HIV CLINICAL SERVICES PROGRAM
END-OF-PROJECT REPORT
2007–2012
DISCLAIMER: This final project report is made possible by the generous support of the American people through the United States Agency for International Development (USAID) and the President’s Emergency Plan for AIDS Relief under the Rwanda HIV/AIDS Clinical Services Program. The contents are the responsibility of the Elizabeth Glaser Pediatric AIDS Foundation and do not necessarily reflect the views of USAID or the United States government.

Cover Photo: James Pursey
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AIDS  acquired immune deficiency syndrome
ALAC  Agent de Liaison des Activités (Community Liaison)
ANC  antenatal care
ART  antiretroviral therapy
ARV  antiretroviral
BCC  behavior change communication
CAMERWA  Rwanda Drug, Consumables and Equipment Central Procurement Agency
CBHI  community-based health insurance
CDC  U.S. Centers for Disease Control and Prevention
CHW  community health worker
CoC  continuum of care (of HIV)
CRS  Catholic Relief Services
CSB  corn-soy blend
DBS  dried blood spot
DQA  data quality assessment
EGPAF  Elizabeth Glaser Pediatric AIDS Foundation
EID  Early Infant Diagnosis
EmONC  emergency obstetric and neonatal care
EMTCT  elimination of mother-to-child transmission (of HIV)
FP  family planning
GLASER  global aids system for evaluation and reporting
GOR  Government of Rwanda
HAART  highly active antiretroviral therapy
HCSP  HIV Clinical Services Program
HIV  human immunodeficiency virus
HMIS  Health Management Information System
HRH  human resources for health
IHDP  Institute for HIV/AIDS Diseases, Prevention and Control
IMCI  integrated management of childhood illness
IYCF  infant and young child feeding
KMC  Kangaroo Mother Care
L&D  labor and delivery
M&E  monitoring and evaluation
MCH  maternal and child health
MEMS  monitoring and evaluation management systems
MIYCN  maternal, infant, and young child nutrition
MNCH  maternal, neonatal, and child health
MOH  Ministry of Health
MTCT  mother-to-child transmission (of HIV)
NISR  National Institute of Statistics of Rwanda
NRL  National Reference Laboratory
OGAC  Office of the U.S. Global AIDS Coordinator
PATH  Program for Appropriate Technology in Health
PBF  performance-based financing
PCR  polymerase chain reaction
PDSA  plan-do-study-act
PEP  post-exposure prophylaxis
PEPFAR  U.S. President’s Emergency Plan for AIDS Relief
PHE  public health evaluation
PICT  Provider-Initiated Counseling and Testing
PMTCT  prevention of mother-to-child transmission (of HIV)
POFIS  Point Focal pour l’intégration des Services (Services Integration Focal Point)
Q&A  question-and-answer
QI  quality improvement
QMC  Quality Management Committee
QoC  quality of care
RBC  Rwanda Biomedical Center
RFHP  Rwanda Family Health Project
RH  reproductive health
RPS  Rwandan Pediatric Society
SCMS  supply chain management systems
SGBV  sexual and gender-based violence
SMS  short message service (Text Message)
TB  tuberculosis
TRAC Plus  Center for Treatment and Research on AIDS, Malaria, Tuberculosis and Other Epidemics
TWG  technical working group
UNAIDS  Joint United Nations Programme on HIV/AIDS
UNICEF  United Nations Children’s Fund
USAID  United States Agency for International Development
USG  United States Government
VCT  voluntary counseling and testing
WFP  World Food Program
WHO  World Health Organization
EXECUTIVE SUMMARY

The Elizabeth Glaser Pediatric AIDS Foundation’s (EGPAF’s) support of HIV clinical services in Rwanda began in 2001 with technical and financial support to the Treatment and Research AIDS Center, today known as the Rwanda Biomedical Center, for the scaling up of prevention of mother-to-child transmission of HIV (PMTCT) services in Rwanda. In 2004, through USAID funding of EGPAF’s global Call to Action program, EGPAF’s support expanded to include a comprehensive package of HIV clinical services, including PMTCT, HIV-exposed infant and young child feeding, and HIV and AIDS care and treatment for children and families living with HIV. In June 2007, EGPAF was awarded a cooperative agreement by USAID to implement the HIV Clinical Services Program (HCSP) of USAID and the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR). Under HCSP, EGPAF is the lead PEPFAR clinical partner in the Eastern Province of Rwanda.

EGPAF/Rwanda’s HIV program has been developed to respond to Rwanda’s development vision, which guides the country’s national goals and health programs. The vision includes the overarching Rwanda Vision 2020 strategic plan, the Economic Development and Poverty Reduction Strategy, and the decentralized health sector strategies developed to meet the country’s goals.

EGPAF’s program in Rwanda is also aligned with donor mandates and bilateral accords, such as the United States government (USG) and government of Rwanda (GOR) Partnership Framework,1 which focuses on HIV/AIDS prevention, care, and treatment programs; quality of care; health systems strengthening for sustainability; political and technical leadership; and transitioning of financial and technical management capacity to local institutions.

EGPAF does not implement services directly but supports Rwandan institutions to implement a comprehensive package of integrated HIV clinical care services. In recent years, USAID has been supplementing EGPAF’s HCSP with USAID funds earmarked for maternal and child health (MCH), family planning (FP), sexual and gender-based violence, and water and sanitation. These programs have been mainstreamed through EGPAF’s support to health institutions.

In line with its commitment to sustainable, locally owned programs, EGPAF works closely with the Ministry of Health (MOH), districts, and health facilities to ensure that programs meet national priorities and to build the capacity of local staff. Financial grants, mentorship, and training to districts, health facilities, and community members further strengthen human resources, health systems management, and program quality.

