

CLINTON HEALTH ACCESS INITIATIVE
ANNUAL REPORT 2013



Cover Photo: CHAI Ethiopia's Maternal and Neonatal Health (MNH) program began in 2011 to support the Federal Ministry of Health's efforts to reduce maternal and newborn mortality. The program introduced the non-pneumatic anti-shock garment (NASG) in selected health facilities to reduce complications due to pregnancy-related excessive bleeding. With the introduction of the NASG, implementation sites experienced a 79 percent reduction in maternal deaths related to post-partum hemorrhage. The woman pictured is one of the first women who benefitted from the use of the NASG.

Picture Credits: Cover Photography: Tewodros Emiru / Clinton Health Access Initiative; page vi and page 16: Barbara Kinney / Clinton Foundation; pages 3, 14, 20, 24, 28: Tewodros Emiru / Clinton Health Access Initiative; page 31: Ashish Pandey / Clinton Health Access Initiative. Pictures on page 8 and 19 were taken by staff from Papua New Guinea and Nigeria respectively.

Printing: Central Printing Press, Addis Ababa, Ethiopia

In memory of our colleagues at the Clinton Health Access Initiative (CHAI): Jeanne Brosnan, Sergio Siteo and Elif Yavuz



Jeanne Brosnan joined CHAI in 2009 after a distinguished career at Becton Dickinson. She was CHAI's executive vice president for planning and human resources. Previously, Jeanne served as CHAI's executive vice president of country operations. Jeanne guided the recent management study at CHAI and was responsible for innumerable improvements to the management of CHAI. She passed away after a long bout with cancer, continuing to work with CHAI right until her last days. Jeanne is survived by her husband, Jerry, her son, Christopher, and her stepdaughters Marnie and Marla.



Sergio Siteo started with CHAI Mozambique in 2006 as a pharmacist and mentor for the newly started National Pediatric Program. He grew to become the provincial manager for Sofala Province and the lead clinical mentor on the National Point-of-Care Program at CHAI Mozambique. Sergio had just been promoted to run all HIV programs in Mozambique when he passed away in a tragic accident. Sergio is survived by his wife, Cecilia, and three children, Paloma, Sheila and Loran.



Elif Yavuz worked for CHAI from 2010 to 2012 as a malaria research coordinator based in Uganda. She rejoined CHAI in May 2013 after having completed her doctorate. She was a member of the Applied Analytics Team based in Tanzania, working on projects with many of the teams at CHAI including the Vaccines, HIV, and zinc/ORS teams. Her life was tragically taken by terrorists in an attack at a mall in Nairobi when she was nine months pregnant. Her partner and unborn child were also killed.

Working at CHAI is more than a job – we are a family bound by our shared commitment to save the lives and improve the health of the people we serve. These three losses are more than the loss of cherished colleagues; we have lost friends, family members, and parts of ourselves.

CONTENTS

Foreword from President Clinton	1
Acknowledgements	2
Message from the CEO	3
CHAI Values	4
CHAI Through The Years	5
Where We Work	6
CHAI Strategic Areas of Focus	9
HIV/AIDS and TB	11
Increasing the Efficiency and Effectiveness of Health Systems	15
Malaria	19
Human Resources for Health	23
Vaccines	27
Maternal, Newborn, and Child Health	31
Applied Analytics	34
Access to Medicines	35
2013 Financials	36
CHAI Leadership Team	38



President Clinton and Chelsea Clinton participate in helping a Community Health Assistant give a baby a check-up at the Manyemunyemu Health Post in Sialwiindi, Zambia on August 2, 2013. The Manyemunyemu Health Post is a newly built but unfinished structure, where health services have been provided for the past year. The population this health facility serves is over 3,000 people. The two-room health post provides maternal and child health services, administration of vaccines, treatment for non-severe malaria, respiratory infections, and diarrhea, as well as a range of other basic health services to the community.

FOREWORD FROM PRESIDENT CLINTON

Twelve years ago, CHAI was born out of a simple idea for a complex problem: make AIDS medicine more affordable and accessible around the globe. At the time, a mere 200,000 people throughout the entire developing world were receiving the antiretrovirals they needed to stay alive—and most were in Brazil and Thailand, both countries that had the capacity to produce the medicines within their own borders.

When Dr. Denzil Douglas, the Prime Minister of Saint Kitts and Nevis, approached me and Nelson Mandela at the 14th International AIDS Conference in Barcelona, he was in search of a solution to a broken system. As he put it, his small Caribbean country didn't have a stigma problem, they had an organization problem—and no means to address an issue of such global significance without support.

At the time, drug manufacturers approached antiretrovirals as a low-volume, high-margin, uncertain payment business. Even in the Bahamas, the richest country in the Caribbean, the government was paying seven times more than the drugs' base price because of a disorganized distribution system and no guarantee that manufacturers wouldn't lose money without a larger, lower-risk market.

Over several years, working with government partners and donors, CHAI successfully negotiated dramatic reductions of the prices of AIDS drugs and tests, and developed and implemented systems to deliver effective care and treatment in countries around the world, from Africa to Asia to the Caribbean.

This sustainable approach to improving global health prompted requests to expand our services beyond our initial focus on HIV/AIDS. As a result, CHAI now also works with an ever-wider range of partners to combat tuberculosis and malaria; reduce prices and improve delivery systems for vaccines; lower maternal and newborn mortality; reduce deaths in children due to diarrhea; and help further educate health professionals. We also recently have expanded our efforts to fight chronic malnutrition, which affects over 40 percent of infants in many of the countries in which we are already active.

CHAI works exclusively at the invitation of national governments, with the goal of strengthening their capabilities to run high quality, effective health systems for their people. Our dedicated staff and partners recognize that no society can lift itself from poverty without a healthy citizenry. Infectious diseases like AIDS, tuberculosis, malaria, bacterial diarrhea, and pneumonia, and high rates of maternal and infant mortality and chronic malnutrition, undermine any society's efforts to develop.

In that first discussion in Barcelona—in a time before the Global Fund to Fight AIDS, Tuberculosis and Malaria; the United States President's Emergency Plan for AIDS Relief (PEPFAR); or UNITAID—neither I nor President Mandela nor Prime Minister Douglas could have foreseen the tremendous strides CHAI and our partners have made, together. I am proud to report that more than 8.2 million people in more than 70 countries now have access to CHAI-negotiated, affordably priced HIV/AIDS medicines and tests, with even greater results still to come.

Founder, Clinton Foundation
42nd President of the United States

ACKNOWLEDGEMENTS

The accomplishments described in this report would not have been made possible without the generous support of CHAI partners, in particular the governments with whom CHAI works.

We would also like to thank CHAI donors: Absolute Return for Kids, Africa Agriculture Development Company (AgDevCo), Alan Schwartz, Australian Government (DFAT), Bill, Hillary & Chelsea Clinton Foundation, Bill & Melinda Gates Foundation, Cameroon Baptist Convention Health Board (CBHB), Canadian Government (DFATDC), Children's Investment Fund Foundation (CIFF), Dangote Foundation, Dale "Chip" Rosenbloom, Danielle Leinroth, ELMA Philanthropies, Elton John AIDS Foundation (EJAF), Flanders International Cooperation Agency, Global Fund to Fight AIDS, Tuberculosis and Malaria, Harry Zimmerman, Health Partners International (HPI), Hewlett-Packard (HP), Ikea Foundation, Irish Government (IAID), Isdell Flowers Foundation (IF), Life ball, Lonnie Smith, MAC AIDS Fund (MAC), Mala G. Gaonkar, Marjorie Seawell, Malaria No More UK (MNM), Medicines for Malaria Venture (MMV), Michael Schumacher (MIKE), Mitch Julis, National Emergency Response Council on HIV-AIDS (NERCHA), Nationale Postcode Loterij, New Zealand Government (NZ AID), Norwegian Government - Ministry of Foreign Affairs, Oak Foundation, P&G Fund of the Greater Cincinnati Foundation, Population Council, Raymond G. Chambers, Robert S. Kaplan, Robert Selander, Rockefeller Foundation, Roll Back Malaria, Save the Children Canada, Swedish Government (SIDA), Swiss Government (Swiss Agency for Development and Cooperation), STOP AIDS NOW! (SAN!), The Boston Consulting Group, Inc. (BCG), Tides Foundation, Todd Fisher, UK Government (DFID), United Nations Children's Fund (UNICEF), UNITAID, United Nations Foundation (UNF), Victor and Elena Pinchuk Foundation, Wallis Annenberg, William Shutzer, World Health Organization (WHO).

MESSAGE FROM THE CEO



Every human life is sacred. Every child, whether born into a wealthy family in the United States or a poor family in Africa, deserves to have the opportunity to fulfill his or her potential free from premature death or debilitating disease. A good quality health system is essential to any nation wishing to lift its people from poverty.

These are the beliefs that motivate CHAI and its people.

President Clinton and I started CHAI in 2002 because we found it morally unacceptable that millions of people were dying each year of AIDS in Africa, Asia, and the Caribbean while treatment was readily available in wealthier countries. We did not accept the arguments often made at that time that treating people for AIDS in resource-poor settings was too expensive or too complicated to be successful.

Working in partnership with governments in Africa, Asia, and the Caribbean, and with donor governments and foundations in North America and Europe and with other NGOs, CHAI has been able to play a significant role in helping to save the lives of millions of infected people by lowering the cost of treatment and scaling up high quality systems to deliver effective care around the world.

At the urging of our partner governments and donors, we have expanded our work to include scaling up treatment for malaria and tuberculosis, accelerating the roll out of life-saving vaccines, reducing maternal and child mortality, enabling more effective family planning, strengthening health systems, and combating malnutrition.

CHAI has helped to bring modern business and management skills to the global health field. We have negotiated over 65 successful deals that have dramatically lowered the prices of drugs, diagnostic tests, vaccines, contraceptives, and a variety of other essential health commodities. CHAI has helped governments build health management systems to deliver effective care, deploy efficient supply chains for vaccines, medicines, and tests, and create systems for conducting effective mentoring of health professionals. Our work has reached some of the most remote places on earth.

We sometimes engage in supporting the direct delivery of health care services where we can directly meet people whose lives we help save and whose illnesses we help cure. Other times our work is more distant from the patient. But when we help negotiate agreements that reduce the price of rotavirus vaccine by 67 percent, or the price of leading ARV drugs by up to 80 percent, or when we reduce the supply chain costs for distributing essential health commodities to rural health centers by over 50 percent, lives are also saved. There is a limited amount of money that can be spent on global health and lower prices and more efficient systems allow more people to gain the benefits of life-saving treatment.

This Annual Report highlights some of CHAI's accomplishments, our financial condition, and our future focus areas. As this report shows, CHAI is growing and we are financially sound. But CHAI is not a business that can be defined by its numbers.

