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AFRICA HEALTH NEWS

PEPFAR

NEW 5-YEAR STRATEGY FOCUSES ON STRENGTHENING AFRICAN LEADERSHIP

Over the next five years, the President's Emergency Plan for AIDS Relief (PEPFAR) will focus on building sustainable programs that more strongly support on-the-ground leadership by African health ministries, and that strengthen national health systems beyond the response to the HIV/AIDS epidemic. It will also focus more aggressively on prevention in an effort to curb the estimated 2.7 million new infections each year.

"Given that the AIDS epidemic represents a shared global burden among nations, the next phase of PEPFAR represents an opportunity for the United States to support shared responsibility with partner countries," PEPFAR's Five-Year Strategy, released in December, stated. "To seize this opportunity, PEPFAR is supporting countries in taking leadership of the responses to their epidemics."

The new strategy lays out how PEPFAR will transition from being an emergency response to the AIDS crisis in "focus" countries to funding treatment and prevention programs that are implemented and sustained within a partner country's broader health system.

Since it was launched in 2003, PEPFAR has supported antiretroviral (ARV) treatment for more than two million people, provided care for more than 10 million people - including four million children orphaned or made vulnerable by AIDS - and made available services to prevent mother-to-child transmission of HIV during nearly 16 million pregnancies. In 2008, the U.S. Congress reauthorized an additional $48 billion to fight AIDS, tuberculosis and malaria through 2013.

"We've created a very good start at what was an emergency response. We now need to move that emergency response into a sustained response," said Dr. Eric Goosby, the U.S. Global AIDS Coordinator. "It's a harder lift, it's not flashy, it's not as rapid in our ability to deploy and put in place. But it is more durable."

Ensuring the sustainability of HIV/AIDS programs, he said, will require expanded support to national health ministries and provincial health departments, using U.S. funds to equip and train local health workers to take up more of the health care burden. In addition, PEPFAR is committed to engaging in true partnership with the governments of focus countries by ensuring that services supported by PEPFAR are aligned with the national plans of partner governments and integrated with existing health care delivery systems.

Under the strategy, PEPFAR will also work to integrate HIV/AIDS interventions with the broader health and development programs involving the U.S. government, country partners, multilateral organizations and other donors. This will include linking PEPFAR food and nutrition programs with the new U.S. Global Hunger and Food Security Initiative, expanding partnerships with education, and strengthening economies, microfinance and vocational training programs. It will also promote accountable and responsive governance through increased bilateral engagement and capacity building with partner governments.

PHOTO: THE GLOBAL FUND

Women at a health clinic in Ethiopia receive training on how to teach methods of preventing mother-to-child HIV transmission. PEPFAR's new Five-Year Strategy focuses on strengthening local ownership of programs to prevent and treat HIV/AIDS

Prevention

A critical component of the new PEPFAR strategy is to work with partner governments to identify and map the characteristics of local HIV/AIDS epidemics, focusing on demographics and working backwards to ascertain how these populations respond to prevention efforts.

"[A] challenge to successful prevention programs is the lack of country data for planning and thinking about where the prevention effort should concentrate," said Dr. Goosby in January at a Center for Strategic and International Studies (CSIS) forum in Washington on confronting the challenges of HIV prevention.

"Our understanding needs to expand," he said. "We need to show that we indeed have connected and have conveyed information that has resulted in a behavior change. Measuring that, identifying that, understanding that, has been a real challenge to everybody on the planet to come up with process and programmatic outcomes. To demonstrate impact is really our goal."

Dr. Goosby said that the U.S., through PEPFAR and broader diplomatic efforts, will also work with partner governments to identify structural conditions - such as laws, institutions and policies - that may favor or diminish a country's ability to test or provide treatment for its population.