The program’s achievements in HIV service delivery have been considerable. By September 2012, the program was providing quality HIV clinical services and district capacity building at 48 sites in 5 districts and Kigali City. As of September 30, 2012, the cumulative number of clients receiving antiretroviral therapy (ART) was 14,993, including 1,129 children, with nearly 31,673 individuals having ever enrolled in HIV care, including 1,937 children. Cumulatively from 2007 to 2012, the program reached 160,520 women with PMTCT services and offered antiretroviral (ARV) prophylaxis to 7,849 HIV-positive pregnant women and 7,751 HIV-exposed infants. In addition, the program tested 85% of men whose partners attended PMTCT services in antenatal care (ANC). An estimated 7,500 HIV-infected pregnant and breastfeeding women and caregivers of HIV-exposed infants were provided with maternal, infant, and young child nutrition (MIYCN) counseling, and food support was provided to malnourished HIV-positive pregnant and breastfeeding women and all HIV-exposed infants enrolled in the PMTCT program. Using PEPFAR estimations, it is likely that more than 2,000 pediatric HIV infections were averted as a result of these efforts, as well as many adult lives saved, benefiting thousands of families. The program also spearheaded significant innovations and best practices, including development of a model for the continuum of care for people living with HIV, an integrated MIYCN package that includes the latest national PMTCT guidelines (Option B+), quality improvement approaches, a model of MCH/HIV services integration, and psychosocial care for children living with HIV.

The program used a combination of input and performance-based sub-agreements, with approximately 60% of funding going directly to support districts and health facilities. Between 2007 and 2012 EGPAF/Rwanda obligated more than $15,582,000 in sub-agreements, of which approximately 10% was for performance-based financing (PBF). More than $2.5 million was invested in infrastructure, equipment, and supplies to support high-quality services.
RWANDA CONTEXT

Rwanda is a small landlocked country in central Africa with a population of 11.4 million and an annual population growth rate of 2.8%.

Rwanda is the most densely populated country in sub-Saharan Africa, with 60% of the population living below the poverty line and 80% engaged in subsistence agriculture. Rwanda is ranked 152nd out of 169 countries on the Human Development Index.

During the last 10 years, Rwanda, with support from its partners, has made remarkable achievements in improving HIV care, FP, and MCH. It has also made great achievements in scaling up innovative national approaches such as PBF in health and a widely accessed community health insurance program.

According to results of the 2010 Rwanda Demographic Health Survey, HIV prevalence has not changed since 2005 and is 3% for the general population (3.7% for women and 2.2% for men). HIV prevalence is 3 times higher in urban areas (7.1%) than in rural areas (2.3%). At the end of 2009, an estimated 170,000 adults and children were living with HIV/AIDS and 130,000 children younger than 17 years had lost one or more parents to the disease.

The contraceptive prevalence rate increased from 4% to 45% from 2000 to 2010; the total fertility rate showed progressive decline from 6.1 children per woman in 2005 to 4.2 in 2010; almost all pregnant Rwandan women (98%) attend at least one ANC visit; facility-based deliveries have increased; and a skilled provider assisted at 69% of births in 2012, compared with 30% in 2005.

Maternal mortality decreased from 750 deaths per 100,000 live births in 2005 to 487 in 2010—although the target in Millennium Development Goal 5 is 268.7 Immunization coverage is high: Of children aged 0–14 years (EPP, 2010), it is estimated that 105,190 people were eligible for ART in 2011: 90,460 aged 15 and up, and 14,730 aged 0–14 years (EPP, 2010).

Population-based data showed that in 2010, 78% of HIV-positive pregnant women received ARVs, 74% of HIV-exposed infants received ARV prophylaxis (which is an increase from 55% in 2008), and 78% of HIV-exposed children received cotrimoxazole.

As of June 2011, 96,123 people were receiving ART in Rwanda. This total included 7,597 infants and children aged 0–14 (3,840 female and 3,757 male) as well as 88,526 aged 15 years and older (55,036 female and 33,490 male). In the HIV and AIDS in Rwanda 2010 Epidemiologic Update, it is estimated that 105,190 people were eligible for ART in 2011: 90,460 aged 15 and up, and 14,730 aged 0–14 years (EPP, 2010).

Rwanda has committed itself to reducing the risk of transmission of HIV from mother to child to below 2% at 18 months by 2015, and has placed elimination high on the national policy agenda. In May 2011, the first lady of Rwanda launched the National Initiative to Eliminate Mother-to-child Transmission of HIV.

The country drafted a national strategy and operational plan (2011–2015) for the elimination of mother-to-child transmission of HIV in Rwanda and is in the process of engaging all 30 health districts in the country to create their own elimination plans and targets. In order to reach more women with more-efficacious ARV regimens, the government has adopted Option B+, along with the implementation of a task-shifting policy to allow nurses to prescribe ARVs.

The use of PBF and imihigo (performance contracts) has significantly contributed to improvements in service quality and achievement of targets in Rwanda. Under imihigo, district mayors, governors, and ministers sign performance contracts with the president of the republic. These contracts focus on priority areas and include specific outputs, indicators, and targets.

* The national elimination strategy will complement the National Strategic Plan on HIV and AIDS 2009–2012 and the Health Sector Strategic Plan 2009–2012.

** For pregnant HIV-infected women whose CD4 count is over 350, Option A involves (1) a daily dose of AZT (an antiretroviral drug) during pregnancy and (2) a combination of several ARVs during labor and delivery, and one week postpartum. Option B and Option B+ call for the administration of triple-combination ART. Under Option B, ART would be stopped after the breastfeeding period for women with CD4 counts above 350, while Option B+ calls for ARV to continue for the woman’s life, regardless of CD4 count.
EGPAF began support in Rwanda in 2001, with a grant to the government’s Treatment and Research AIDS Center to support PMTCT activities. EGPAF’s activities grew through a grant from USAID to support EGPAF’s Call to Action program in 2004, which enabled EGPAF to establish a Rwanda country office in the same year and, since then, to expand its services to include voluntary counseling and testing (VCT), PMTCT, and ART. In June 2007, as part of PEPFAR, EGPAF was awarded a five-year $27 million USAID-funded HCSP to expand activities to support comprehensive HIV clinical services including, but not limited to, HIV counseling and testing, PMTCT, care and treatment, and infant and young child feeding (IYCF), as well as MCH, FP and reproductive health (RH), sexual and gender-based violence, and nutrition services.