Since 2002, I have been blessed with the opportunity to meet personally thousands of people whose lives we have helped save. I have seen young children born with AIDS that were near death who are now flourishing as successful university students with bright futures ahead of them. The essence of CHAI for me is reaffirmed when I look into the eyes of these children who would have died but instead can now live to pursue their dreams.

A handwritten signature in black ink, appearing to read "Ira C. Magaziner".

Ira C. Magaziner

Vice Chairman and Chief Executive Officer
Clinton Health Access Initiative

CHAI VALUES

CHAI has achieved many of its most important successes when seeking to fundamentally change the way the world approaches an issue and pushing the boundaries of what is considered feasible in global health.

WE ARE DRIVEN BY A SET OF VALUES THAT ARE FUNDAMENTAL TO OUR WORK AND THAT SUPPORT OUR CHANGE-ORIENTED AGENDA.

- **We work with urgency.** People are dying unnecessarily from AIDS, malaria, tuberculosis (TB), and other diseases that are treatable; the world often responds too slowly. We understand that the faster we act the more lives can be saved.
- **We work in cooperation with and at the service of partner governments.** We believe that to make programs sustainable and scalable, we need to strengthen national government health systems by working with Ministries of Health. As we work closely with partner governments, we aim to build capacity so that our role is eventually unnecessary and programs are completely transitioned to the leadership of local government partners.
- **We are a mission-driven organization.** We want people to work with us because they believe in our mission of saving lives, reducing the burden of disease, and strengthening health systems. CHAI employee satisfaction comes primarily from the fact that we collectively succeed in advancing our mission.
- **We are frugal.** We feel that donor money we raise should go as much as possible to saving lives directly rather than to compensating ourselves excessively or to elaborate expenses or high overheads.
- **We operate with humility.** We do not actively publicize our work, independent of the publicity that our government partners request. We try to foster a culture of respect for the people we serve and for our local government partners.
- **We have an entrepreneurial and action-oriented culture.** We hire knowledgeable individuals and give them wide latitude to conceive of and execute programs. Some of our greatest accomplishments, large and small, were not planned centrally. We are willing to take risks and attempt to achieve goals that are substantial, challenging and uncertain. We believe that the successes made possible by our risk taking will more than outweigh the failures.
- **We operate based on trust and transparency.** We expect employees and partners to make ethical decisions, to work hard, and to manage their own work. We try to minimize internal bureaucracy by not overburdening our people with too many managerial constraints.
- **We recognize our staff is our greatest asset.** Primarily, the talent and hard work of the exceptional individuals who work for CHAI drive our successes. We strive to support and protect our well-performing staff to grow and thrive within the organization and to enable them to have a major impact in fulfilling the mission that caused them to come to work at CHAI.

WHILE WE ARE NOT PERFECT IN LIVING BY THESE VALUES,
WE STRIVE TO DO SO AS FULLY AS POSSIBLE.

CHAI THROUGH THE YEARS

2002

In 2002 and 2003, CHAI initiated the first programs in Africa and the Caribbean that aimed to scale up HIV/AIDS care and treatment throughout entire countries. Eventually, CHAI would help over 30 countries to scale up AIDS care and treatment.

2003

In 2003, CHAI negotiated to lower prices for first-line HIV drugs by over 60 percent and enabled over 60 countries to access these low prices.

2004

In 2004, CHAI negotiated 50-90 percent reductions in the price of CD4 tests and other tests used for AIDS patients worldwide. Coupled with CHAI's technical support, these price reductions enabled the nationwide scale up of CD4 testing in over 40 countries.

2005

Starting in 2004 and 2005, CHAI led a global effort to scale up treatment for children with AIDS in 34 countries, from 15,000 to over 600,000 on treatment today. As a result of working with UNITAID, which was formed under the leadership of the French government with CHAI's assistance, prices of first-line pediatric AIDS drugs were reduced from over \$600 per child per year to around \$60 per child per year. CHAI also worked to scale up the deployment of specialized tests needed for small children from 50,000 to over 1 million tests per year.

2007

From 2005 to 2007, working with UNITAID, CHAI negotiated agreements to lower the price of second-line AIDS drugs by over 75 percent and accelerated the roll out of these drugs in over 30 countries to AIDS patients whose treatments were failing on first-line drugs.

2008

From 2005 to 2008, CHAI assisted governments in Southeast Asia to scale up care and treatment programs for AIDS including in Papua New Guinea and West Papua Indonesia, which have the highest AIDS rates in Asia and are among the most remote places on earth.

2009

Beginning in 2009, CHAI assisted the government of South Africa, the nation with the highest HIV burden in the world, with the largest scale up of HIV care and treatment ever attempted, from 800,000 people in 2009 to over 2.3 million people today. CHAI helped negotiate agreements to lower HIV and TB drug prices that have saved the South African government almost \$1 billion. These savings are now being used to treat more people within existing budgets. With assistance from CHAI, South Africa scaled up its AIDS care and treatment facilities from less than 500 in 2009 to over 3,300 to enable treatment expansion.

2010

Beginning in 2010, CHAI has been working to scale up access to rapid diagnostic tests in places where malaria cases are treated but where diagnosis is not currently available. Most recently, CHAI has facilitated procurement of nearly two million low cost tests across Kenya and Tanzania.

2011

Since 2011, CHAI has worked to lower the cost and increase the availability of injectable artesunate, a malaria medicine that can dramatically decrease malaria mortality, particularly in children. CHAI started working to increase access to injectable artesunate in Nigeria and Uganda in 2011, Malawi and Zambia in 2012, and Cameroon in 2013. In Nigeria alone, switching to injectable artesunate has the potential to avert 50,000 deaths annually.

Since 2011, CHAI has been pioneering strategies in Ethiopia, Kenya, Malawi, and Tanzania to roll out new vaccines, such as pneumococcal and rotavirus, more quickly and effectively. Working with the Bill and Melinda Gates Foundation, CHAI negotiated a landmark deal to lower the price of rotavirus vaccine by 67 percent, from \$15 per child to \$5 per child, saving the global community over \$800 million, and negotiated a 50 percent reduction in the price of pentavalent vaccine, saving the global community an estimated \$160 million over the next five years.

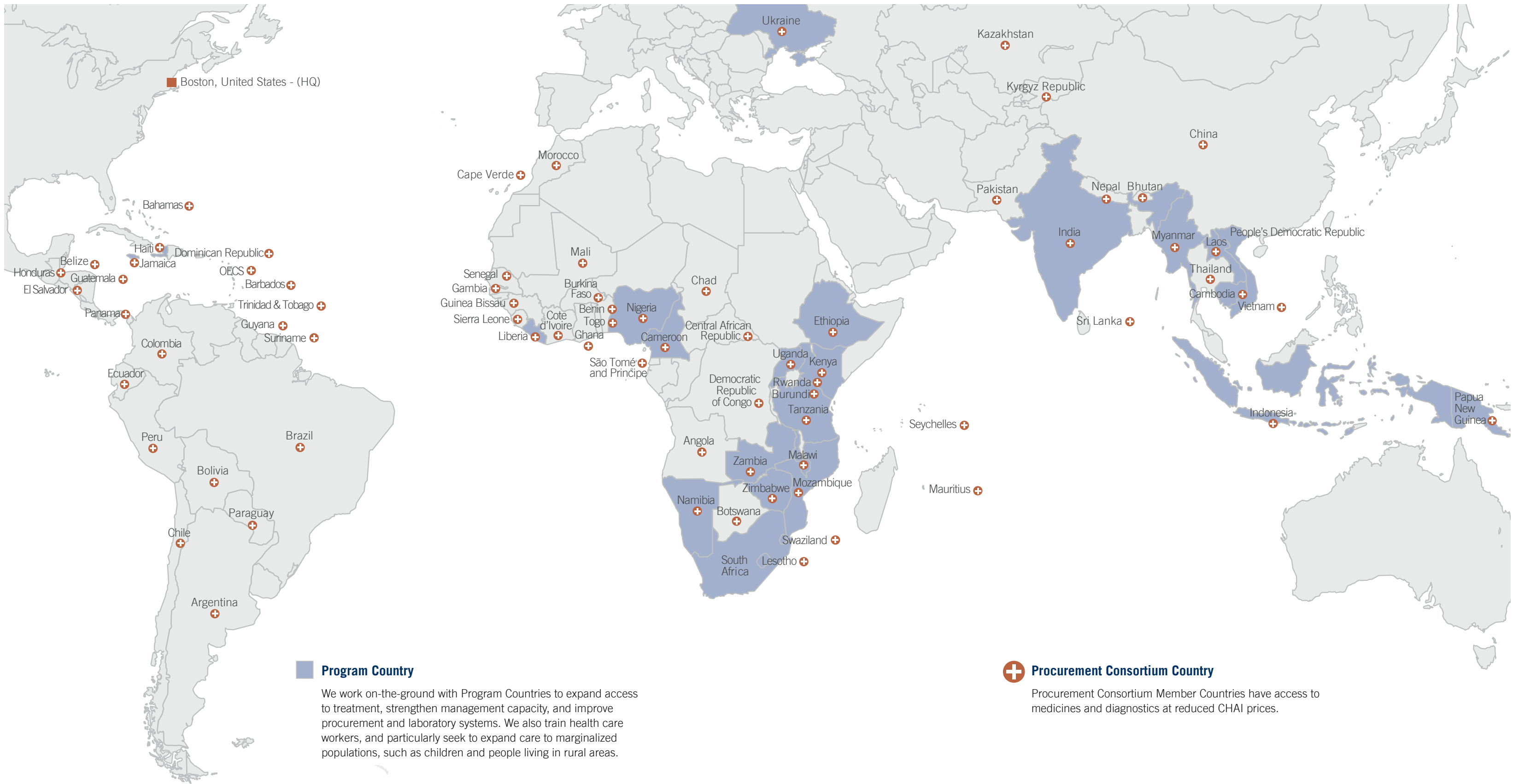
Since 2011, CHAI has helped the government of Rwanda move towards establishing a world-class health system by implementing a program to educate Rwandan doctors, nurses, and health managers in Rwanda. CHAI helped the Rwandan government develop its human resource plan and facilitated an arrangement for 20 US universities to send over 100 faculty members per year to Rwanda for the next several years to work with their Rwandese colleagues to develop a world-class health education system. Over the course of the program, enough Rwandese medical education professionals will be educated to world-class standards that the foreign presence is no longer necessary. In addition, CHAI is assisting the government to invest in equipment to upgrade its teaching hospitals and schools.