"The idea is to work with our multilateral partners to ensure that the interventions provided converge and occur in an environment that does not increase barriers to entering and retaining patients and care," he said. "Access to services based on principles that are equitable and non-discriminatory become a critical foundation of that discussion. Supporting prevention efforts for women, integrated family planning, reproductive health linkages and treatment programs become the over-

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Diagnostic Innovations

SOUTH AFRICA PIONEERS NEW TECHNOLOGY TO DETECT TB

A new technology is being pioneered in South Africa that is expected to revolutionize screening for tuberculosis (TB), the leading cause of death in Africa for people suffering from AIDS.

The new computer diagnostic system, known as TBDx, takes digital images of expectorate samples and searches for TB's distinctive structural "fingerprint." The system is based on security scanners used in airports that search luggage for the structural fingerprints of plastic explosives.

The new fully-automated TBDx technology will free up trained lab technicians to use their skills on other tasks.

TBDx is being developed by the South African health research organization Aurum Institute, in partnership with South Africa's National Health Laboratory Service (NHLS) and Guardian Technologies, a U.S.-based company specializing in computer imaging. It is the first system in the world to pair advanced imaging technology with a digital microscope.

Early tests show the new technology to be both faster and cheaper than the traditional method of identifying TB bacilli that relies on laboratory technicians who must manually load slides and look for the bacilli under a microscope. Once fully automated, TBDx will be able to run independently around the clock. It has already been shown to be 10% more effective at identifying TB bacilli than other methods. In addition, the technology can be operated by personnel with no special skills, allowing trained laboratory technicians to do other work.

In South Africa, about 70% of those infected with HIV are co-infected with TB. It is one of the main drivers behind South Africa's declining life expectancy.

While the NHLS is still awaiting a cost analysis before it makes a final decision to adopt the system, TBDx is expected to compare favorably with the current labor-intensive system. If the NHLS decides to go with the technology, it will be about three years before it is adopted nationally.

African AIDS Vaccine Program

HIV PROGRAM TO MOVE TO UGANDA

In recognition of Africa's growing importance in AIDS research, Uganda has been chosen as the new host of the African AIDS Vaccine Program (AAVP).

The AAVP is a network of African HIV vaccine stakeholders who are working to promote HIV vaccine development for Africa. Since its founding in 2000 in Nairobi by a group of African scientists, the AAVP has been based in Geneva, Switzerland, under the stewardship of the World Health Organization's (WHO) Department of Immunization, Vaccines and Biologicals. Its new headquarters will be at the Uganda Virus Research Institute (UVRI).

"As two-thirds of the global AIDS epidemic is situated on our continent, we welcome the transition of the AAVP to Africa," said Dr. Stephen Mallinga, the Ugandan Minister of Health. "With so many lives at stake, we take our responsibility seriously and pledge to work tirelessly towards the day when a safe, effective vaccine will be available to protect Africans from this devastating disease."

The AAVP core activities are aimed at strengthening vaccine trial sites in Africa, as well as developing appropriate policy, regulatory and ethical frameworks within the African context. The organization's goal is to empower the African research and regulatory community and to increase ownership by Africans of the vaccine development processes.

AAVP's role in vaccine research is becoming increasingly important as scientists searching for an HIV vaccine seek to pursue vaccine candidates that reflect the present state of molecular epidemiology of HIV-1 in Africa.

"The search [for an AIDS vaccine] has been elusive, but we hope to make a lot of progress with the hosting of the AAVP in Africa," said Dr. David Kihumuro Apuuli, Director-General of the Uganda AIDS Commission.

PEPFAR Continued

all kind of 30,000-foot level of orchestration, and scaling up programs that really aggressively take advantage of what is a low-hanging fruit opportunity that we identify to find and target our most at-risk populations, many of whom are marginalized."

"I hope that we will be able to add to our understanding of both the difficulties and successes that we identify as we move these programs to scale and aggressively identify efficiencies [and] redundancies, [and] eliminate parallel systems of care that really are not contributing to our ability to contain the infection," Dr. Goosby added. "Effectiveness at the population level is something that we need to be able to talk about better, to be able to understand better, to be able to document better."