Since 2008, EGPAF is a consortium member and sub-grantee under Catholic Relief Services (CRS) on the PEPFAR-funded Ibyiringiro Project, which aims to ensure that high-quality, sustainable, comprehensive services are improved for people living with HIV and for orphans and vulnerable children in Rwanda. As the leading PEPFAR partner in the IYCF program for HIV-exposed infants, EGPAF provides technical assistance to USG partners, the Rwanda MOH, and Rwanda Biomedical Center.

**FIGURE 1: EVOLUTION OF EGPAF SUPPORT IN RWANDA**

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<tbody>
<tr>
<td>EGPAF invests private resources in scaling up PMTCT in Rwanda</td>
<td>Call to Action</td>
<td>HIV Clinical Services Project</td>
<td>Sub-recipient under USAID Ibyiringiro Project</td>
<td>Sub-contractor under USAID Rwanda Family Health Project</td>
<td>USAID Kabeho Study</td>
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</table>
Institute for HIV/AIDS Diseases, Prevention and Control (RBC/IHDPC) on MIYCN in the context of HIV through its USAID-funded HCSP and as a consortium member under CRS. Figure 1 shows the evolution of EGPAF support in Rwanda.

At the onset of the HCSP, the MOH, USG, and clinical partners agreed upon the strategy to have one clinical services partner per site, per district, and per province where possible. EGPAF is the lead USAID HCSP partner in the five districts in the Eastern Province—Bugesera, Gatsibo, Kayonza, Ngoma, and Rwamagana—and also supports high-volume sites in two districts in Kigali City.

In total, EGPAF supports 55 health institutions in the Eastern Province and Kigali City:

- 5 administrative districts
- 9 hospitals
- 40 health centers
- 1 prison

The map below shows the districts in the Eastern Province where EGPAF has worked.

### DISTRICT | # OF HEALTH FACILITIES
---|---
Gatsibo | 16
Ngoma | 9
Kigali City | 6
TOTAL | 48
## Table 1: Goals and Strategic Interventions of the EGPAF HCSP Project

<table>
<thead>
<tr>
<th>Rwanda National Strategic Plan</th>
<th>Goal 2: Morbidity and Mortality for People Living with HIV Significantly Reduced</th>
<th>Goal 3: Provide National Technical Assistance in Pediatric AIDS Care and Treatment, PMTCT, and Infant Nutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 1</strong></td>
<td>Strengthen five clinical district health networks to establish, maintain, and supervise the key clinical services and systems necessary for quality HIV clinical services integrated into a strengthened primary health care system</td>
<td></td>
</tr>
<tr>
<td><strong>Goal 2</strong></td>
<td>Support high-quality, integrated HIV clinical services, including VCT, PMTCT, and care and treatment to contribute toward universal access to HIV clinical services</td>
<td></td>
</tr>
<tr>
<td><strong>Goal 3</strong></td>
<td>Provide national technical assistance in pediatric AIDS care and treatment, PMTCT, and infant nutrition</td>
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### Links to WHO’s Health Systems Strengthening Building Blocks

| • Governance and leadership | • Service delivery | • Governance and leadership |
| • Human resources for health | • Health information | • Health information |
| • Medical products, vaccines, and technology | | |
| • Health financing | | |
| • Health information | | |

### Strategic Interventions

<table>
<thead>
<tr>
<th><strong>Strategic Interventions</strong></th>
<th><strong>Strategic Interventions</strong></th>
<th><strong>Strategic Interventions</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strengthen leadership, planning, and management at the district, hospital, and health center levels</td>
<td>• Increase client access to high-quality HIV services, including PMTCT, VCT, care, and community support</td>
<td>• Participate in national-level decision making and support the MOH and Commission Nationale de la Lutte contre le SIDA (National AIDS Commission) in the strengthening of integrated HIV programs</td>
</tr>
<tr>
<td>• Invest in human resources, physical infrastructure, and transportation</td>
<td>• Increase client access to high-quality ART</td>
<td>• Provide technical assistance on optimal infant feeding practices</td>
</tr>
<tr>
<td>• Engage the community and strengthen the network of care</td>
<td>• Increase client access to high-quality pediatric HIV care</td>
<td>• Continue to provide technical assistance in pediatric HIV care</td>
</tr>
<tr>
<td>• Improve the quality of care</td>
<td>• Improve access to TB screening and treatment</td>
<td></td>
</tr>
<tr>
<td>• Support the collection and efficient use of data by facilities and health district networks</td>
<td>• Strengthen the continuum of care for people living with HIV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Develop and institutionalize a process of continuing quality improvement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Support FP and MCH services and ensure successful HIV integration into these services, and vice versa</td>
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OVERVIEW AND PURPOSE OF THE REPORT

Each year, EGPAF distills the interventions defined in the cooperative agreement into an annual work plan. The interventions and activities take into consideration technical inputs from the national guidelines and strategic interventions (the National Strategic Plan on HIV and AIDS, the Health Sector Strategic Plan I and II, and Vision 2020); guidance of the annual USG country operational plan; donor and host country bilateral mandates and accords (including but not limited to the USG-GOR Partnership Framework); consultations with the MOH, Rwanda RBC/IHDPC, USG, and district technical and coordination authorities; in-country experiences and team consultations; and innovative approaches and best practices from other countries.