2012

In 2012, CHAI negotiated an agreement to lower the price of implantable long-acting reversible contraceptives from \$18 to \$8.50 per implant and is now helping to accelerate the roll out of these products. This effort will save the lives of over 45,000 women, will prevent over 200,000 children from being stillborn, and will empower women to protect themselves from unwanted pregnancies. The agreement will save over \$400 million.

2013

In 2013, CHAI worked to scale up access to and usage of zinc/ORS, as the recommended treatment for diarrhea, in India, Kenya, Nigeria, and Uganda by building demand and increasing availability in both the private and public sectors. CHAI supported governments to lower the cost of zinc/ORS products. As a result of these efforts, wholesale prices have reduced by approximately 60 percent. CHAI is working to accelerate the usage of these products in several African countries and in India.



■ Boston, United States - (HQ)

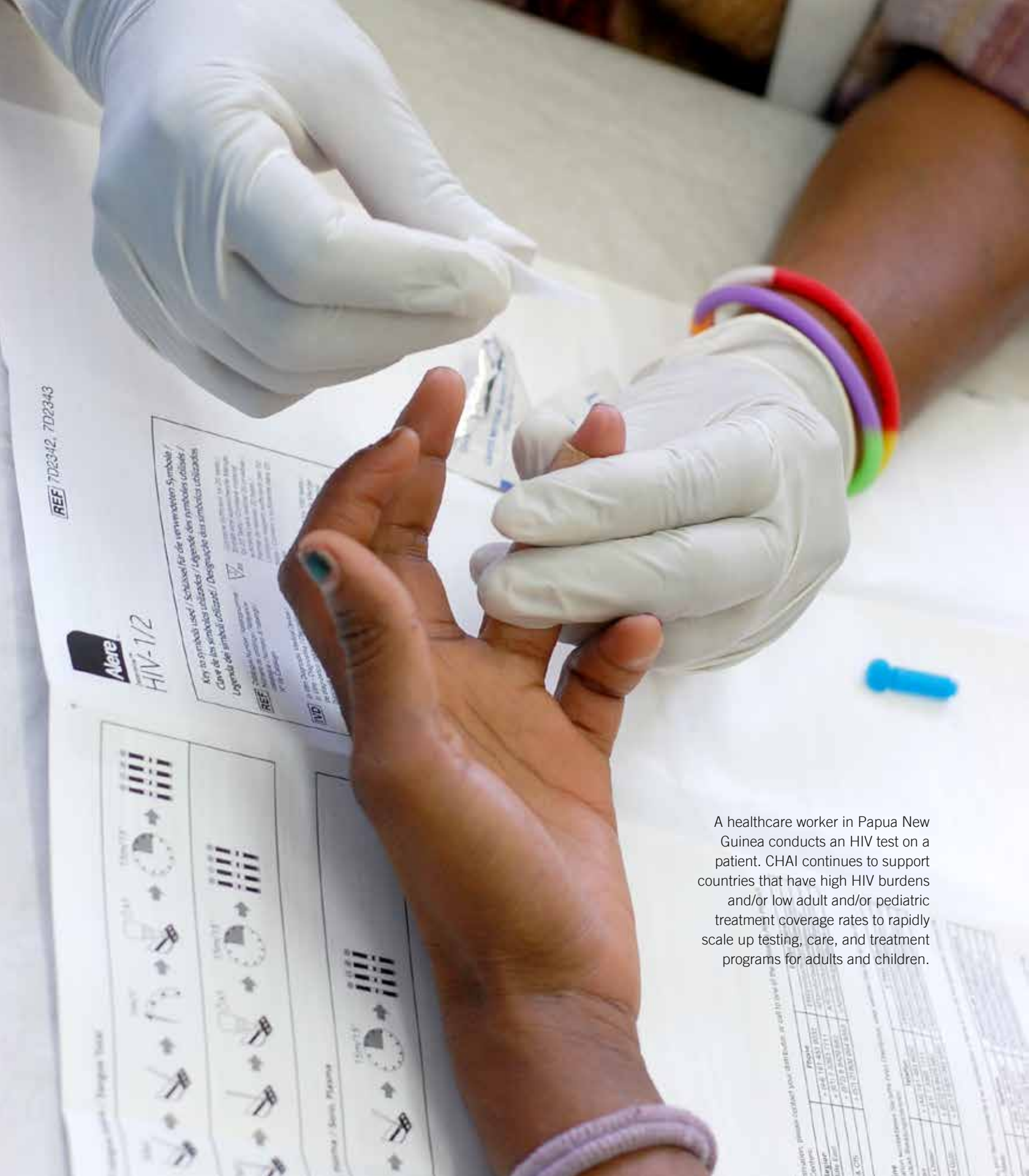
Attentive mothers in a diarrhea management awareness program at Jabrauli, a rural village of Mohanlalganj block of Lucknow district, Uttar Pradesh, India.



CHAI STRATEGIC AREAS OF FOCUS

THOUGH CHAI WAS FOUNDED TO FIGHT THE AIDS PANDEMIC AND THIS FOCUS CONTINUES TO BE CENTRAL TO THE MISSION, CHAI HAS BROADENED ITS EFFORTS TO INCLUDE OTHER AREAS WHERE CHAI'S APPROACH AND COMPETENCIES COULD HAVE A TRANSFORMATIVE IMPACT.

SPECIFICALLY, CHAI NOW FOCUSES ON THE FOLLOWING PROGRAM AREAS: HIV/AIDS AND TB, INCREASING THE EFFICIENCY AND EFFECTIVENESS OF HEALTH CARE SYSTEMS, MALARIA, HUMAN RESOURCES FOR HEALTH, VACCINES, AND MATERNAL, NEWBORN, AND CHILD HEALTH. IN ADDITION TO CHAI'S PROGRAMMATIC FOCUS AREAS, TWO PROGRAMS THAT SUPPORT THE ENTIRE ORGANIZATION ARE ACCESS TO MEDICINES AND APPLIED ANALYTICS.



A healthcare worker in Papua New Guinea conducts an HIV test on a patient. CHAI continues to support countries that have high HIV burdens and/or low adult and/or pediatric treatment coverage rates to rapidly scale up testing, care, and treatment programs for adults and children.

HIV/AIDS AND TB

THE HIV AND TB EPIDEMICS REMAIN SIGNIFICANT GLOBAL THREATS, EXACTING A MASSIVE TOLL ON THE COMMUNITIES THEY IMPACT. IN DEVELOPING COUNTRIES, THESE EPIDEMICS PLACE A LARGE BURDEN ON HEALTH SYSTEMS, OFTEN AT THE EXPENSE OF OTHER CRITICAL HEALTH PROGRAMS. CHAI'S HIV AND TB WORK IS CENTERED ON THE OVERARCHING VISION OF SUPPORTING GOVERNMENTS TO CREATE A SUSTAINABLE, EFFICIENT, AND EFFECTIVE RESPONSE WITH QUALITY PREVENTION AND TREATMENT SERVICES MADE AVAILABLE TO ALL IN NEED.

HIV/AIDS AND TB

CHAI'S APPROACH

The HIV and TB epidemics remain significant global threats, exacting a massive toll on the communities they impact. In developing countries, these epidemics place a large burden on health systems, often at the expense of other critical health programs. CHAI's HIV and TB work is centered on the overarching vision of supporting governments to create a sustainable, efficient, and effective response with quality prevention and treatment services made available to all in need. CHAI continues to support countries that have high HIV burdens and/or low adult and/or pediatric treatment coverage rates to rapidly scale up testing, care and treatment programs for adults and children.

CHAI is also committed to driving dramatic reductions in HIV-related mortality through targeted work on early initiation of treatment, management of opportunistic infections such as TB, improving patient retention, and addressing treatment failure in partner countries. By creating a platform for the consolidated use of existing and novel products, CHAI works to increase global access to optimal TB drugs and diagnostics, while also improving drug and diagnostic management systems in focus countries and improving the effectiveness and efficiency of laboratory networks.

2013 PROGRAM HIGHLIGHTS

■ Scaled up HIV care and treatment, with a particular focus on pediatrics and prevention of mother-to-child transmission of HIV (PMTCT)

In 2013, CHAI helped several countries implement the new World Health Organization (WHO) guidelines for lifelong care and treatment of HIV-positive pregnant and breastfeeding women, or 'Option B+', for PMTCT, as well as guidelines for immediate treatment for all HIV positive children under 5.

- In Uganda, CHAI supported the government to improve the supply chain for PMTCT commodities, develop training curriculums, and coordinate partners. In 2013, over 95 percent of the country's 1,500 health facilities providing PMTCT services had transitioned to 'Option B+', providing all HIV-positive pregnant and breastfeeding women with lifelong treatment. CHAI worked with the Uganda Ministry of Health to rapidly scale up access to HIV treatment for approximately 129,000 new patients over a nine month period in 2013 (a 30 percent increase), and to ensure that patients receive the optimal drugs, including support for the implementation of a new first-line drug regimen tenofovir nationwide.
- In early 2013, the Zimbabwe Ministry of Health and Child Care (MOHCC) made the decision to adopt 'Option B+'. The Evidence for Elimination (E4E) project, a partnership between MOHCC, CHAI and WHO, supported the MOHCC to begin implementation of 'Option B+' at 32 'early learning sites' across three provinces in Zimbabwe. CHAI also contributed to pre-implementation work, including amending national treatment guidelines and training tools, conducting trainings of health care workers, and piloting the revised 'Option B+' registers and M&E tools ahead of national roll out in 2014.

- In Indonesia, CHAI has worked with the government of Indonesia and other partners to implement the Rapidly Expanding Access to Care for HIV (REACH) Program in Indonesia's two highest HIV prevalence provinces, Papua and West Papua. The program has increased the number of sites providing HIV-related services and expanded provider-initiated testing and counseling and sexually transmitted infections services between July 2012 and December 2013. In Tanah Papua (West Papua), 37,266 people were tested for HIV during this time, and since January 2013, 1,738 patients were initiated on treatment.
- CHAI is supporting the Ministry of Health of Swaziland to address key gaps along the continuum of HIV care through the MaxART program – maximizing antiretroviral therapy (ART) for better health and to attain zero new HIV infections. A combination of community mobilization, HIV testing, treatment, care, and support initiatives, implemented together with other major development partners, has ensured the country is on track to reach 2014 national targets of testing 250,000 people/year for HIV, initiating 90 percent of all eligible individuals on treatment, and retaining 90 percent of those on treatment.
- CHAI worked with the government of South Africa to ensure access to essential HIV treatment, adding approximately 1.5 million people on treatment between 2010 and 2013. CHAI also supported the Ministry of Health by providing assistance on HIV counseling and testing, training and mentoring, ART initiation for both adults and children, campaign data and monitoring and evaluation (M&E), initiation of larger-scale health management information systems, testing in schools and tertiary institutions, and improvement of laboratory systems. By March 2013, the target of 500,000 newly initiated patients on the ART

program by March 2014 had already been exceeded. The number of new children initiated on ART was 39,652 for the same period, which was 95 percent of the target. By March 2014, more than 2.5 million patients were accessing ART, compared to the less than 800,000 in 2010.

