendation 2a: *Establish an advisory committee for the Global Health Service that includes international members.*** The committee recognizes the fundamental importance of involving partners in the development and ongoing operation of the U.S. Global Health Service. These partners would include colleagues from nongovernmental organizations, PEPFAR countries, and other key collaborators from the United States and abroad. **The committee recommends the creation of a policy-level advisory committee with international colleagues and a commitment to the strategic engagement of public and private partners in the planning, operation, and evaluation of the U.S. Global Health Service.**

As noted above, the GHS envisioned by the committee encompasses six interconnected programs. The committee believes this package of programs would significantly augment human resource capacity in support of the PEPFAR goals outlined earlier. The six programs are as follows:

- Global Health Service Corps
- Health Workforce Needs Assessment
- Fellowship Program
- Loan Repayment Program
- Twinning Program
- Clearinghouse

### Global Health Service Corps

The lack of skilled and trained health professionals is one of the principal barriers to the rapid scale-up of HIV/AIDS prevention and treatment programs in the PEPFAR focus countries (Adano et al., 2004; Wyss, 2004a, b). A range of skills is needed, particularly at the level of key clinical, managerial, and technical leadership positions essential to developing

the infrastructure of HIV/AIDS treatment systems (WHO, 2002). Because of the specialized nature of these positions and the long-term requirements of the work, volunteer health professionals and those with short-term availability will be of limited utility in addressing core country-level needs. It would be the role of the Global Health Service Corps, working with public health leaders in the PEPFAR focus countries, to provide specialized health personnel for extended assignments to fill these positions and accelerate program scale-up. These highly skilled professionals would be full-salaried employees working in the 15 focus countries for extended periods, yet the cost of their salary and benefits is estimated roughly at only 1 percent of the total PEPFAR budget.

**Recommendation 3:** *Establish a U.S. Global Health Service Corps to send key health personnel to PEPFAR countries on a full-time/long-term basis.* The committee recommends the establishment of a full-salaried/long-term U.S. Global Health Service Corps for the recruitment, placement, and support of U.S. health, technical, and management professionals in PEPFAR countries. Because of the critical and highly visible nature of this Corps and the necessity for it to coordinate closely with PEPFAR, the committee further recommends that it be established and administered as a program of the federal government. U.S. Global Health Service Corps professionals should be selected and deployed based on the prioritized needs identified by ministries of health in conjunction with in-country PEPFAR teams. Assignments will be made for a minimum of 2 years with placements in areas and programs where Corps members' presence would have maximum impact on enhancing the human capacity to prevent and treat HIV/AIDS. The committee proposes an initial deployment of 150 U.S. Global Health Service Corps professionals in the 15 PEPFAR countries based on needs assessment, placement development, and the availability of professionals with the required skills.

### Health Workforce Needs Assessment

The GHS would be responsible for sending health and other professionals from the United States to countries with substantiated needs for specific forms of assistance. Conducting an assessment of health workforce needs is therefore an essential early step (MSH, 2004). Currently, the PEPFAR countries vary in the ways they collect and analyze data on their human resource capacity for health care. Lack of consistency also characterizes the monitoring of health workforce development strategies in these countries (Diallo et al., 2003). Although all of the focus countries have strategic plans through the U.S. Agency for International Development,

these plans were not designed to address human resource issues and are therefore not useful for the purpose. Country Plans drafted by U.S. government teams in each PEPFAR country were not available for review as of this writing.

**Recommendation 4: *Undertake a uniform health workforce needs assessment.*** The committee recommends that the PEPFAR country teams, in collaboration with ministries of health, initiate assessments of in-country requirements for health personnel to achieve PEPFAR goals. These assessments should form the basis for national human resources for health plans. These assessments would also generate a valuable baseline inventory for all mobilization programs and subsequent evaluation activities. The data from all countries should be collected in a standardized fashion, updated regularly, and maintained in the electronic database of the U.S. Global Health Service Clearinghouse “Opportunity Bank,” available to professionals interested in service in PEPFAR countries. Timely and accurate information on workforce needs will be essential to maximize the impact of programs designed to mobilize health personnel to achieve PEPFAR goals. Current national needs assessments are irregular, nonstandardized, and not available at any single site. Local placement strategies and global recruitment efforts would be greatly strengthened by a regularized needs assessment and dissemination initiative.