At the end of each year, the EGPAF team reflects on the achievements during the past year and captures these in an annual progress report and narrative reports.

This end-of-project report covers the period June 2007 to September 2012 and provides a summary of EGPAF’s accomplishments over the life of the project. The report uses quantitative and qualitative data as well as descriptive information to present key achievements of EGPAF and the health institutions supported. The report will primarily highlight EGPAF’s performance and program results during the last five years. The report also builds on EGPAF’s strategic vision and overarching goals for the HCSP and describes achievements by goal.

EGPAF routinely measured and assured the quality of USG-required and -recommended outcome data. On an annual basis, EGPAF staff developed targets based on historical program data and population-based data. These targets were then revised in collaboration with USAID and Monitoring and Evaluation Management Systems to ensure consistency in the methodology used to set these targets and to report results across multiple partners.

At the end of the project, EGPAF has met or exceeded most targeted results of the HCSP. Table 2 is a summary of indicators, targets, and results for a range of prevention, care, and treatment services that EGPAF supported. Results are through September 2012.

<table>
<thead>
<tr>
<th>KEY HIV INDICATORS, TARGETS AND RESULTS</th>
<th>5-year targets</th>
<th>5-year results</th>
<th>Achievement by target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of pregnant women who received HIV counseling and testing for PMTCT and received test results</td>
<td>175,721</td>
<td>161,788</td>
<td>92.1%</td>
</tr>
<tr>
<td>Number of pregnant women provided with a complete course of ARV prophylaxis in PMTCT</td>
<td>10,459</td>
<td>7,849</td>
<td>75.0%</td>
</tr>
<tr>
<td>Number of individuals who received counseling and testing for HIV and received test results</td>
<td>703,390</td>
<td>1,116,863</td>
<td>158.8%</td>
</tr>
<tr>
<td>Number of individuals provided with HIV-related palliative care</td>
<td>74,852</td>
<td>82,588</td>
<td>110.3%</td>
</tr>
<tr>
<td>Number of individuals who had ever received ART by the end of the reporting period</td>
<td>44,844</td>
<td>49,500</td>
<td>110.4%</td>
</tr>
<tr>
<td>Number of HIV-infected clients attending HIV care/treatment services receiving TB treatment</td>
<td>1,063</td>
<td>1,139</td>
<td>107.1%</td>
</tr>
<tr>
<td>Number of individuals testing HIV-positive</td>
<td>N/A</td>
<td>24,378</td>
<td>N/A</td>
</tr>
</tbody>
</table>
GOAL 1: STRENGTHEN DISTRICT HEALTH NETWORKS

Goal 1 of the HCSP was to strengthen five district health networks to establish, maintain, and supervise the key clinical services and systems necessary for quality HIV clinical services integrated into a strengthened primary health care system.

Since 2000, Rwanda has begun to decentralize authority to empower and hold districts accountable for the implementation of central policies and strategic plans at district level. Since 2007, as part of its long-term strategy to create sustainable, locally owned programs, and in close collaboration with the MOH, EGPAF has invested in the Rwandan health care system. EGPAF’s overarching goal is to build the capacity of the district health networks to provide sustainable, quality HIV/AIDS, maternal and child health (MCH), and reproductive health services. Health system strengthening is an integral part of EGPAF’s support for quality service delivery. The strategic interventions in Goal 1 and EGPAF’s financial and technical support build on the District Health System Strengthening Framework’s strategic objectives and include the following elements: strengthening leadership of district health networks to maintain good coordination of health services and partner support, investing in health financing, improving health management information systems, investing in human resources, supporting medical products and supply chain management, strengthening health infrastructure, and supporting financial accountability and sub-grant management.

**Table 3: Sub-agreements by type**

<table>
<thead>
<tr>
<th>Type of Sub-agreement</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative district</td>
<td>5</td>
</tr>
<tr>
<td>Hospital</td>
<td>9</td>
</tr>
<tr>
<td>Health center</td>
<td>39</td>
</tr>
<tr>
<td>Prison</td>
<td>1</td>
</tr>
<tr>
<td>Other*</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>55</strong></td>
</tr>
</tbody>
</table>

*Program for Appropriate Technology in Health (PATH)

Sub-agreements to administrative districts included support for one staff person per district to assist the director of the District Health Unit in planning and coordinating activities in his or her district, together with the Joint Action Development Forum leaders and representatives of the District Commission on the Fight Against AIDS. In all the districts where we worked, EGPAF staff regularly participated in planning and coordination meetings and in district-organized “Open Days,” where partners presented their work in the districts.

Through sub-agreement support for comprehensive clinical services; infrastructure and equipment procurement; management, supervision, and coordination support; and EGPAF staff participation in district-level forums and planning meetings, EGPAF aimed to advance management, coordination, and leadership within the district health networks. The strengthened network then ensured better coordination and service delivery throughout the district.

**Investing in Health Financing**

Health financing concerns how financial resources are generated, allocated, and used in health systems. Rwanda has adopted a number of innovative financing models, including performance-based financing (PBF) and community-based health insurance (CBHI), and EGPAF has, over the course of the HCSP, supported the government in implementing these models. This portion of the report will focus on EGPAF’s support for the national PBF and CBHI health financing mechanisms.
**Performance-based Financing**

PBF is an important component of the GOR’s decentralized health system and acts as both an efficient health financing mechanism and a quality-assurance instrument by allocating extra funding to high-performing sites, creating financial incentives to improve performance, and incorporating strong quality-verification procedures. Since 2008, EGPAF has provided support to ensure that the national PBF program was being implemented effectively and efficiently in EGPAF-supported districts and to pay sites based on the national HIV performance indicators as part of EGPAF’s sub-agreements with decentralized health institutions.