PEPFAR's fiscal year (FY) 2010 budget includes $5.5 billion that is earmarked to go directly to target countries for AIDS relief - an increase of $61 million from 2009 - as well as $1.05 billion for the Global Fund to Fight AIDS, Tuberculosis and Malaria, representing a $50 million increase over last year.

PEPFAR's targets for FY 2010-2014 include:

- Supporting the prevention of more than 12 million new HIV infections;
- Ensuring that every partner country has both 80% coverage of testing for pregnant women at the national level, and 85% coverage of ARV treatment for women found to be HIV-infected;
- Doubling the number of at-risk babies born HIV-free, from the 240,000 HIV-negative babies born of HIV-positive mothers during the first five years of PEPFAR;
- Providing 100% of youth in PEPFAR prevention programs with comprehensive knowledge about HIV transmission and ways to protect themselves;
- Providing direct support for more than four million people on treatment, doubling the number of people directly supported on treatment in the first five years of the PEPFAR program;
- Supporting care for more than 12 million people, including five million orphans and vulnerable children;
- Supporting training and retention of more than 140,000 new health care workers to strengthen health systems;
- Ensuring that partner governments take a leadership role in setting the direction of the HIV/AIDS response; and
- Ensuring that every partner country with a Partnership Framework addresses larger structural conditions, such as gender-based violence, stigma or low male partner involvement.

Building Capacity

MEDICAL NON-PROFIT MERCY SHIPS WORKS TO IMPROVE ANESTHESIA IN AFRICA

Mercy Ships, a global non-profit that brings medical services to developing countries via hospital ships, is stepping up efforts to address the critical shortage of trained anesthesia staff and anesthetic equipment and drugs in many African countries.

Led by Mercy Ships Executive Board member Dr. Keith Thomson, a consultant anesthesiologist at Basingstoke and North Hampshire Hospitals Foundation Trust in the United Kingdom, the Mercy Ships team has so far organized anesthesia training conferences in Benin, Liberia and Sierra Leone, and has provided in-house training on the use of donated Glostavent anesthesia machines (www.diamedica.co.uk).

Mercy Ships doctors train a medical team in Sierra Leone to use a Glostavent machine

Mercy Ships has given three Glostavent machines to Liberia and two to Sierra Leone. Less expensive than anesthesia machines used in hospitals in industrialized countries, Glostavents were developed specifically for use in resource-poor settings. The machine extracts oxygen from air and concentrates it for use in assisted breathing.

The conferences have focused on providing continuing medical education principally to anesthetic nurses, who perform most anesthesia services in Africa due to the dire shortage of qualified anesthesiologists.

At the time of the Mercy Ships conference in Sierra Leone in 2009, there were just two anesthesiologists and 36 trained anesthetic nurses in the country serving a population of 6.4 million people. In 2008 in Liberia there were no qualified Liberian anesthesiologists and just 35 anesthetic nurses - about one per 100,000 people, compared to one anesthesiologist per 6,000 people in the UK.

While in Sierra Leone, Dr. Thomson and his team also visited hospitals to assess anesthesia training, equipment and drug needs, and provide support for local health workers as they struggle to stretch scarce resources.

In addition, Dr. Thomson is working with hospitals to improve post-operative care, and with African health ministries to improve the medical supply chain within health systems to enable anesthesia providers to lessen their reliance on NGOs for drugs and disposable equipment such as anesthetic tubes and spinal needles.

Dr. Thomson has volunteered in Africa more than 20 times over the past 18 years, providing anesthesia during surgeries performed on Mercy Ship vessels and organizing training and support to local health providers. Last October, he was awarded the prestigious Pask Certificate by the Association of Anaesthetists of Great Britain and Ireland for his work with Mercy Ships and for the partnership he has helped create between his hospital in the UK and Hoima Hospital in Uganda. His work with Mercy Ships was also recognized in 2005 by the Royal College of Anaesthetists.