### Fellowship Program

The GHS Fellowship Program would provide incentives to encourage qualified health personnel who wish to work abroad to serve within the framework of the PEPFAR mission. The structure of the proposed fellowship program would engage professionals by reducing financial and logistical barriers, while also focusing their activities to align with the PEPFAR goals. Much like the prestigious Fulbright awards, the GHS Fellowships would confer honor and professional recognition on their recipients.

**Recommendation 5: *Create a U.S. Global Health Service Fellowship Program.*** The committee recommends the creation of a U.S. Global Health Service Fellowship Program that would provide professional recognition and a \$35,000 award to qualified U.S. personnel to enable commitment to programs of service in PEPFAR countries. This competitive program would fund a prestigious award to individuals willing to make medium-term commitments of 1 year or longer to provide health care, training, and technical assistance in countries in need. It

would provide career-long recognition as well as immediate financial assistance.

### Loan Repayment Program

Given the growing levels of educational debt incurred by today's health professionals, loan repayment is a benefit that can reduce barriers to service. In the academic year 1996–97, medical students borrowed more than \$1.11 billion, and fully 83.2 percent of the 1997 graduating class had incurred educational debt (Beran and Lawson, 1998). In 2003–04, tuition and fees at public medical schools averaged \$16,153 and at private schools reached a staggering \$32,588 (Jolly, 2004). This financial burden could potentially leave a young medical professional with a debt ranging from \$140,000 to \$255,000, making the concept of exchanging debt for service highly appealing (Morrison, 2005).

**Recommendation 6: *Establish a U.S. Global Health Service Loan Repayment Program.*** The committee recommends the establishment of a U.S. Global Health Service Loan Repayment Program for clinical, managerial, and technical professionals prepared to serve for designated periods in PEPFAR focus countries. This program would provide \$25,000 toward scholastic debt reduction for each year of service in PEPFAR focus countries. Clinical, managerial, and technical professionals graduate from training programs today with substantial debts that limit their ability to consider voluntary or less remunerative work. A loan repayment program would expand the pool of professionals who could consider service abroad and make many more skilled individuals available to address PEPFAR goals.

### Twinning Program

The establishment of partnerships between U.S. health professionals and local organizations such as hospitals, universities, nongovernmental organizations, and public health agencies—often referred to as twinning programs—offers a number of key advantages. Having such an existing structure can strengthen the host country workforce by allowing the rapid deployment of foreign health professionals to fill personnel voids, to provide relevant training together with colleagues in their host's home environment, and to train trainers who can facilitate expanded knowledge in specific areas such as HIV care and prevention (ICAD and CI, 2002). U.S. professionals could also temporarily substitute for local staff while the latter traveled off site for much-needed training. The ability offered by such

programs to quickly mobilize U.S. personnel would be critical to short-staffed institutions in the PEPFAR focus countries.

**Recommendation 7: *Promote twinning as a mechanism to mobilize health personnel.*** The committee recommends long-term, targeted funding for innovative, institutional partnerships that would mobilize U.S. health personnel to work in PEPFAR countries. Often called “twinning,” these bidirectional partnerships (which encompass counterpart organizations ranging from hospitals and universities to nongovernmental organizations and public health agencies) develop institutional capacities and create a sustainable relationship between the partners that extends beyond the life of the defined project. It is a bilateral arrangement that can develop collaboration in many areas but stands to be a particularly helpful instrument to augment teaching, training, and service capacities in combating HIV/AIDS. Twinning should be supported between a variety of U.S. and PEPFAR country-based institutions that are most relevant to meeting PEPFAR targets and harmonizing with PEPFAR country operating plans, especially public-sector health agencies. Twinning is a mechanism that can move skilled personnel from a sending organization to a host organization to provide support, training, and technical assistance. It provides a ready-made structure in host countries for U.S. health professionals to engage with maximum speed and effectiveness.