**OVER THE LIFE OF THE PROJECT, 39 EGPAF-SUPPORTED SITES RECEIVED PAYMENTS FOR HIV INDICATORS THROUGH EGPAF SUB-AGREEMENT MECHANISMS. A TOTAL OF $1,456,072 WAS DISBURSED TO PAY PBF INVOICES.**

**HOW PBF WORKS**

Quantitative PBF data for 12 MCH and 12 HIV indicators are reported monthly by health facilities based on standard national PBF data collection tools, and verified monthly by the district-based evaluation team through a facility-level document review. Data are then entered into a national online database. These indicators have been defined nationally by a team with representatives from the central and decentralized levels. Quarterly, the district-based evaluation teams do a qualitative assessment of the health facilities based on 14 nationally defined PBF quality indicators. The quantitative PBF data are indexed by a quality score, and the health facility is paid after review and validation by the district steering committee.

EGPAF participated actively in the National PBF Technical Working Group under the leadership of the Cellule d’Appui à l’Approche Contractuelle (Committee on the Contractual Approach of Performance-based Financing), where indicators, tools, checklists, and procedures are refined. In early 2011, the MOH integrated PBF, data quality assessments, and supervisions into one large review process.

As a member of the PBF steering committee, EGPAF staff verified monthly PBF invoices and supported sites in the incorporation of PBF funding into budgets. Additionally, EGPAF participated in quarterly peer quality evaluations of district hospitals, monthly extended PBF team meetings, quarterly district steering committee meetings, and integrated site visits with district supervisors. EGPAF participated in peer evaluations of EGPAF- and non-EGPAF-supported hospitals, focusing on raising the level of quality of prevention and treatment services provided, as well as on proper follow-up care of HIV-positive clients, and high-quality data collection and reporting. The EGPAF team also helped organizations and teams from other countries to understand PBF and how it is implemented, including representatives from Côte d’Ivoire, Lesotho, Mozambique, and Liberia.

The high level of collaboration with the districts reinforced processes to build district-level capacity to review and use regular data to evaluate the quality and progress of district health networks. EGPAF analyzed and presented PBF trend data to the district supervision teams and supported those teams to discuss findings with health centers and district hospitals.

Figure 2 depicts EGPAF-supported sites’ overall quality scores, which show a steady increase over time. The quality scores are obtained by rating the quality of health services through direct observation and document review of 14 PBF-approved quality indicators.

**Community-based Health Insurance**

Rwanda has expanded its CBHI program, known locally as mutuelles de santé, considerably in recent years, a move that contributes greatly to making health services more accessible. From 2003 to 2010, the percentage of people using CBHI increased from 7% to 91%, and the utilization of primary health care increased from 30.7% in 2003 to 95% in 2010 (private facilities not included). The World Health Organization (WHO) recently conducted a study on the impact of CBHI on access to health care and financial risk protection in Rwanda, and found that CBHI “coverage is associated with significantly increased utilization of health services when they are needed. Indeed, individuals in households that had MHI [read CBHI] coverage used health services twice as much as those in households that had no insurance coverage.” The results indicated that CBHI has had a positive impact on use of health care and can continue to improve the health of Rwandans even more if its limitations are addressed further.

Since 2008, EGPAF has provided support to indigent clients to access CBHI in all EGPAF-supported districts. Through our sub-agreements with health institutions, EGPAF has contributed
FIGURE 2: TREND IN PBF QUALITY SCORES IN PERCENTAGES FOR EGPAF-SUPPORTED SITES

FIGURE 3: NUMBER OF PEOPLE LIVING WITH HIV SUPPORTED WITH CBHI
to health insurance coverage for thousands of indigent patients accessing services at these health facilities, which also contributes to risk pooling at the district level.

Figure 3 shows the number of people living with HIV supported with CBHI over time through EGPAF sub-agreement mechanisms with health institutions. In 2010, EGPAF supported 23,051 indigent clients for CBHI. In 2011 the number decreased due to the new categorization of CBHI beneficiaries in 2010 by the MOH and the subsequent change in criteria for vulnerability. More than 4,700 indigent clients formerly supported by EGPAF for CBHI payments were in 2011 no longer considered indigent due to the implementation of the new vulnerability criteria.

Investing in Human Resources

Health care staff could be viewed as the most important component of the health system, since they consume the biggest budget share, run the health services, and support health services development. A well-performing, responsive, and productive health workforce is one of the six WHO health systems strengthening building blocks, and developing human resources for health (HRH) has been a national priority in Rwanda.

Vision 2020 has set ambitious goals for HRH in Rwanda. In March 2011, the MOH adopted the Human Resources for Health Strategic Plan 2011–2016, which aims to guide the health sector in the effective planning, development, management, and utilization of HRH in Rwanda.

Since the start of the HCSP in 2007, EGPAF has supported HRH in several distinct ways.

Staff Salaries

EGPAF sub-grants covered costs for health personnel to establish and maintain quality health services. At the end of the project period, EGPAF was supporting a total of 427 staff members in different staff positions including doctors, A1 and A2 nurses, lab technicians, social workers, data managers, accountants, and HIV coordinators. Approximately 40% of the funding for sub-agreements supported health staff salaries (see Figure 6 under Supporting Financial Accountability and Sub-grant Management, page 16). Figure 4 shows the number of staff positions supported by position type.

Trainings

EGPAF invested in building the capacity of the health workforce by participating in development of national policies, guidelines, and training curricula in different service areas and by funding in-service and on-the-job trainings to enhance clinical skills and update health staff on new policies and guidelines. Over the life of the project, EGPAF support has provided training to 8,234 health personnel in clinical, financial, M&E, and technical areas. Figure 5 lists trainings provided in several technical areas.