- In 2013, the government of Malawi, with the assistance of CHAI, oversaw the near complete transition from d4T (stavudine) to TDF (tenofovir) based regimens as well as the introduction of ATV/r (atazanavir/ritonavir) for second-line patients. With this switch, patients will experience fewer side effects, thus increasing adherence to treatment and slowing down resistance to save more lives.
 - Zambia's decision, supported by CHAI, to switch from the more expensive emtricitabine to lamivudine resulted in the country's purchase of 5.65 million packs of lamivudine-based products, which resulted in over \$10 million in national savings. The two products are listed as interchangeable by the WHO.
- #### ■ Scaled up HIV testing, particularly point-of-care (POC) CD4 technologies that facilitate timely initiation of treatment through prompt delivery of test results to patients
- Globally, CHAI's work to expand access to POC CD4 facilitated an 18 percent increase in the number of devices across six countries: Ethiopia, Kenya, Lesotho, Mozambique, Swaziland, and Zambia. Across these countries, POC CD4 testing volumes of 500,000 tests in 2013 have resulted in an estimated 200,000 additional test results received by patients; 50,000 additional patients initiated on antiretroviral therapy; a reduction in the price per result received from \$19.45 to \$12.43; and savings from reduced wastage of \$3.4 million.
 - In Swaziland, POC CD4 testing was implemented at 44 sites to provide same-day treatment eligibility information, implementing a Fast Track approach in 26 constituencies to reach over 52,000 people with HIV testing, and completing a pilot of a new short message service (SMS) appointment reminder system, which resulted in a significant decrease in loss to follow-up (people not returning for treatment).
 - CHAI supported Zimbabwe's Ministry of Health and Child Care to double the number of POC tests performed in 2013, further increasing access to CD4 for eligibility and treatment monitoring purposes.
 - CHAI assisted the Ministry of Health in Malawi to begin implementation of POC CD4 testing by deploying devices that will enable 40,000 people to receive their required CD4 tests in real-time, reducing the time delay for placing people

on treatment. This will allow an estimated 4,000 additional patients to be initiated onto life-saving ART in Malawi.

- In 2013 in Ukraine, the number of CHAI-supported sites for HIV testing and counseling reached 153 in 18 of the 25 regions. HIV testing and counseling were provided to over 56,670 individuals, of whom 3,357 were identified as HIV-positive and were referred to care.
 - CHAI Cambodia has worked with the national program to build an integrated HIV approach that links reproductive health and HIV, the Linked Response approach. This system provides access to early infant diagnosis (EID) in the same setting as reproductive health, which has helped retain HIV-exposed infants who might otherwise have been lost. The percentage of HIV-infected infants identified and subsequently receiving ARV prophylaxis increased from 12 percent in 2006 to 72 percent in 2013.
- #### ■ Supported the accelerated scale up of voluntary medical male circumcision for HIV prevention
- Male circumcision has been shown to reduce the risk of female to male HIV transmission by 60 percent and has thus become a critical intervention for preventing the spread of HIV. CHAI collaborated with the Zambia Ministry of Health to rapidly scale up voluntary medical male circumcision and surpassed the annual target, performing 294,466 circumcisions against a target of 270,528, representing 70 percent growth in 2012. It is estimated that the 600,000 circumcisions completed in Zambia from 2011 to 2013 will avert an estimated 90,000¹ new HIV infections by 2025, an average of one infection averted for every seven clients circumcised.
- #### ■ Helped introduce new technologies to improve patient follow-up and retention in care
- CHAI worked with several countries to scale up the use of SMS printer systems that deliver diagnostic test results from reference labs to a printer in a health facility via a mobile network. The SMS printer system ensures results are delivered to the patient rapidly after processing, and thus reduces life-threatening delays that can occur when results are returned by air and road transport. In Mozambique, 524 SMS printers, which received over 60,000 EID results and 4,500 TB results (the latter still in scale up phase) were in

¹ Presentation: The age structured model (ASM) for estimating the impact of voluntary medical male circumcision as an HIV intervention: Findings and discussion New Modeling Exercise Approach and Preliminary Results Sharing, BMGF & PEPFAR through USAID Health Policy Project, Weill Cornell Medical College.

place by the end of 2013. Over 60 percent of EID patients now receive their results in under a month compared to the five to six month timeline before the system was introduced. A fast turnaround of results is critical to receiving early treatment that is essential for pediatric HIV patients. In Zimbabwe, with CHAI's support, 50 GPRS (general packet radio service) printers were installed at facilities with the goal of reducing turnaround time of EID result delivery by at least 30 percent.

■ TB

- From September 2012 to September 2013, CHAI Vietnam collaborated with the Ho Chi Minh City Provincial HIV/AIDS Committee to pilot a pediatric isoniazid preventive therapy (IPT) program for HIV-positive children at eight outpatient clinics. The objectives of this assessment were to explore the extent to which IPT reduced the rate of active TB among HIV-positive children, and to determine the safety of IPT in HIV positive children. 581 patients were initiated on IPT, with only 18 discontinuing treatment. IPT led to a 95 percent reduction in TB incidence, from a pre-IPT incidence rate of 5.3 cases/1,000 patient-months (or 64 cases/1,000 patient-years) to a post-IPT incidence rate of 0.25 cases/1,000 patient-months (or 3 cases/1,000 patient-years) after a median follow-up of 16.3 months. IPT treatment, which is simple, safe, and low cost, will be expanded to more pediatric HIV sites throughout Vietnam.
- CHAI Myanmar works closely with the National TB Program, particularly to address an acute shortfall of multi-drug resistant tuberculosis (MDR-TB) drugs and to clear patient waiting lists. CHAI Myanmar is supporting the forecasting and quantification of MDR-TB first line drugs for children in addition to second-line drugs and lab commodities. In collaboration with the CHAI Global TB team, CHAI Myanmar is providing technical assistance on the deployment of GeneXpert machines.
- CHAI South Africa supported the effective National Health Laboratory Service roll out and uptake of the GeneXpert device as the standard TB testing device in the country, replacing microscopy. Throughout 2013, CHAI worked to prepare sites for technology installation, manage the installation process, train laboratory staff to use the technology, and provide on-going operation support as needed following installation. The South African government, with assistance from CHAI, achieved 100 percent completion of the GeneXpert roll out by the end of 2013 with 283 platforms across 207 laboratories.

INCREASING THE EFFICIENCY AND EFFECTIVENESS OF HEALTH SYSTEMS

THE GOAL OF CHAI'S GLOBAL HEALTH SPENDING WORK IS TO REMOVE FUNDING AS A REAL OR PERCEIVED BARRIER TO OBTAINING QUALITY HEALTH SERVICES FOR ALL PEOPLE. TO HELP ACHIEVE THIS GOAL, CHAI SUPPORTS GOVERNMENTS TO BETTER UNDERSTAND THEIR AVAILABLE RESOURCES AND THEN SECURE THE FUNDING NEEDED TO IMPLEMENT AMBITIOUS HEALTH INITIATIVES. FURTHERMORE, CHAI WORKS WITH GOVERNMENTS TO ENSURE THE EFFICIENCY AND EFFECTIVENESS OF EXISTING GLOBAL HEALTH DOLLARS SO THAT THEY ARE ALLOCATED AND SPENT TO ACHIEVE MAXIMUM IMPACT.

CHAI supported decisions to make close to 500,000 people living with HIV eligible for life-saving treatment in Ethiopia, Rwanda, Swaziland, and Zambia.



INCREASING THE EFFICIENCY AND EFFECTIVENESS OF HEALTH SYSTEMS

CHAI'S APPROACH

The goal of CHAI's global health spending work is to remove funding as a real or perceived barrier to obtaining quality health services for all people. To help achieve this goal, CHAI supports governments to better understand their available resources and then secure the funding needed to implement ambitious health initiatives. Furthermore, CHAI ensures the efficiency and effectiveness of existing global health dollars so that they are allocated and spent to achieve maximum impact. This process includes helping governments to increase ownership over their health financing to move towards more sustainable financing systems. As of 2014, CHAI's health financing work is focused in nine countries: Cameroon, Ethiopia, Lesotho, Malawi, Rwanda, South Africa, Swaziland, Zambia, and Zimbabwe.

CHAI also accelerates the uptake of key health commodities including optimized treatment regimens, diagnostics, and vaccines to ensure that all drugs and diagnostics are used appropriately and within national systems. CHAI works to identify and mitigate marketplace risks that threaten to disrupt or slow access to effective treatment for target diseases, ensuring the long-term sustainability.

2013 PROGRAM HIGHLIGHTS

CHAI supported decisions to make close to 500,000 people living with HIV eligible for life-saving treatment in Ethiopia, Rwanda, Swaziland, and Zambia. The WHO released guidelines that suggest people living with HIV should be enrolled earlier on treatment in order to improve the fight against the epidemic. CHAI conducted analyses on both the costs and benefits of this new policy, which gave Ministry partners in those four countries the evidence to adopt the policy, thereby making additional adults, pregnant women, and children eligible for HIV treatment.

Too often, governments do not have the visibility on how donor funds are spent in their countries and therefore do not have the ability to effectively manage total resources. CHAI is helping Ministries of Health to track resources for health coming from donors and the Ministries of Finance. This increased accountability is key to effective planning and guiding resource allocations, allowing governments to do more with the resources available. Resource mapping is now underway in Burundi, Ethiopia, Lesotho, Liberia, Malawi, Rwanda, South Africa, Swaziland, Tanzania, and Zanzibar.

In Malawi, CHAI supported the use of this data to help a key donor reallocate more than \$30 million in funding to underfunded, high-impact interventions. This reallocation included directing \$10 million to key gaps in PMTCT. Furthermore, CHAI is supporting the Ministry of Health to use this data to illustrate existing operational inefficiencies in parallel supply chains.

The Malawi government is using data generated with help from CHAI to show donors the benefits of harmonizing supply chains, with the potential to save well over \$11 million per year.

CHAI is supporting governments to consider health systems reforms that improve sustainability. In South Africa, the government is rolling out a National Health Insurance (NHI) program to ensure access to essential healthcare for all South Africans by 2025. CHAI has informed key policy decisions around the NHI, including seconding of the CHAI country director to the National Department of Health as NHI Coordinator. CHAI is also supporting the government to strengthen financial management systems and improve efficiency in order to ensure NHI's seamless roll out.