### Clearinghouse

Many organizations currently send health professionals to work in the PEPFAR focus countries. Given their experience, these groups are well poised to assist in HIV/AIDS treatment, prevention, and care, thus helping to achieve the PEPFAR goals. A virtual network of such organizations could provide and receive relevant information and regularly reach thousands of volunteers.

**Recommendation 8: *Develop a U.S. Global Health Service Clearinghouse.*** There are many organizations currently mobilizing health personnel to work in PEPFAR countries. These organizations could be powerful allies in meeting PEPFAR goals. Therefore the committee recommends a multifaceted Clearinghouse for the U.S. Global Health Service that would facilitate information exchange, enhance access to program data, and provide opportunity information for interested health professionals.

The proposed Clearinghouse would include the following:

- **Program Resource Directory and Networks**—a searchable, web-based directory that would provide screened, reliable links enabling interested volunteers to view sending organizations' websites, thus facilitating organizational recruitment.
- **Opportunity Bank**—a job bank of available host-country positions that would be a valuable tool for U.S. professionals wishing to work in the PEPFAR focus countries as a volunteer or a paid employee.
- **Cultural and Strategic Issues Reference Site**—a virtual warehouse of information pertinent to all health professionals planning to work in the PEPFAR focus countries, including those seeking a GHS Fellowship, loan repayment, or assignments to the GHS Corps.
- **Country Credentials and Travel Guidelines Repository**—a compendium of updated virtual information designed to assist prospective volunteers in applying for work in the global arena.

## LOOKING AHEAD

The committee concluded its work by considering various approaches holding promise for enhancing and sustaining the global health workforce in both low- and high-resource countries into the future.

### Development of Long-Term Health Workforce Capacity

The GHS is envisioned as a strategic and humanitarian intervention in settings that currently lack sufficient human resources for health to mount a counterattack on HIV/AIDS. The six programs of the GHS are not intended to produce a permanent workforce or to substitute for the development of health personnel capacity in the PEPFAR nations. The long-term sustainability of the program must be a priority for both the PEPFAR countries and the United States. Over time, all the PEPFAR countries will have to develop sufficiently capable and sustainable workforces to continue HIV/AIDS prevention and treatment programs into the foreseeable future. There is a strong rationale for U.S. health professionals, as well as other foreign workers, to help establish self-sufficiency in these countries through training, skill development, partnership, and other forms of human resource support.

The committee believes that national capacity development in each PEPFAR focus country should entail the following steps:

1. Each country should undertake a health workforce needs assessment as part of or a complement to its overall national plan.

2. National education and training should be accelerated to develop the human resources needed to address the HIV/AIDS epidemic and meet primary health care needs.

3. The work environment for health professionals should ensure staff retention and encourage employees to maintain an acceptable level of job performance.

4. The “brain drain” should be stopped by dampening demand in richer countries that continue to recruit skilled health workers.

5. Where necessary, priority programs and health systems should be harmonized to avoid fragmentation, duplication, and waste.

Although the development of long-term health professional capacity must be a priority for host countries, the United States can take significant actions to assist in the effort. Foremost among these is investing in the development of health workforce capacity. Medical and nursing schools need to be built and staffed. Midlevel provider programs that offer continuing education and advanced training need to be promoted and funded. Community and village health workers need to be trained by the thousands and equipped with standardized basic skills for HIV/AIDS work.

At the same time, the United States has a key role to play in creating stability in the health sector of developing countries by ending the brain drain of physicians, nurses, and other skilled health personnel. This out-migration is triggered by the failure of the United States and other developed nations to educate sufficient health professionals to meet their domestic needs (Stilwell et al., 2004). The resultant exodus of scarce human resources is a prominent barrier to building in the health workforce needed in the PEPFAR focus countries to meet the increased demands of HIV/AIDS treatment and prevention.

### **Creative Partnerships**

Increasingly employed in comprehensive development frameworks, public–private partnerships have featured prominently in international health in recent years. In 2003, 91 international arrangements in the health sector qualified as public–private partnerships; 76 of these were dedicated to the control of HIV/AIDS or other infectious diseases. Notable examples include partnerships orchestrated principally by large multinational companies, as well as those initiated by nongovernmental organizations working with corporations. Individual governments have also formed partnerships with for-profit private entities or nongovernmental organizations with particular technical or outreach strengths. A variety of creative public–private partnerships focused on the health workforce mission of PEPFAR can be



envisioned. The committee believes that alliances between the GHS and the private sector in particular should be supported and encouraged.