Supervision and Mentoring

EGPAF provided ongoing technical assistance through mentoring of staff as well as regular and joint supervision visits with district health supervisors to ensure the quality of services. EGPAF staff conducted joint evaluative and formative supervision visits with district supervisors every two months. During the evaluative supervision visits, EGPAF staff and district supervisors used a...
FIGURE 4: STAFF PER TYPE OF POSITION

FIGURE 5: TRAININGS BY TECHNICAL INTERVENTION AREA

<table>
<thead>
<tr>
<th>HIV clinical prevention</th>
<th>HIV care &amp; treatment</th>
<th>Integrated RH services</th>
<th>Health systems strengthening</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ HIV counseling &amp; testing</td>
<td>□ Psychosocial support</td>
<td>□ Family Planning (FP)</td>
<td>□ Lab services</td>
</tr>
<tr>
<td>□ PMTCT</td>
<td>□ Nutrition</td>
<td>□ FP/HIV integration</td>
<td>□ Supply chain management</td>
</tr>
<tr>
<td>□ Postexposure Prophylaxis</td>
<td>□ Continuum of care</td>
<td>□ Emergency obstetric and neonatal care</td>
<td>□ Electronic medical records</td>
</tr>
<tr>
<td>□ Prevention with people living with HIV</td>
<td>□ Sexually transmitted infection management</td>
<td>□ Integrated management of childhood illness (IMCI) (including community IMCI)</td>
<td>□ Data Management / M&amp;E</td>
</tr>
<tr>
<td></td>
<td>□ Antiretroviral treatment</td>
<td>□ Integrated management of childhood illness</td>
<td>□ Financial &amp; grants management</td>
</tr>
</tbody>
</table>
joint supervision tool and noted any issues that needed further mentoring, action, and attention. The supervision teams also provided mentoring to the sites and solved problems together on salient issues.

Thereafter, written feedback was shared with the administrative district, the district hospital, and the site. During formative supervision visits, staff followed up on prioritized actions and recommendations made during the evaluative supervision visits to ensure that sites had incorporated the recommendations for quality service delivery. PBF visits, data quality assessments, technical support, participation in technical working groups, and staff data management visits to sites reinforced these supervision visits and ensured that continuous capacity building was provided for the quality service delivery reported herein.

Supporting Medical Products and Supply Chain Management

Since the start of the HCSP, EGPAF technical staff have supported health facilities and district pharmacies in ensuring quantification of drugs and management of the supply chain at district and site levels. This included active follow-up and coordination with sites as well as with the central procurement and distribution agency (CAMERWA) when issues arose and problem solving was required.

EGPAF also supported the renovation of the Rwamagana district pharmacy to improve the supply chain of medical products and drugs in this district.

During the five years of the HCSP, EGPAF staff had several meetings with CAMERWA, the National Reference Laboratory (NRL), and Supply Chain Management Systems (SCMS) to discuss the supply chain of drugs and consumables, and ensure that it was working efficiently. In 2012, EGPAF and the MOH organized a one-day workshop for laboratory technicians and pharmacy managers from all EGPAF-supported sites to discuss laboratory, pharmaceutical, and supply chain management and logistics. The workshop was co-facilitated by CAMERWA, NRL, and EGPAF, whose representatives presented information, responded to questions, and facilitated discussions on various subjects related to HIV and AIDS laboratory testing, drugs, and supply chain management. In addition, the workshop was designed to be an open forum for all participants to provide feedback and suggestions on how to improve supply chain management and laboratory services.

Strengthening Health Infrastructure

As part of its support for strengthening district health networks, EGPAF focused its efforts on improving the accessibility and quality of services delivered at a decentralized level. EGPAF support to sites included renovations and improvements to buildings, waste disposal systems, and water and sanitation services, as well as procurement of equipment and supplies.

Renovations

EGPAF’s civil engineer worked closely with administrative districts, which led the procurement process for site-level renovations. This process included tendering, selection, and supervision of work as well as reception of provisional and final work. To date, EGPAF support has helped renovate pediatric and maternity wards, laboratories, pharmacies, latrines, and water systems, as well as psychosocial rooms and testing and counseling spaces that meet national standards. In total, EGPAF supported renovations at 30 health facilities over the course of the 5 years.

Electricity Supply

EGPAF supported the districts to address electricity needs through procurement of generators and maintenance of solar energy installations through sub-agreements. During the last 5 years, EGPAF procured 21 generators for health facilities. During 2011, EGPAF also worked closely with USAID and Management Sciences for Health to procure a number of powerful generators (between 30 and 40 kilovolt-amps) to secure electricity needs at 2 district hospitals and 6 health centers, and worked with a local company to ensure proper installation and maintenance training at these sites.

Equipment and Supplies

Throughout the HCSP, EGPAF worked closely with districts’ health facilities and EGPAF staff to conduct needs assessments of equipment and supplies for MCH and HIV services. EGPAF has invested resources in procurement of equipment and supplies in all EGPAF-supported districts. Materials included but were not limited to a resuscitation unit including Ambu bags (adult and pediatric); weighing scales, stethoscopes, and blood pressure machines; oxygen concentrators; incubators; ultrasounds; gynecological tables and lamps; vacuum extractors; anesthesia machines; and desks, chairs, carts, and toys for pediatric wards. EGPAF also compiled a list of needs for laboratory equipment and supplies and submitted this list to SCMS, funded by USAID, which is in charge of the procurement of laboratory equipment and supplies.
Latrines in Kibungo BEFORE

Latrines in Kibungo AFTER

Laboratory at Rukumberi Health Center
All photos: Elizabeth Glaser Pediatric AIDS Foundation

Participants at the laboratory and pharmacy workshop in 2011

District hospital receiving a resuscitation unit
EGPAF supported nine secondary health posts in seven districts to provide essential health care services, especially family planning (FP) services, to rural populations in the catchment areas of faith-based sites where FP services are not available. EGPAF procured FP equipment and supplies to render FP services in those areas, including gynecological tables and furniture such as desks and chairs.