"The charity Mercy Ships has been in my blood since the first time I volunteered for one of their ships in 1991," he said when he accepted the award. "Working on board as part of an international team of volunteer medics is hugely exciting, but the most rewarding aspect is seeing the patients after surgery and realizing that their lives have literally changed overnight."

Because many African health systems have the capacity to provide only basic emergency surgeries, surgeons on Mercy Ships provide elective and non-urgent surgeries such as the removal of goiters and the repair of cleft palates and other birth defects.

"[These] surgeries aren't just operations; they give [people] back the hope and a chance to lead a normal life," Dr. Thomson added. "Often our patients are outcasts in their communities because of their physical deformities, but after surgery they are once again accepted into their families."

Dr. Thomson will host a conference in Lomé, Togo, in April 2010. He is also hoping to implement a program whereby Western-trained anesthesiologists work alongside staff in African hospitals to improve training and find solutions to capacity constraints such as lack of equipment and drugs.

Advances in Health

GLOBAL EFFORTS TO QUELL MALARIA SHOW SUCCESS

The dramatic scale-up of malaria control interventions in recent years has resulted in an estimated 50% decrease in cases of the disease in more than a third of the countries where malaria is endemic, according to the *World Malaria Report 2009,* released in December by the World Health Organization (WHO).

"While much remains to be done, the data presented here clearly suggest that the tremendous increase in funding for malaria control is resulting in the rapid scale up of today's control tools," said WHO Director-General Dr. Margaret Chan. "This, in turn is having a profound effect on health - especially the health of children in sub-Saharan Africa. In a nutshell, development aid for health is working."

The African countries that cut malaria cases in half include Botswana, Cape Verde, Eritrea, Namibia, Rwanda, Sao Tome and Principe, South Africa, Swaziland and Zambia.

Funding for malaria interventions such as insecticide-treated bed nets (ITNs), residual spraying and the use of artemisinin-based combination therapies (ACTs) more than doubled from $730 million in 2006 to $1.7 billion in 2009. In addition, the report found that:

- More African households (31%) own at least one ITN, and more children under five years of age used an ITN in 2008 (24%) than in previous years. Household ITN ownership reached more than 50% in 13 of the 35 highest burden African countries;
- Use of ACTs is increasing, but remains low in most African countries with fewer than 15% of children with fever receiving ACT; and
- Large decreases in malaria cases and deaths have been mirrored by steep declines in all-cause deaths among children less than five years of age, suggesting that intensive efforts at malaria control could help many African countries reach a two-thirds reduction in child mortality by 2015, as called for by the United Nations Millennium Development Goals.

The report noted that, despite greater investments in recent years, there is still a funding gap of $5 billion required each year to ensure high coverage and maximum impact.

In addition, it stated that smaller countries are disproportionately benefiting from available funding and that more attention needs to be given to ensuring success in large countries that account for most malaria cases and deaths.

Supply Chain Solutions

TEXT MESSAGING USED TO KEEP TRACK OF CRITICAL ANTI-MALARIA MEDICINES

Healthcare workers at malaria clinics in 135 Tanzanian villages are successfully using a new text messaging system to track and manage supplies of critical anti-malarial drugs.

The system, called SMS for Life, uses a combination of mobile phones, SMS (Short Messaging Service) technologies and web sites to ensure that rural clinics do not run out of supplies of artemisinin-based combination therapy (ACT) drugs and quinine injectables.

The initiative was developed by interns at technology company IBM's Extreme Blue program, together with bio-pharmaceutical research company Novartis, mobile phone company Vodafone and the Roll Back Malaria (RBM) Partnership.

Vodafone, together with its technology partner MatsSoft, developed a system by which the staff at each facility receives automated text messages each week prompting them to check the remaining stock of anti-malarial drugs. Using toll-free numbers, the staff replies with a text message to a central database in the United Kingdom, providing details of stock levels. Deliveries can then be made before supplies run out at the clinics.