### E-Health

E-health is defined as the use of technology to exchange actionable information to facilitate the delivery of health services. E-health allows health professionals to overcome barriers of time and distance, bringing expertise, education, and training to remote locations and providing services that poor, isolated communities would otherwise lack. An example is the use of personal digital assistants for the management of antiretroviral therapy, patient record keeping, patient tracking, data collection, and knowledge building. Such e-health applications could support the scale-up of HIV/AIDS care and treatment in PEPFAR focus countries by:

- Enabling health care workers to increase their efficiency and effectiveness
- Providing the local health care establishment with immediate access to experts and expert centers in the United States and elsewhere
- Offering individual support to overseas professionals to enable and encourage longer deployments

### Global Health Education in the United States

Global health education is more than the study of diseases of the developing world; it involves a matrix of many converging factors—economic, cultural, historical, political, and environmental—that influence health and disease worldwide. Interest in global health among U.S. medical students and postgraduate residents is currently at a high level; in 2003, more than 20 percent of students graduating from U.S. medical schools spent time abroad, compared with just 6 percent in 1984 (AAMC, 1984, 2003). This level of interest suggests that a sizable pool of U.S. health professionals is open to overseas work opportunities linked to global service. To meet the educational needs of these students and the national interests of the United States, the committee supports upgraded, multidisciplinary global health curricula and appropriate professional consortia within both health professional schools and other educational settings.

### THE CHOICE TO ACT

This report proposes a set of measures with the potential to augment and accelerate the mobilization of U.S. health professionals for the battle

against HIV/AIDS. Each of these measures represents an option that could be adopted either by using the current PEPFAR authority or by initiating new legislative or administrative action. The idea of a Global Health Service, however, goes far beyond its individual elements. HIV is global, relentless, and highly mutable—a truly terrifying adversary. The counterattack against HIV/AIDS must be equally bold and inventive, marshaling science, financial resources, and personal commitment. The GHS is proposed as an instrument of such a counterattack, an organization that would appeal to the heads and hearts of U.S. health professionals and engage them in growing numbers to join the campaign against the global scourge of HIV/AIDS.

## REFERENCES

- AAMC (Association of American Medical Colleges). 1984. *Medical School Graduation Questionnaire All Schools Report*. Washington, DC: AAMC.
- AAMC. 2003. *Medical School Graduation Questionnaire All Schools Report*. Washington, DC: AAMC.
- Adano U, O'Neil M, Decima E, Kiarie W. 2004. *Rapid Assessment of the Human Resource Implications of Scaling Up HIV/AIDS Services in Uganda Progress Report 1 & 2*. Management and Leadership Development Project/USAID. Boston, MA: Management Sciences for Health.
- Beran RL, Lawson GE. 1998. Medical student financial assistance, 1996–1997. *Journal of the American Medical Association* 280:819–820.
- CDC (Centers for Disease Control and Prevention). 2000. Adoption of protective behaviors among persons with recent HIV infection and diagnosis—Alabama, New Jersey, and Tennessee, 1997–1998. *Morbidity and Mortality Weekly Report* 49(23):512–515.
- Coughlan M. 2003. Pain and palliative care for people living with HIV/AIDS in Asia. *Journal of Pain & Palliative Care Pharmacotherapy* 17(3-4):91–104; discussion 105–106.
- Diallo K, Zurn P, Gupta N, Dal Poz M. 2003. Monitoring and evaluation of human resources for health: An international perspective. *Human Resources for Health* 1(3).
- Fylkesnes K, Siziya S. 2004. A randomized trial on acceptability of voluntary HIV counselling and testing. *Tropical Medicine and International Health* 9(5):566–572.
- Habte D, Dussault G, Dovlo D. 2004. Challenges confronting the health workforce in sub-Saharan Africa. *World Hospitals & Health Services* 40(2):23–26, 40–41.
- Harding R, Stewart K, Marconi K, O'Neill JF, Higginson IJ. 2003. Current HIV/AIDS end-of-life care in sub-Saharan Africa: A survey of models, services, challenges and priorities. *Biomed Central Public Health* 3(1):33.
- Heiby J. 2004. (December 1). *Quality of Care and Human Resources in HIV Healthcare Programs*. Presentation at the December 1, 2004, Workshop of the IOM Committee on Options for the Overseas Placement of U.S. Health Professionals, Washington, DC.
- HLF (High Level Forum on the Health Millennium Development Goals). 2004. *Addressing Africa's Health Workforce Crisis: An Avenue for Action*. Abuja, Nigeria: World Bank and WHO.
- ICAD and CI (Inter-agency Coalition on AIDS and Development and Communication Initiative). 2002. *Twinning Against AIDS*. Quebec, Canada: Canadian International Development Agency. [Online]. Available: [http://www.comunit.com/pdf/twinning\\_against\\_AIDS\\_Final\\_Report.pdf](http://www.comunit.com/pdf/twinning_against_AIDS_Final_Report.pdf) [accessed March 11, 2005].