Supporting Financial Accountability and Sub-grant Management

In order to strengthen the effective management of funds at district and site level, EGPAF operations staff provided continued financial and operations support to the health institutions through quarterly financial reviews and regular meetings with district staff. More than 50% of EGPAF/Rwanda’s annual budget was allocated for direct financial support for health facilities and administrative districts through sub-agreements. The financial support to health institutions in Rwanda covered system costs such as personnel (40%), PBF, transportation (for supervision, samples, etc.), and infrastructure including renovations and materials/supplies. Figure 6 shows a breakdown of the costs by intervention area.

GOAL 2: SUPPORT HIGH-QUALITY, INTEGRATED HIV CLINICAL SERVICES

In alignment with the MOH’s priorities, EGPAF’s program focused on supporting comprehensive, family-centered HIV prevention, care, and treatment services. In addition, USAID supplemented EGPAF’s HCSP with USAID funds earmarked for services to address maternal and child health, family planning, sexual and gender-based violence, and water and sanitation. These resources enabled EGPAF to provide expanded technical support to districts and sites, strengthening the services in their offerings. EGPAF’s technical focus further included integrated service delivery models, quality improvement, community health, and health systems strengthening, emphasizing innovative, evidence-based, and cost-effective approaches through program assessments and documentation of best practices.

Figure 6: EGPAF financial contributions to sub-grantees, by type of expense (total $15,585,029 over the course of the project)
INCORPORATE ACCESS TO HIGH-QUALITY HIV SERVICES, INCLUDING PMTCT, COUNSELING AND TESTING, CARE, AND COMMUNITY SUPPORT

HIV Counseling and Testing
At EGPAF-supported sites, HIV counseling and testing was offered for individuals through voluntary counseling and testing (VCT) services, for couples in antenatal care (ANC), for women in the maternity ward, through provider-initiated counseling and testing (PICT), and through stratégies avancées, or outreach activities. Outreach activities implemented by health facilities and districts have contributed to high numbers of people counseled and tested over the years and include mobile VCT and testing during district “Open Days.”

Voluntary Counseling and Testing
Overall, the number of clients counseled and tested at EGPAF-supported sites through VCT steadily increased each year of project implementation. From 2007 to 2012 the cumulative number of clients tested in VCT was 769,558. In 2012, a total of 197,717 clients were tested in VCT services alone. During the five years of implementation, the overall percentage of clients testing positive in VCT services was 2.1%. However, as the denominator (number of people tested) increased over the years, the rate dropped, and by September 2012, of all clients tested in VCT services, 1.0% tested positive.

Provider-initiated Counseling and Testing
EGPAF implemented PICT at sites beginning in 2008. In 2010, EGPAF emphasized the importance of PICT in EGPAF-supported sites through trainings of 38 providers and by supporting the Rwanda Biomedical Center (RBC, formerly known as the Center for Treatment and Research on AIDS, Malaria, Tuberculosis and Other Epidemics [TRAC Plus]) to make available preprinted registers to record and count the number of provider-initiated tests given and to include those indicators on monthly data provided by sites. In 2011 and 2012, EGPAF continued to support providers by including a discussion of PICT in regular supervisions. As seen in Figure 7, EGPAF-supported sites saw a substantial increase in the number of clients recorded as receiving PICT, from 8,667 in 2009 to 105,867 in 2012. As expected, the HIV prevalence was slightly higher than in a VCT setting, for the last year at 1.2%, compared with 1.0% in VCT. Table 4 presents results for counseling, testing, and testing positive.

FIGURE 7: TESTING CONDUCTED AND RESULTS OBTAINED IN VCT AND PICT

<table>
<thead>
<tr>
<th>Year</th>
<th>Tested in VCT</th>
<th>Percent positive, VCT</th>
<th>Tested in PICT</th>
<th>Percent positive, PICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>110,988</td>
<td>4.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>135,759</td>
<td>3.2%</td>
<td>8,667</td>
<td>1.2%</td>
</tr>
<tr>
<td>Year 3</td>
<td>152,891</td>
<td>3.6%</td>
<td>36,035</td>
<td>1.2%</td>
</tr>
<tr>
<td>Year 4</td>
<td>172,203</td>
<td>2.2%</td>
<td>70,545</td>
<td>1.8%</td>
</tr>
<tr>
<td>Year 5</td>
<td>197,717</td>
<td>1.0%</td>
<td>105,867</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

END-OF-PROJECT REPORT: RWANDA 17
Clients attend voluntary group counselling sessions in which they learn about prevention of and living with HIV and they also receive HIV tests.
EGPAF also supported health facilities in implementing the national PMTCT protocol, from single-dose nevirapine in the early years of PEPFAR programming in Rwanda, transitioning to more efficacious regimens in 2007, to Option B in 2010 and Option B+ in 2012.

EGPAF also initiated HIV testing during labor and delivery (L&D) at Muhima Hospital. In 2007, after an initial assessment and subsequent advocacy by EGPAF to the MOH, HIV testing in L&D has become part of the national PMTCT guidelines.

Coverage of PMTCT services in Rwanda is exceptionally high; in the Eastern Province, where EGPAF was the lead partner, 91% of the health facilities provided PMTCT services. EGPAF played a key role at the decentralized level in operationalizing new national PMTCT guidelines, from the introduction of more-complex ARV regimens in 2007 to the adoption of Option B+ in 2012. The following sections describe some of the key data and achievements in PMTCT.