The Ministry of Health of Swaziland, with assistance from CHAI, developed a health financing strategy that defines Swaziland's long-term vision for the health sector. CHAI performed a key component of the health financing strategy, a national health insurance feasibility and affordability analysis. Ultimately, the analysis will inform the Ministry of Health's decision about whether the country should move toward national health insurance as a way to deliver high-quality and adequately funded health services.



A malaria rapid test, one of many administered at the CHAI's malaria-awareness soccer match in Zanzibar on August 4, 2013. CHAI is working with the government of Tanzania to increase malaria diagnosis in the private sector.

MALARIA

CHAI'S MALARIA STRATEGY AIMS TO ACCELERATE PROGRESS TOWARDS SUSTAINABLE MALARIA ELIMINATION IN THE LONG-TERM WHILE REDUCING MALARIA MORTALITY IN THE SHORT-TERM THROUGH INCREASED ACCESS TO AFFORDABLE MALARIA TREATMENT, INCLUDING PROPHYLACTIC DRUGS IN PLACES WITH HIGH MALARIA MORTALITY DURING DEFINED SEASONS OF THE YEAR. SINCE 2007, CHAI HAS PROVIDED DIRECT MANAGEMENT AND TECHNICAL SUPPORT TO COUNTRIES AROUND THE GLOBE TO ASSIST GOVERNMENTS TO SCALE UP EFFECTIVE INTERVENTIONS FOR PREVENTION, DIAGNOSIS, TREATMENT, AND SURVEILLANCE, TO STRENGTHEN MALARIA PROGRAMS, AND TO REDUCE THE BURDEN OF THIS PREVENTABLE, TREATABLE DISEASE.

MALARIA

CHAI'S APPROACH

Over the past decade, dramatic increases in donor funding have facilitated scale up of effective interventions to prevent, diagnose, and treat malaria. This investment has successfully reduced the burden of malaria in many settings, and some countries have begun planning to eliminate malaria altogether. Yet these gains are fragile: global funding for malaria remains short of what is needed, and last decade's rapid growth in malaria financing appears to have halted.

Since 2007, CHAI has provided direct management and technical support to countries around the globe to assist governments to scale up effective interventions for prevention, diagnosis, treatment, and surveillance, to strengthen malaria programs, and to reduce the burden of this preventable, treatable disease.

2013 PROGRAM HIGHLIGHTS

CHAI's malaria strategy aims to accelerate progress towards sustainable malaria elimination in the long-term while reducing malaria mortality in the short-term through increased access to affordable malaria treatment, including prophylactic drugs in places with high malaria mortality during defined seasons of the year. These goals involve supporting countries with the highest malaria burdens to procure and distribute affordable, effective drugs; ensuring countries with moderate or evolving burdens are scaling up access to diagnostic testing to optimize the use of limited resources and target interventions to where they are truly needed; and helping low burden countries to end malaria transmission altogether.

In high burden countries:

CHAI partnered with the government of Nigeria to distribute prophylactic drugs in a pilot program in the northern state of Kano during the malaria transmission season. This effort prevented an estimated 24,389 malaria cases and averted 110 deaths in a population of close to 50,000 children under 5. CHAI also tested different delivery mechanisms to identify the most effective way to scale up this approach to potentially prevent close to five million cases and avert 23,135 malaria deaths per year in northern Nigeria.

Throughout 2013, CHAI worked to ensure sufficient financing was in place across six higher burden countries (Ghana, Kenya, Madagascar, Nigeria, Tanzania and Uganda) for the procurement of artemisinin-based combination therapies. CHAI worked with the governments to secure financing from the Global Fund and the United Kingdom's Department for International Development (DFID) totaling \$146.4 million to prevent the estimated 177,000 deaths in these countries per year.

In moderate or evolving burden countries:

The historical practice in Kenya and Tanzania of malaria treatment based on common symptoms has led to massive overtreatment and an inability to understand the true pattern of disease. While efforts have been made to expand access to and uptake of diagnostic testing in the public sector, the 30-40 percent of patients who seek treatment in the private sector typically do not receive a diagnostic test. To increase the affordability of tests, CHAI negotiated a 50-75 percent reduction in ex-factory prices for malaria rapid diagnostic tests (mRDTs). CHAI is working with the private sector and governments in both countries to try and achieve a retail price for the patients of less than \$0.70 by leveraging the negotiated manufacturer prices of \$0.27 - \$0.30. Since April 2013, the date of the first order in Tanzania and June 2013, the date of the first order in Kenya, the private sector has ordered 1.4 million rapid tests. CHAI worked with the governments in Tanzania and Kenya and implementing partners to build demand at the consumer and provider level for testing, and also establish recommended retail prices to ensure the savings achieved at the global level are passed down to the patient.

In Tanzania, CHAI assessed the feasibility of introducing mRDTs into accredited drug dispensing outlets (ADDOs), small drug shops that are currently allowed to sell malaria medication but not to conduct testing. Results from a baseline survey indicated that only 15 percent of patients seeking treatment for malaria or malaria-like symptoms in the ADDO had received a malaria test. Training was provided to 324 ADDO dispensers from 264 shops to administer rapid tests. Only four percent of patients who tested negative for malaria purchased an antimalarial drug. When brought to scale, introducing rapid tests into these outlets nationwide would significantly increase access to malaria testing, as there are over 10,000 ADDOs (many in remote areas) compared to approximately 800 formal private health facilities (usually concentrated in urban centers). Preliminary data on pricing shows that a subsidy may not be necessary to drive uptake, which would yield a massive cost saving for the government.

CHAI assisted the malaria program in Zambia to save nearly \$2 million by more precisely mapping malaria transmission risk and using this enhanced understanding to better target the distribution of bed nets.

In low burden countries:

CHAI supported the government of Swaziland to reach an all-time low incidence of 84 locally acquired malaria cases. An automated malaria case reporting system which allows health facilities to report cases easily and immediately to the National Malaria Control Program has strengthened the disease surveillance system, putting Swaziland on track to become the first mainland sub-Saharan Africa country to eliminate malaria altogether.

In Namibia, CHAI supported the malaria program on the national scale up of improved case management for malaria using the findings from a rapid and highly successful pilot of health worker training. This national roll out led to a dramatic decline in reported cases, dropping from over 14,000 reported cases in 2011 to 2,800 cases in 2013. By improving testing rates, the country now has a much clearer picture of true distribution of malaria and is more effectively targeting vector control interventions in the remaining hotspots of transmission.



Community dialogue on seasonal malaria chemoprevention in Kano State, Nigeria

Staff from the Federal Ministry of Health, regional health bureaus, hospitals and CHAI gathered at the Federal Ministry of Health, regional health bureaus' second National Hospital Performance Review Meeting in Afar region, Ethiopia in March 2013.



HUMAN RESOURCES FOR HEALTH

IN ALMOST ALL OF THE COUNTRIES WHERE CHAI WORKS, THERE IS A SEVERE HEALTH WORKFORCE SHORTAGE, WHICH MEANS THAT THERE ARE LESS THAN THE RECOMMENDED MINIMUM THRESHOLD OF 22.8 DOCTORS, NURSES, AND MIDWIVES PER 10,000 PEOPLE. INCREASING THE NUMBER OF QUALIFIED HEALTH WORKERS IS A FUNDAMENTAL COMPONENT OF CHAI'S EFFORTS TO EXPAND ACCESS TO HEALTHCARE FOR THOSE MOST IN NEED. CHAI'S GOAL IS TO ASSIST GOVERNMENTS TO INCREASE THE NUMBER AND DISTRIBUTION OF HIGHLY SKILLED HEALTH WORKERS.

HUMAN RESOURCES FOR HEALTH

CHAI'S APPROACH

The global shortage of health workers impacts every one of CHAI's programs. Increasing the number of qualified health workers is a fundamental component of CHAI's efforts to expand access to healthcare for those most in need. In almost all of the countries where CHAI works, there is a severe health workforce shortage, which means that there are less than the recommended minimum threshold of 22.8 doctors, nurses, and midwives per 10,000 people.

CHAI's goal is to assist governments to increase the number and distribution of highly skilled health workers. Working towards this goal, CHAI is supporting governments in four strategic areas:

1. Improving the quality of health worker education and training: CHAI is helping governments expand their training capacity through focused efforts to improve training quality.
2. Providing evidence needed to prioritize high-impact national strategies and investments to expand health workforces: CHAI is supporting governments to set ambitious national targets and priorities, and lay the groundwork for implementation plans to achieve those targets.
3. Optimizing the efficiency of health worker deployment to increase access in underserved areas: CHAI is identifying bottlenecks in the recruitment and deployment of health workers and helping governments solve these issues.
4. Building government human resource management capacity: CHAI is supporting governments to develop and maintain robust human resources administrative units, enabling governments to make evidence-based policy decisions about their workforces.

2013 PROGRAM HIGHLIGHTS

Rwanda

CHAI continued to support the government of Rwanda's Human Resources for Health (HRH) Program. This comprehensive effort to produce highly qualified health professionals in sufficient numbers to meet the needs of the Rwandan health system relies on an academic consortium of US universities. CHAI convened the consortium that included eight US academic medical centers (Brown, Columbia, Dartmouth, Duke, Einstein Medical College, Harvard, University of Virginia, Yale), six schools of nursing (Duke, Howard, New York University, University of Illinois at Chicago, University of Maryland, University of Texas), one school of public health (Yale), and two dental schools (Harvard and University of Maryland), and has continued to serve as a liaison between the government of Rwanda and the US universities.

While prioritizing access to primary care, the government of Rwanda seeks to increase the general physician workforce by 90 percent, specialist physicians in priority clinical areas by 350 percent and the total number of professional nurses and midwives by 900 percent.

- Over 100 US faculty members in medicine, nursing, midwifery and health management were deployed to Rwanda for one-year assignments.
- More than 1,200 lectures delivered and over 80,000 clinical hours of teaching time delivered, involving 145 medical residents and 1,428 nursing and midwifery students

- Three new medical residency programs launched (Radiology, Emergency Medicine, Otorhinolaryngology (ENT))
- Masters of Hospital and Healthcare Administration with Yale University launched (32 enrollees). Bachelors of Midwifery program launched (38 enrollees)
- \$58 million in funds from the United States government and Global Fund mobilized to date
- Medical equipment and supplies deployed to hospitals and teaching sites (\$18 million)

CHAI's HRH team supported the Ministry of Health by providing daily strategic, analytical, and operational support. CHAI worked with the Ministry of Health to develop the program's governing structure, ensure the consortium participants' commitment, provide a link between the Ministry of Health and US institutions, and coordinate the recruitment of US faculty across health professions.

In December 2013, the Rwanda HRH program successfully transitioned management of the program to the government of Rwanda – another sign of the success of CHAI's emphasis on capacity transfer.