- Jolly P. 2004. *Medical School Tuition and Young Physician Indebtedness*. Washington, DC: AAMC.
- Morrison G. 2005. Mortgaging our future: The cost of medical education. *New England Journal of Medicine* 352(2):117–119.
- MSH (Management Sciences for Health). 2004. Tackling the crisis in human capacity development for health services. *The Manager* 13(2):1–20.
- Narasimhan V, Brown H, Pablos-Mendez A, Adams O, Dussault G, Elzinga G, Nordstrom A, Habte D, Jacobs M, Solimano G, Sewankambo N, Wibulpolprasert S, Evans T, Chen L. 2004. Responding to the global human resources crisis. *Lancet* 363(9419):1469–1472.
- Nolan ML, Greenberg AE, Fowler MG. 2002. A review of clinical trials to prevent mother-to-child HIV-1 transmission in Africa and inform rational intervention strategies. [Review] [51 refs]. *AIDS* 16(15):1991–1999.
- Office of National AIDS Policy. 2004. *Fact Sheet: Extending and Improving the Lives of Those Living with HIV/AIDS*. [Online]. Available: <http://www.whitehouse.gov/news/releases/2004/06/20040623-1.html> [accessed March 1, 2005].
- Ramsay S. 2003. Leading the way in African home-based palliative care. Free oral morphine has allowed expansion of model home-based palliative care in Uganda. *Lancet* 362(9398):1812–1813.
- Spielberg F, Camp S, Ramachandra E. 2003 (July 27–30). *HIV Home Self-testing: Can It Work? (Abstract M1-A0101)*. Presented at the July 27–30, 2003, National HIV Prevention Conference, Atlanta, GA.
- Stilwell B, Diallo K, Zurn P, Vujicic M, Adams O, Dal Poz M. 2004. Migration of health care workers from developing countries: Strategic approaches to its management. *Bulletin of the World Health Organization* 82(8):559–636.
- The Voluntary HIV-1 Counseling and Testing Efficacy Study Group. 2000. Efficacy of voluntary HIV-1 counseling and testing in individuals and couples in Kenya, Tanzania, and Trinidad: A randomized trial. *Lancet* 356(9224):103–112.
- UNAIDS (Joint United Nations Programme on HIV/AIDS). 2004. *2004 Report on the Global AIDS Epidemic: 4th Global Report*. Geneva, Switzerland: UNAIDS.
- UNAIDS Global Reference Group on HIV/AIDS and Human Rights. 2004. *UNAIDS/WHO Policy Statement on HIV Testing*. Geneva, Switzerland: WHO.
- Weinhardt LS, Carey MP, Johnson BT, Bickham NL. 1999. Effects of HIV counseling and testing on sexual risk behavior: A meta-analytic review of published research, 1985–1997. *American Journal of Public Health* 89(9):1397–1405.
- WHO (World Health Organization). 2002. *World Health Organization ARV Toolkit*. [Online]. Available: <http://www.who.int/hiv/toolkit/arv/en/content.jsp?ID=193&cd=arv.06.01> [accessed March 10, 2005].
- WHO. 2003a. *Emergency Scale-Up of Antiretroviral Therapy in Resource Limited Settings—Technical and Operational Recommendations to Achieve 3 by 5; Report of the WHO/UNAIDS International Congress Meeting on Technical and Operational Recommendations for Emergency Scaling-Up of Antiretroviral Therapy in Resource-Limited Settings*. Lusaka, Zambia, November 18–21, 2003.
- WHO. 2003b. *Strategic Approaches to the Prevention of HIV Infections in Infants; Report of a WHO Meeting, Morges, Switzerland, March 20–22, 2002*. Geneva, Switzerland: WHO.
- Wyss K. 2004a. *Scaling-Up Antiretroviral Treatment and Human Resources for Health: What Are the Challenges in Sub-Saharan Africa?* Berne, Switzerland: Swiss Agency for Development and Cooperation.
- Wyss K. 2004b. *Human Resources for Health Development for Scaling-Up Antiretroviral Treatment in Tanzania*. Basel, Switzerland: Swiss Tropical Institute.