Photo: Olympia Wereko-Brobby/ IBM

Health staff at this malaria clinic in Tanzania have used SMS for Life to track supplies of anti-malarial medications

"The SMS for Life program has already had a positive effect in Tanzania," said Ms. Winfred Mwafongo, Senior Health Officer at the Tanzanian Ministry of Health and Social Welfare. "During a visit to 19 rural health facilities in one district alone, I saw huge improvements in their inventory management systems. I'm very impressed with the results so far."

Within the first few weeks of the pilot program's launch last October, the number of clinics that ran out of drugs was reduced by as much as 75%, and Tanzanian health officials have indicated that they are interested in implementing SMS for Life throughout the country's estimated 5,000 clinics, hospitals and dispensaries.

"This is an example of a truly innovative solution helping solve a humanitarian problem," said Mr. Peter Ward, SMS for Life Project Manager. "After spending time on the ground, we created a project plan, developed the application with Vodafone and Novartis, and established the best way to deliver the pilot, working with the Tanzanian Ministry of Health. We expect other countries will also be able to benefit in the future."

Malaria causes over 800,000 deaths in Africa each year, mostly among children under the age of five years. Many people die because they lack quick access to effective anti-malarial medications.

OTHER SMS INITIATIVES

SMS technology is fast becoming a critical tool for improving health outcomes in resource-poor settings in Africa.

Text messaging can be used to respond to requests for emergency care, track patients, record HIV and tuberculosis drug adherence, stay updated on patient status, mobilize remote communities to outreach testing, provide information about testing and drug efficacy and connect HIV/AIDS support group members.

Initiatives include:

- Project Masiluleke in South Africa which delivers about one million texts each day providing the number for the National AIDS help line.
- In Ethiopia, all 2.5 million subscribers were texted information about how to be tested for HIV in advance of New Year's Eve celebrations. SMS technology has also been used to track medication stock outs in Ethiopia.
- To combat counterfeit drugs in Ghana, text messaging has been used to allow people to verify the safety and efficacy of their medications.
- In Kenya, SMS technology has been used to trace medical and drug supplies in rural clinics.
- Development partners in Malawi will soon begin using texting to track children's health and nutrition data.

Leaders in Health

Dr. Kwasi Torpey
Sr. Technical Advisor, Africa, Family Health International

With more than four million Africans with HIV/AIDS now receiving antiretroviral therapy (ART), the work of medical professionals on the ground is increasingly critical to making treatment both efficient and sustainable.

One such professional is Dr. Kwasi Torpey, Africa Regional Senior Technical Advisor at Family Health International (FHI), a global health and development NGO. Dr. Torpey played a key role in the design and implementation of FHI/Ghana's START program, one of the first public sector ART programs in Africa, and has since been instrumental in introducing ART in other African countries, including Eritrea, Ethiopia, Kenya, Nigeria and Zambia.

Dr. Kwasi Torpey

He is known for his cutting edge innovations in the field of AIDS treatment, originating, for example, the Adherence Support Worker concept that uses trained volunteers to provide support and education to people on ART as a way of ensuring better adherence to the therapy.

Dr. Torpey is a strong proponent of PEPFAR's goal to increase country ownership of national programs. "Designing HIV programs to improve access, address equity issues, provide quality services whilst maintaining country ownership and ensuring sustainability, though challenging, is feasible in resource-limited settings," he said. "With adequate planning, innovation and creativity, countries can assume financial responsibility in the medium to long term."

Dr. Torpey, the first recipient of the Dr. David Barry Memorial Award for outstanding contributions to AIDS treatment programs, believes that the most critical issue today in managing the HIV/AIDS epidemic is balancing prevention and treatment. "We can never treat our way out of this epidemic," he said. "We need to aggressively pursue all effective prevention strategies to reduce new infections."