Ethiopia

The Ethiopian Hospital Management Initiative (EHMI) began in 2006 as a collaborative project between the Ethiopian Federal

Ministry of Health (FMOH), Yale University School of Public Health, and CHAI. CHAI, at the request of the FMOH, has been supporting the FMOH's sector-wide health reform efforts by developing hospital management standards and guidelines, creating tools for monitoring hospital performance, and building health workforce capacity in healthcare management and performance monitoring.

Ethiopian Hospital Reform Implementation Guidelines

CHAI has worked with the FMOH and other partners to develop a set of management standards and guidelines on key hospital operations areas, Ethiopian Hospital Reform Implementation Guidelines and Hospital Performance Monitoring and Improvement framework with key performance indicators. CHAI provides targeted on-site support to hospitals with the implementation of the guidelines and with performance monitoring.

Masters in Hospital and Healthcare Administration

The government of Ethiopia began a Masters in Hospital and Healthcare Administration (MHA) program to develop leadership and management capacity in the Ethiopian health sector. CHAI, in collaboration with Yale University, supported the launch of a two-year, executive style masters programs at Jimma University in 2008 and at Addis Ababa University in 2010. The FMOH is considering expanding the program to other universities to meet the growing demand for trained hospital managers.

Ethiopian Hospital Alliance for Quality

The Ethiopian Hospital Alliance for Quality (EHAQ) was launched by the Minister of Health in 2011 and is overseen by a steering committee led by the Medical Services Directorate at the FMOH and comprised of partners, including CHAI. The EHAQ serves as an information-sharing forum for hospitals to learn from one another, thereby improving services across the board. Fifteen high performing LEAD¹ hospitals serve as mentor hospitals, supporting other hospitals in their network to improve performance. Change packets – guidance on how to implement identified best practices – are shared within the hospital networks and serve as capacity building tools.

- Twelve students graduated from Jimma University's MHA program in 2013. To date, 94 chief executive officers/hospital managers have graduated.
- In 2013, 75 of the 120 government hospitals had met at least 75 percent of standards and validated hospital performance monitoring reports show that 73 percent (88) of government hospitals reported complete performance data to their respective Regional Health Bureaus (RHBS) and the FMOH.

- In 2013 a second change package was published focusing on maternal health quality improvement and distributed to RHBS and hospitals.

Zambia

CHAI has been supporting the government of Zambia since 2007 to increase the capacity of the health care workforce and optimize worker distribution. CHAI and the Ministry of Health launched the National Training Operational Plan, which analyzes the situation in all 47 health-training institutions in Zambia, the number of health workers in the pipeline, and the training schools' capacity to increase enrollments.

Beginning in 2010, CHAI supported the government of Zambia to introduce and train a new cadre of health care workers—community health assistants (CHA). To date, over 300 trained CHAs have been deployed to rural areas to provide health support. In 2012, CHAI started work with both Ministry of Health and the Ministry of Community Development Mother & Child Health to scale up the training of CHAs.

- Secured funding to expand HRH training in support of National Training Operational Plan: Used an evidence-based costed investment plan to raise 46 percent of National Training Operational Plan. CHAI continues to support Ministry of Health to fundraise for the additional funding needed.
- Continued to expand access to basic health for underserved rural areas through community health workers. The second class of 285 CHA completed training at the end of 2013 and will be posted to 142 health posts, increasing coverage rates to 69 percent of all districts and providing services to approximately 497,000 rural inhabitants.
- Completed evaluations demonstrating that the introduction of CHAs has a demonstrable impact on health service provision at the health posts to which they are deployed. The CHAI & MOH Task Shifting Analysis shows that the deployment of two CHAs increases the baseline number of health services at health posts by 10.2 percent (an estimated 164.5 additional health services per month).
- Disseminated findings from its "Nurse & Midwife Return on Investment Analysis" demonstrating that adding a nurse to a health center increases OPD visits by around 21 percent, and adding a midwife increases facility deliveries by about 33 percent. The addition of a nurse also impacts the health outcomes at surrounding facilities; the addition of a nurse at small rural health centers reduces the number of deaths at all health facilities in a district by 38 percent. Posting a nurse to all health centers in a district reduces deaths at health facilities by nearly 50 percent.

¹ LEAD hospitals: **L** for **Leadership** (they show leadership in what they have accomplished and the commitment to accomplish more) **E** for **Excellence** (they demonstrate excellence in their in their past achievement) **A** for **Action** (they take action in their hospitals) **D** for **Dissemination** (they are willing to disseminate what they have learned to others in peer learning efforts)



Yohannes Tadesse, CHAI Ethiopia, training technicians on cold chain equipment maintenance. CHAI is working with government and other partners to improve vaccine cold chain maintenance systems in Ethiopia, Nigeria, and Tanzania.

VACCINES

IMMUNIZATION HAS BEEN ONE OF THE MOST SUCCESSFUL AND COST EFFECTIVE PUBLIC HEALTH INTERVENTIONS IN HISTORY, AND THE UNPRECEDENTED WAVE OF NEW VACCINES EXPECTED OVER THE NEXT DECADE HAS THE POTENTIAL TO DRAMATICALLY REDUCE THE GLOBAL BURDEN OF VACCINE PREVENTABLE DISEASES. CHAI CARRIES OUT THREE PROGRAMS RELATED TO VACCINES: (1) LOWERING VACCINE PRICES AND ENSURING SECURITY OF SUPPLY FOR VACCINES AND COLD CHAIN EQUIPMENT; (2) ACCELERATING THE ROLL OUT OF NEW VACCINES IN DEVELOPING COUNTRIES; AND (3) WORKING TO ENHANCE THE EFFICIENCY AND PERFORMANCE OF VACCINE COLD CHAINS AND SUPPLY CHAINS.

VACCINES

CHAI'S APPROACH

Immunization has been one of the most successful and cost effective public health interventions in history, and the unprecedented wave of new vaccines expected over the next decade has the potential to dramatically reduce the global burden of vaccine preventable diseases. Historically, there have been long delays from the time new vaccines became available on the market to when they are available in low-income countries with the highest burden of disease. While vaccine adoption by these countries has been accelerated in recent years with support from the Global Alliance for Vaccines and Immunization (GAVI), national introduction processes face further delays due to the complexities of launching a new vaccine, global vaccine supply constraints and limited institutional knowledge, and capacity for new vaccine introduction.

Moreover, in many low-income countries, vaccine delivery systems have remained largely unchanged since they were developed over four decades ago, and thus suffer from a number of structural inefficiencies. As a result, health systems may fail to deliver sufficient quantities of vaccines to target populations at the right place and time, leaving vulnerable children unprotected against vaccine preventable diseases. Also, the addition of bulkier and more expensive new vaccines into routine immunization programs places a cumulative strain on vaccine delivery systems, increasing both the risks and costs of vaccine wastage. The waste of millions of doses of vaccines—and therefore tens of millions of dollars—may occur in a country as inefficiencies and weaknesses in current vaccine delivery systems become more acute. Inadequacies in cold chain systems, which is the infrastructure that keeps vaccines stored at the correct temperatures, are a major restriction in the vaccine delivery system.

CHAI carries out three programs related to vaccines, all aimed at rapidly expanding access and significantly reducing the price and delivery cost of essential vaccines. The first program is related to lowering vaccine prices and ensuring security of supply for vaccines and cold chain equipment. The second program accelerates the roll out of new vaccines in developing countries. The third program works to enhance the efficiency and performance of vaccine cold chains and supply chains.

CHAI has developed a new approach to global vaccine pricing, and in partnership with the Bill & Melinda Gates Foundation (BMGF), has negotiated agreements that have significantly reduced the price of rotavirus and pentavalent vaccines, achieving expected combined savings of over \$800 million over the course of the deals. CHAI is now working on price reduction negotiations for various other vaccines.

CHAI, also in partnership with BMGF, initiated a vaccine delivery program in 2011 to accelerate and increase the efficiency of the roll out of new vaccines. To date, CHAI has supported the introduction of pneumococcal conjugate vaccine (PCV) in Ethiopia, Kenya, and Malawi, rotavirus vaccine in Ethiopia, Kenya, and Malawi, and pentavalent vaccine in Nigeria. CHAI also supported the government of Tanzania to roll out the pneumococcal and rotavirus vaccines concurrently. Taken together, the accelerated introduction of these vaccines will avert an estimated 135,000 deaths annually in these countries. CHAI assisted the government of Ethiopia to introduce PCV vaccine in 2011, significantly earlier than originally planned, averting at least 25,000 deaths.

CHAI has worked to improve vaccine cold chain system efficiency. This work supports partner governments to ensure that investments in new and currently used vaccines deliver maximum intended impact, and reduces vaccine wastage due to temperature exposure. Examples of this work include initiating the first end-to-end temperature monitoring system in the vaccine cold chain in Ethiopia, conducting cold chain inventory assessments in Ethiopia, Kenya, Malawi, Nigeria, and Tanzania to actively prevent delays in vaccine introduction due to capacity shortage, and developing a vaccine stock monitoring system using mHealth technology in Ethiopia. Partly in recognition of CHAI's early successes in this area, CHAI, with the support of the ELMA Vaccines and Immunization Foundation and the Department of Foreign Affairs, Trade and Development Canada (DFATDC), is working to enhance the ability of countries to effectively and efficiently deliver vaccines both for new vaccine introductions and routine immunization across four countries: Ethiopia, Mozambique, Nigeria, and Tanzania. The BMGF has also provided additional support to undertake similar work in Kenya and Uganda.

CHAI's current work on immunization cold chains comprises six main objectives. CHAI has already built significant momentum towards the target results of this work.

1. Cold chain planning and implementation

CHAI is supporting the development and execution of robust cold chain rehabilitation and expansion plans to meet current and future cold chain capacity needs in Ethiopia, Mozambique, Nigeria, and Tanzania. Each of these countries has completed an inventory of cold chain equipment at all vaccine storage points. CHAI has developed and shared tools with governments and partners to support this work, such as the total cost of ownership tool which allows in-country decision makers to assess the total lifetime cost of specific types of cold chain equipment, to determine which is most cost effective for a given country context.

2. Temperature monitoring and control

CHAI is deploying new temperature monitoring and control systems to enhance detection, response and ultimately the prevention of temperature excursions in the vaccine cold chain in order to help governments select an appropriate temperature monitoring solution for their vaccine cold chains. Furthermore, CHAI is linking these temperature-monitoring solutions to response systems, notably the repair of faulty cold chain equipment, in order to minimize the impact of temperature excursions and ultimately prevent them from occurring.