# HEALERS ABROAD

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Americans Responding to the Human Resource Crisis in HIV/AIDS

Committee on the Options for Overseas Placement of  
U.S. Health Professionals

Board on Global Health

Fitzhugh Mullan, Claire Panosian, Patricia Cuff, *Editors*

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Willing is not enough; we must do.”*  
—Goethe



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This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their review of this report:

**J. Lyle Bootman**, Arizona Health Sciences Center, University of Arizona,  
Tucson, Arizona

**Larry Culpepper**, Boston University Medical Center, Boston, Massachusetts

**John Idoko**, Jos University Teaching Hospital, Jos, Nigeria

**Noddy Jinabhai**, School of Family and Public Health, Nelson R. Mandela  
School of Medicine, University of KwaZulu-Natal, Durban, South  
Africa

**Peter Okaalet**, MAP International, Nairobi, Kenya

**Jean W. Pape**, Weill Medical College of Cornell University, New York

**Susan C. Scrimshaw**, University of Illinois, Chicago, Illinois

**Deborah von Zinkernagel**, Pangaea Global AIDS Foundation

**Suwit Wibulpolprasert**, Ministry of Public Health, Thailand

Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations nor did they see the final draft of the report before its release. The review of this report was overseen by **Paul A. Volberding, M.D.**, Professor and Vice-Chair, Department of Medicine, University of California, San Francisco; and **Harold J. Fallon, M.D.**, Dean Emeritus, School of Medicine, University of Alabama at Birmingham. Appointed by the National Research Council and Institute of Medicine, they were responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the institution.



## Preface

Today, 14,000 people will contract HIV, and another 8,500 will die from AIDS. Malaria and tuberculosis (TB) will each claim roughly 3,000 more lives. These same cruel events will take place tomorrow and the next day and next week and next month. The death toll will only spiral upward as the HIV epidemic continues its global spread.

The terrible pandemic of HIV/AIDS has triggered an extraordinary response—a global counterattack mounted by international organizations, national governments, private philanthropies, pharmaceutical companies, churches, and individuals. The United Nations Global Fund, the World Health Organization's 3 × 5 Initiative, The World Bank, the Bill and Melinda Gates Foundation, national foreign aid programs, numerous faith-based groups, corporations, and nongovernmental organizations are committing funds, medications, and personnel to the battle against HIV/AIDS. The U.S. government joined the battle in earnest when Congress enacted President George W. Bush's Emergency Plan for AIDS Relief (PEPFAR) and earmarked \$15 billion for the campaign. This broad range of global commitments has brought about a new era of possibility in preventing and treating HIV/AIDS and caring for those affected by the disease.