As an example of CHAI's work in this area, in Tanzania, CHAI helped the government identify and deploy appropriate remote temperature monitoring devices (RTMD) in all national and regional vaccine cold stores. This new system has already demonstrated impact in a vaccine cold room in Dar es Salaam by triggering a timely response to a temperature excursion that occurred over a weekend. This response prevented possible heat damage to the vaccines, and made it possible to identify the underlying cause of the excursion such that it could be fixed, preventing the same issue from occurring again. The government has now asked CHAI to help deploy a similar solution in all district vaccine stores in Tanzania. CHAI is also working with RTMD suppliers to lower the cost of their products and develop future products best suited to needs CHAI identified in the field. CHAI is also encouraging new RTMD suppliers to enter the vaccine market, to increase supply security in the space.

3. Stock transparency and availability

To make immunization supplies more available, CHAI is designing and rolling out improved vaccines stock management systems in Ethiopia, Nigeria, and Tanzania. This includes the deployment of web-based tools that automatically transmit information to where it is needed and that trigger better decisions from stock managers. In addition, CHAI is improving the supply chain design and replenishment process for vaccines. For example, in Nigeria, CHAI is piloting a new vaccines replenishment system based on improved ordering and delivery models in Lagos and Kano States. In the pilot of this system, the percentage of health facilities with sufficient vaccine stocks has dramatically increased, from 43 percent to 100 percent in Lagos and from 31 percent to 80 percent in Kano, over the course of 10 vaccine delivery cycles completed thus far.

4. Cold chain maintenance

CHAI is working with government and partners to improve vaccine cold chain maintenance systems in Ethiopia, Nigeria, and Tanzania. In these countries, CHAI has identified key bottlenecks to effective cold chain equipment repair and maintenance. Bottlenecks include both a lack of trained staff in close proximity to lower level facilities and a lack of systems that provide timely information to trained staff on the need for repair/maintenance which would enable staff to respond to these requests (e.g. lack of spare parts and travel budgets). In Ethiopia, CHAI has developed guidelines for carrying out cold chain equipment repair and maintenance campaigns that have been adopted by the Federal Ministry of Health as "best practice" and will be used to guide future partner-funded repair and maintenance campaigns.

5. Accelerated adoption of new cold chain technology

CHAI is evaluating and supporting governments and partners to roll out appropriate cold storage technology to improve vaccine cold chains. CHAI has identified new or under-utilized cold chain technologies that have a potential to make a significant impact in developing world vaccine supply chains. This includes vaccine storage products with robust temperature controls, especially with 'no freeze' guarantees, and cold storage equipment that functions well with no or low electricity. CHAI has been relaying country feedback back to manufacturers so they can optimize their future cold chain product offerings.

6. Market shaping

CHAI is supporting cold chain equipment manufacturers to develop and commercialize new cold chain technologies that are optimally suited to developing country needs. For example, CHAI is supporting manufacturers to more rapidly develop and commercialize cold storage technology that cannot freeze vaccines. Scaling up and introducing this technology has the potential to protect millions of doses of vaccines procured by GAVI from freezing, which has been shown to reduce the potency and efficacy of many vaccines. CHAI is also working with cold chain equipment manufacturers to lower cold chain product prices by reducing manufacturer costs. CHAI's goal is to reduce the total cost of ownership of at least two cold chain technologies by at least 30 percent. CHAI is also collaborating with GAVI, BMGF, WHO, UNICEF, and other partners to develop global cold chain market policies. Finally, CHAI has negotiated deals for several pilot cold chain equipment purchases, achieving substantial cost reductions. CHAI will apply lessons learned from these negotiations to broader manufacturer negotiations in order to improve the cost effectiveness of cold chain equipment expenditure.



A mother holding her baby which she safely delivered at a health center supported by CHAI's maternal health program in Ethiopia.

MATERNAL, NEWBORN, AND CHILD HEALTH

ALTHOUGH THERE HAVE BEEN REDUCTIONS IN ANNUAL MATERNAL AND CHILD DEATHS, PROGRESS HAS BEEN UNEVEN AND INADEQUATE. CHAI BELIEVES THERE IS A SIGNIFICANT OPPORTUNITY TO SAVE THE LIVES OF MOTHERS, NEWBORNS, AND CHILDREN. CHAI HAS INITIATED PROGRAMS ON MATERNAL AND NEONATAL HEALTH IN ETHIOPIA, NIGERIA, MALAWI, AND TANZANIA; CHILD HEALTH PROGRAMS IN INDIA, KENYA, NIGERIA, AND UGANDA; AND NUTRITION PROGRAMS IN SEVERAL AFRICAN COUNTRIES.

MATERNAL, NEWBORN, AND CHILD HEALTH

CHAI'S APPROACH

CHAI began its work to lower rates of maternal, newborn, and child mortality late in 2011, and the work is just recently beginning to show results.

Maternal and Newborn Health

Although there has been a 50 percent reduction in annual maternal deaths since 1990, progress has been uneven and inadequate. There are still over 285,000 women dying of largely preventable deaths each year due to complications of pregnancy and birth.¹ With 99 percent of these deaths limited to developing countries, the poor bear the overwhelming burden of these deaths.

In the area of child health, significant progress has been made to reduce the number of children who die before reaching their fifth birthday. Reduction in under 5 child mortality is due to increases in the use of vaccines, pediatric AIDS care and treatment, deployment of bed nets, and other means to curb malaria. However, the rate of newborn death is still unacceptably high. Just over a million babies die each year during delivery or just shortly after childbirth, and another 2.6 million babies are reported stillborn². Again, the vast proportion of these deaths occur in developing countries and many, if not most, are preventable.

CHAI believes there is a significant opportunity to save the lives of mothers and newborns. The majority of maternal and neonatal deaths are caused by a handful of conditions. Three maternal complications—hemorrhage, sepsis and pre-eclampsia/eclampsia—account for half of all maternal death and three causes of neonatal death—prematurity, complications during childbirth, and neonatal infections—account for more than 80 percent of the total neonatal mortality burden³. These complications largely occur within a very narrow time window, lending themselves to very focused and targeted interventions.

Evidence shows that only 15 percent of all pregnancies result in life-threatening complications.⁴ Effective, low cost interventions exist to avert a majority of the preventable deaths. Therefore, CHAI believes that the key to reducing maternal and neonatal mortality in our partner countries is to organize an integrated set of standard operating procedures and protocols for action

to prevent complications before they occur, to identify high-risk pregnancies where complications are probable to encourage delivery in a hospital setting and, finally, to treat, stabilize and refer quickly when complications do occur.

With support from the government of Norway, in 2013 CHAI initiated programs in Nigeria, Ethiopia, Tanzania, Malawi, and Liberia, with the goal to apply this integrated approach at scale in 2014.

Child Health

CHAI is working to scale up life-saving treatment for child diarrhea, which is responsible for more than 700,000 deaths each year. The provision of zinc and oral rehydration salts (ORS) is highly effective and costs less than \$0.50 per child; yet less than one percent of children in need of treatment are receiving it. Providers and consumers are often unaware that zinc and ORS is the recommended treatment, which creates a lack of demand. Existing supply chains are often inadequate to reach people in rural areas even when awareness is raised. As a result, suppliers have limited incentive to invest in promotion of these products.

To overcome this barrier, CHAI is working in India⁵, Kenya, Nigeria, and Uganda to scale up access to and usage of these products by building demand and increasing availability in both private and public sectors. CHAI is also working to catalyze change at the global level as co-chair of a working group of partners that aims to scale up treatment in 10 countries accounting for 60 percent of global deaths.

Nutrition

In India and most countries in sub-Saharan Africa, over 40 percent of all children less than 5 years of age suffer from chronic malnutrition, which manifests in a condition known as stunting, or a height-for-age that is at least two standard deviations below the average for children under 5. A continued lack of sufficient micro and macronutrients in a child's diet also results in cognitive impairment and a less effective immune system, leaving the child unable to reach his or her mental potential and at risk for repeated infections.

Chronic malnutrition is the single greatest predictor of death in children under 5 globally and is considered to be a contributing factor in approximately 40 percent of all childhood deaths in developing countries⁶.

Stunting begins during pregnancy and the first six months of life, but the prevalence of stunting increases during the six-24 month window when breast milk is no longer sufficient to provide a growing infant her entire need of micro and macronutrients. While the addition of appropriate complementary foods in addition to breast milk prevents stunting from occurring, often times in developing countries the food provided lacks the nutritional content necessary to meet the infant's needs and is not available in sufficient quantities year-round.

To address these gaps, CHAI is partnering with Ministries of Health and Agriculture to establish programs to improve the nutritional status of pregnant and lactating women, to encourage exclusive breastfeeding in the first six months of life and to promote nutrient-dense complementary foods, alongside continued breastfeeding, for children from 6 months to 2 years of age. CHAI is working in several African countries with governments and partners to develop

a suite of nutritious products for infants and young children that will be based primarily on local agricultural products, aligned with local eating habits and produced locally but to the highest European quality standards of food production.

2013 Maternal and Newborn Health Program Highlights

CHAI Ethiopia's Maternal and Neonatal Health (MNH) program began in 2011 to support the Federal Ministry of Health's efforts to reduce maternal and newborn mortality. The program introduced the non-pneumatic anti-shock garment (NASG) in selected health facilities to reduce complications due to pregnancy-related excessive bleeding. With the introduction of the NASG, implementation sites experienced a 79 percent reduction in maternal deaths related to post-partum hemorrhage (post-delivery bleeding).⁷ The NASG is now available in 110 of the 130 government hospitals.



Pushplata, an Accredited Social Health Activist (ASHA) in Uttar Pradesh, India, administers life-saving zinc and oral rehydration salts (ORS) to a child with diarrhea. CHAI is working in India, Kenya, Nigeria, and Uganda to scale up life-saving treatment for child diarrhea, which is responsible for more than 700,000 deaths each year.

1 http://www.who.int/gho/maternal_health/mortality/maternal/en
2 Liu L, Johnson H, Cousens S et al. 2012. Global, regional and national causes of child mortality: an updated systematic analysis. *Lancet* 379(9832):2151-61.
3 Liu L, Johnson H, Cousens S et al. 2012. Global, regional and national causes of child mortality: an updated systematic analysis. *Lancet* 379(9832):2151-61.
4 UNFPA Programme Manager's Planning Monitoring and Evaluation Toolkit, March 2004

5 In 3 states Gujarat, Madhya Pradesh, and Uttar Pradesh.
6 <http://www.who.int/bulletin/archives/78%2810%291207.pdf>

7 Maternal death related to PPH at the implementation sites fell from 14.2% to 3%.

APPLIED ANALYTICS

CHAI'S APPROACH

Governments often need to make critical decisions about allocating resources and planning health programs and too often are forced to do so in the absence of evidence or analyses of options under different scenarios. Evidence generated through academic research is often on a timeline where the results are unavailable in time for management decisions that governments must make, or the evidence never reaches governments' desks.

CHAI generates the actionable policy-relevant evidence needed to improve healthcare decisions with an approach to analytics that is distinguished not by what is done, but how it is done. While CHAI applies methods also used by other institutions, CHAI aims to generate and utilize evidence in a way that is efficient, flexible, focused on practical impact, and driven by the needs of government partners. Working at the intersection of CHAI's global and country teams, the Applied Analytics Team (AAT) brings expertise in epidemiology, economics, mathematical modeling, program measurement, research ethics, and evaluation methods, and catalyzes the use of robust applied analytical methods across CHAI.

AAT provides the epidemiologic expertise underpinning studies across CHAI programs and countries, particularly in the realm of vaccines, zinc/ORS, human resources for health, and HIV. CHAI has executed rigorous data collection and analysis exercises that serve to inform the development of programs and document the impact of on-going interventions.

2013 PROGRAM HIGHLIGHTS

Through the Demand Driven Evaluations for Decisions program (3DE), in 2013 CHAI worked with the Ugandan and Zambian governments to identify impact evaluation questions in malaria, HIV, and maternal mortality that would inform the allocation of resources. One evaluation with Zambia found that non-cash incentives were associated with a 54 percent increase in facility delivery rates, and were cost-effective.

Countries that face a severe shortage of human resources for health often struggle to decide how to effectively and efficiently deploy a limited number of health workers in a way that best serves their population's health needs. CHAI has worked in Zambia to rigorously quantify the impact of adding health workers in rural clinics. CHAI's study found that the addition of a nurse at a small rural health center can increase the number of outpatient visits per month by 21 percent, and the addition of a midwife can increase the number of women per month that attended a first antenatal care visit and delivered at a facility by about 30 percent each.

The CHAI Zambia team assisted the Zambian Ministry of Health to support an evidence-based policy decision-making process on strategies for the elimination of mother-to-child transmission of HIV (eMTCT). CHAI used data from several sources to calculate the financial costs of 'Option B+', as well as the expected reductions in infant infections. In addition, CHAI documented the implementation requirements and challenges related to this policy change and convened a technical working group of stakeholders to provide input on the business case. The Ministry of Health adopted 'Option B+' as national policy in January 2014, and CHAI is continuing to work with the Ministry of Health on the strategic implementation of this policy. The adoption of this new policy is expected to prevent 100,000 HIV infections in infants by 2025 compared to the previous protocol.

ACCESS TO MEDICINES

CHAI'S APPROACH

CHAI works to accelerate patient access to the most effective, high-quality health products at affordable yet sustainable prices. CHAI's approach involves coordinated and intensive engagement on both the demand and supply sides of the market. On the demand side, CHAI works with governments to build and consolidate demand around optimal products in terms of efficacy, formulation, quality, and price. On the supply side, CHAI works with manufacturers to reduce the costs of production, enhance competition, encourage adoption of stringent quality standards, optimize product design, and accelerate the entry and uptake of new and better products.

CHAI believes that patients should not just have access to inexpensive drugs and diagnostics, but that those treatments should be the best drugs and diagnostics available in the market. CHAI has had success in making the preferred treatments for HIV and malaria in developed markets accessible and affordable in low and middle-income countries. CHAI also collaborates with partners in developing newer, better products, including new diagnostics and new drugs, such as more convenient fixed dose combination (FDC) products to make adherence to treatment easier.

The scope of health commodity markets covered by the program has grown in recent years, and now includes medicines and diagnostics for HIV, tuberculosis and malaria, as well as vaccines and contraceptives. Specific accomplishments achieved globally and in country are captured in the sections above. CHAI's Access to Medicines Program continues to explore access opportunities in other markets and disease areas where a transformational impact can be made.

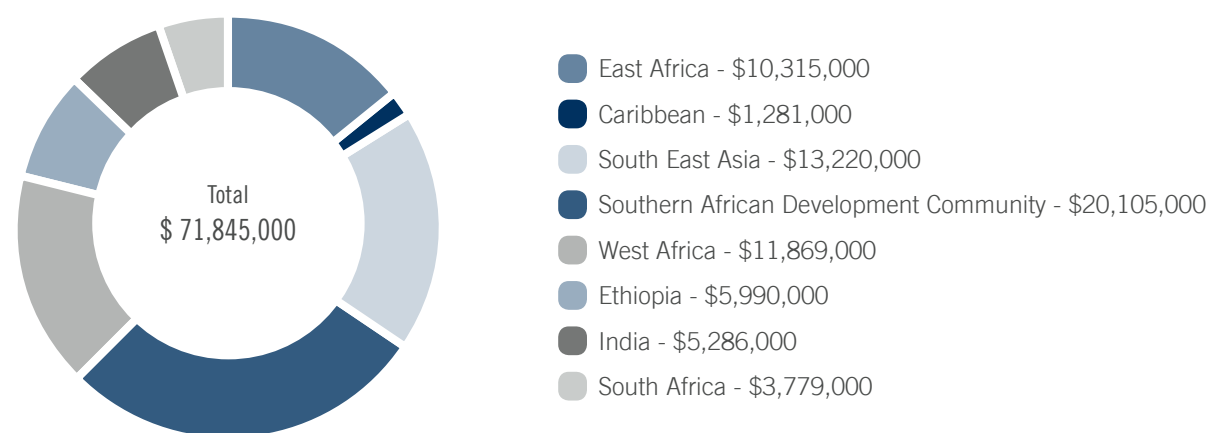
2013 FINANCIALS

CLINTON HEALTH ACCESS INITIATIVE, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF ACTIVITIES

Note: Amounts in Thousands of Dollars (\$000s)	December 31,	
	2013	2012
ASSETS		
Cash and cash equivalents	10,524	9,249
Assets limited as to use	61,567	55,140
Accounts receivable	975	438
Contributions receivable	4,944	1,968
Grants receivable	4,387	961
Prepaid expenses	638	726
Property and equipment, net of accumulated depreciation	211	356
Total assets	83,247	68,838
LIABILITIES AND NET ASSETS		
Accounts payable	3,171	6,151
Accrued expenses	2,226	2,130
Deferred revenue	38,118	21,527
Assets held for UNITAID commodities purchases	3,513	13,606
Total liabilities	47,028	43,414
Total net assets	36,219	25,424
Total liabilities and net assets	83,247	68,838

Figure 1: 2013 Expenses per region and major country



CONSOLIDATED STATEMENTS OF ACTIVITIES - continued

Note: Amounts in Thousands of Dollars (\$000s)	December 31,	
	2013	2012
REVENUES AND SUPPORT:		
Contributions	47,245	35,160
Grants	59,412	39,041
Grant - affiliate	2,000	4,000
In-kind contributions	562	744
Other	168	247
Total revenues, gains and other support	109,387	79,191
EXPENSES:		
East Africa	10,315	6,424
Caribbean	1,281	1,509
South East Asia	13,220	12,515
Southern African Development Community	20,105	11,418
West Africa	11,869	6,133
Ethiopia	5,990	4,538
India	5,286	1,094
South Africa	3,779	3,233
Direct Country Team Expenses	71,845	46,863
Global Access	13,861	10,631
Global AIDS & Health Systems	2,941	2,920
Other Global Programs	8,433	6,467
Direct Global Team Expenses	25,235	20,019
In-Country Indirect Costs	1,418	1,929
Executive & Program Management	1,654	1,707
General and Administrative	6,606	6,640
Overhead	9,678	10,276
Management Study	-	629
Financial System Implementation	448	80
Total Expenses	107,207	77,867
Current Year Surplus	2,180	1,324

CHAI LEADERSHIP TEAM

CHAI SENIOR LEADERSHIP TEAM

Ira C. Magaziner

Vice Chairman and Chief Executive Officer

Mustapha “Staph” Leavenworth Bakali

President and Chief Operating Officer

Julie Feder

Chief Financial Officer

Alice Kang'ethe

Executive Vice President of Vaccines, Human Resources for Health, and Family Planning

Kelly McCrystal

Executive Vice President for New Initiatives, Nutrition and Maternal, Newborn, and Child Health

Mphu Ramatlapeng

Executive Vice President – HIV/AIDS, TB, and Global Health Spending

Dave Ripin

Executive Vice President of Access to Medicines and Malaria; Chief Science Officer

Dr. Yigeremu Abebe

Vice President & Country Director – Ethiopia

Gerald Macharia

Vice President, Regional Director – East and Southern Africa and Country Director – Kenya

Dr. Owens Wiwa

Vice President, Regional Director – West Africa and Country Director – Nigeria

Joshua Chu

Senior Regional Program Director – Asia

Prescott Chow

Senior Regional Director – Indonesia and Papua New Guinea and Country Director – Indonesia

Cathleen Creedon

Director of Development

Harkesh Dabas

Managing Director – India

Maura A. Daley

Senior Director – Communications

Corrie Martin

Senior Director – Operations

Linda Michalopoulos

Senior Director – Human Resources

Joan Muasa

Senior Director – Institutional Relations and Program Review

Dang Ngo

Senior Regional Director – Greater Mekong and Country Director – Vietnam

CHAI BOARD OF DIRECTORS

President William J. Clinton

Chairman of the Board

Ira C. Magaziner

Vice Chairman of the Board and CEO

Raymond G. Chambers

Board Member

Chelsea Clinton

Board Member

Dr. Paul Farmer

Board Member

Mala Gaonkar

Board Member

Bruce Lindsey

Board Member

Maggie Williams

Board Member

Dr. Tachi Yamada

Board Member

Timothy A A Stiles

Chair of the Audit and Finance Committees

Richard J. Zall

Secretary of the Board and Legal Counsel

CHAI EXECUTIVE COUNCIL

Raymond G. Chambers

Chairman of the Executive Council

Wallis Annenberg

Executive Council Member

Todd Fisher

Executive Council Member

Tim Gannon

Executive Council Member

Mitchell R. Julis

Executive Council Member

Robert S. Kaplan

Executive Council Member

Danielle Leinroth

Executive Council Member

Dale “Chip” Rosenbloom

Executive Council Member

Robert Selander

Executive Council Member

Alan Schwartz

Executive Council Member

Natalie Shipton

Executive Council Member

William Shutzer

Executive Council Member

Lonnie Smith

Executive Council Member

Harry Zimmerman

Executive Council Member

Richard J. Zall

Secretary of the Executive Council and Legal Counsel

GET INVOLVED



www.clintonhealthaccess.org

CLINTON HEALTH ACCESS INITIATIVE, INC. (CHAI)

383 Dorchester Avenue

Suite 400

Boston, MA 02127

USA

617.774.0110

info@clintonhealthaccess.org



www.clintonhealthaccess.org