The campaign against HIV/AIDS has no precedent. Smallpox was defeated by a globally coordinated search-and-destroy strategy requiring only a single patient encounter to deliver the vaccine. In contrast, the strategy of directly observed therapy that lies at the core of modern TB treatment necessitates daily patient contact over much of the treatment course and therefore a far larger health workforce. Fighting HIV/AIDS will require the daily delivery of medications and the clinical management of

patients *for the rest of their lives*. The sheer volume of health workers—and support systems—needed to wage this battle is well beyond anything before required of a public health campaign. The challenge is compounded by a chronic paucity of doctors, nurses, and other health personnel in many of the low-income countries targeted by PEPFAR where the epidemic is most fulminant. Sub-Saharan Africa, for instance, bears 25 percent of the world's overall burden of disease and 60 percent of the world's HIV/AIDS burden but has only 1.3 percent of the world's health workforce. There is one physician for every 360 people in the United States as compared with one for every 30,000 in Mozambique; one nurse exists for every 125 people in the United States but only one for every 5,000 in Uganda. There are 11 pharmacists in Rwanda.

Simply put, fighting HIV/AIDS in much of the world means building human health care capacity. No meaningful counterattack can occur without an adequate force of qualified health personnel to plan, implement, and sustain the campaign. In recognition of this fact, the PEPFAR legislation called for a pilot program to mobilize U.S. health professionals to work overseas in support of the plan's mission. The Office of the U.S. Global AIDS Coordinator at the Department of State, in turn, asked the Institute of Medicine to convene a committee to conduct a rapid study of options for such a program and report its recommendations. Motivated by the urgency of the global need and the historic opportunity to contribute to public health policy, the committee carried out its charge with intensity, speed, and a sense of mission.

*Healers Abroad* is the product of that effort. Drawing on the extensive and varied experience of the committee members, testimony from health workers in the field, and the published literature on the global health workforce, the committee recommends programs in six key areas. Implementation of these recommendations would augment and accelerate the mobilization of U.S. health personnel to PEPFAR focus countries to help strengthen health care capacity and develop collaborative partnerships abroad. The committee also recommends that these programs be managed in a closely coordinated fashion as the Global Health Service. The resulting program would both symbolize the commitment of the people of the United States and catalyze the movement of U.S. health personnel overseas to help in the global counterattack on HIV/AIDS. It would be a program with a human face, combining the powerful tradition of people-to-people assistance with the best in contemporary health science and information technology. It would be a program of strategic humanitarianism, providing the support required by U.S. health professionals to assist people in need and to train counterpart health personnel abroad. The Global Health Service would help to stabilize societies at risk and demonstrate American compassion and civic spirit.

It is the committee's hope that this report will contribute to the success of PEPFAR and prove useful to others concerned with building a health workforce sufficient to meet the global HIV/AIDS challenge. It is our further hope that the report will be remembered as an early blueprint contributing to a new, enduring, and robust role for U.S. health professionals in improving global health.

Fitzhugh Mullan  
Committee Chair



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The committee recognizes the tremendous efforts of several individuals whose contributions invigorated discussions at its meetings and enhanced the quality of this report. For their expert advice, opinions, and willingness to assist, the committee thanks consultants Thomas Denny, Bjorg Palsdottir, and Kai Spratt, and its Board on Global Health liaison, Richard Guerrant. Special appreciation goes to writer and senior consultant Claire Panosian, whose skill in transforming ideas into words was instrumental in articulating the spirit of the committee's work. The committee also acknowledges with great thanks the testimony of Barbara Stilwell, Ummuro Adano, James Heiby, Gilbert Kombe, Antoine Augustin, Eric Krakauer, King Holmes, Col. Maureen Coleman, Gail Reed, Paul Dirdak, Ky Luu, Brian Palmer, Elise Frederick, Karen Hein, Ronald Campbell, Mike St. Louis, Thurma McCann Goldman, Don Weaver, Jack Hawkins, Nancy Kelly, Holly Burkhalter, Eric Friedman, Fred Valentine, Robert Einterz, Michael Scheld, Daniel Wikler, John Shippee, James Smith, Xingzhu Liu, Holly Ladd, and Rebecca Riccio. Additional thanks go to Stephen Moore, Annalisa Trama, Paul Moffat, Lydia Mungherera, and Chuka Anude for their written testimony from the field. Special recognition goes to Michael St. Louis, Estelle Quain, and Michele Moloney-Kitts for their extra effort and repeated attention to the ongoing provision of information and support for the study.

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