**TABLE 4: PEPFAR INDICATORS FOR VCT AND PICT**

<table>
<thead>
<tr>
<th>PEPFAR INDICATOR</th>
<th>CUMULATIVE RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of people counseled and tested under VCT, and receiving their results</td>
<td>769,558</td>
</tr>
<tr>
<td>Number testing positive</td>
<td>16,582</td>
</tr>
<tr>
<td>Number of people tested and counseled through PICT, and receiving their results</td>
<td>221,114</td>
</tr>
<tr>
<td>Number testing positive</td>
<td>4,139</td>
</tr>
</tbody>
</table>

Prevention of Mother-to-child Transmission of HIV

EGPAF is a worldwide leader in PMTCT and uses its specialized, international technical expertise to inform country programs and ensure that they reflect the latest proven best practices. Throughout the years and as a member of the Rwanda Prevention Technical Working Group, EGPAF’s technical support has been instrumental in enabling the MOH and RBC to adapt the national PMTCT guidelines to reflect the latest WHO guidelines.

**FIGURE 8: NUMBER OF PREGNANT WOMEN WHO WERE TESTED FOR HIV AND RECEIVED THEIR RESULTS, AND PERCENT TESTING POSITIVE**
SUCCESS STORY: MALE INVOLVEMENT IN PMTCT

Emmanuel and Pauline* live a normal life as farmers in the Ngoma District in the Eastern Province of Rwanda. They are expecting their second child; their first, a son, is four years old and was delivered at Kibungo Hospital, an Elizabeth Glaser Pediatric AIDS Foundation–supported site. On the day we talked to them at their local health center, Emmanuel had accompanied his wife for her second antenatal visit. The couple planned to get tested for HIV together that day and to receive information on HIV. When Pauline was pregnant with their first child, both she and Emmanuel were tested for HIV and their results were both negative. They believe the results this time will also be negative. Pauline has only good things to say about the health workers’ care for her and her baby at the first delivery. Through that experience, she appreciates the importance of antenatal visits and of delivering at the hospital. “Antenatal visits are important and necessary for all the women because they receive vaccinations, HIV tests, and nutrition counseling. They learn how they can eat well to deliver a healthy baby,” said Pauline. Emmanuel told us why he felt it was important to accompany his wife to the center. “I wanted to come with her because I have learned the importance of being tested with your wife, especially when she is pregnant. By coming to the center, you learn new things about HIV and about pregnant women’s health needs.”

* Not their real names.

FIGURE 9: NUMBER AND PERCENTAGE OF WOMEN AND PARTNERS TESTED IN ANC PER YEAR

![Graph showing number and percentage of women and partners tested in ANC per year.](image-url)
**Testing for HIV in PMTCT**

As shown in Figure 8, cumulatively, 160,520 women at EGPAF-supported sites were tested, were counseled, and received their results for HIV in PMTCT services, including women tested during L&D. It is important to note that in the first two years of the project, women with both known and unknown HIV status were tested in ANC. However, in year 3, the HIV program changed its guidelines and only women with an unknown HIV status were tested for HIV in ANC. The percent testing positive for HIV in years 4 and 5 reflected only women with an unknown HIV status. This is also one of the reasons for the steady decline in the number of women testing positive for HIV in ANC in the last two years. If we add the number of women with a known HIV status to the numerator and denominator in years 3, 4, and 5, the percent testing HIV-positive will be 3.7%, 3.5%, and 3.3%, respectively.

**Prophylaxis and Treatment for Women in PMTCT**

The national PMTCT protocol has gone through several changes over the life of the project, making measurement and comparisons over time challenging. Initially, the national indicators used to measure how many women had taken ARVs as prophylaxis for their infants did not account for women who were already on ART for their own health. As the treatment protocol changed to allow women with lower CD4 counts to initiate treatment for life, and as HIV services increased as a result of the work of this project, more and more of the known HIV-positive women coming in to ANC were already on ART, but these women were not counted in the prophylaxis numbers. To remedy this, EGPAF advocated with RBC, Monitoring and Evaluation Management Systems, and USAID to start collecting data on the number of women already on ARVs for their own health. This increased the reported PMTCT ARV uptake by HIV-positive women from 75% in 2010 to 98% in 2012. Table 5 presents results achieved for counseling and testing in PMTCT and the number of HIV-positive pregnant women receiving ARV prophylaxis.

During the fall of 2012, the MOH started to implement the new Option B+ PMTCT protocol of providing lifelong ART for HIV-positive women initiated on ART while pregnant or breastfeeding, regardless of CD4 count or WHO disease stage and without requiring women to stop breastfeeding. To support the RBC in the roll-out of the new protocol, EGPAF supported the training of 228 health workers from all EGPAF-supported districts, including non-EGPAF-supported health facilities.

<table>
<thead>
<tr>
<th>PEPFAR INDICATOR</th>
<th>CUMULATIVE RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of pregnant women who received HIV counseling and testing for PMTCT and received their results</td>
<td>160,520</td>
</tr>
<tr>
<td>Number of HIV-positive pregnant women who received ARV prophylaxis for PMTCT in a PMTCT setting</td>
<td>7,849</td>
</tr>
</tbody>
</table>

**Early Infant Diagnosis**

EGPAF is a leader in the fight against pediatric AIDS due to its longstanding commitment to ensuring that children are included in EGPAF programs and their needs addressed. In order to identify and test children, EGPAF supported sites to encourage family testing in VCT, in PMTCT, and in the community, and to increase access to early infant diagnosis (EID) through dried blood spot collection and polymerase chain reaction (DBS/PCR) testing. Once HIV-positive children are identified, special efforts are made to follow up and initiate them, especially those under five, on ART.

In April 2009, EGPAF carried out a rapid assessment of DBS/PCR testing at eight sites to evaluate testing uptake and the time for results to be received. The assessment showed that the uptake of DBS/PCR testing was high (95% of the 96 HIV-exposed infants received a DBS/PCR test); however, where documented, results took on average nine weeks to return (two weeks was national policy). During the same year, the National AIDS Control Commission and the National Reference Laboratory (NRL) also conducted an EID assessment and came up with a series of recommendations to shorten turnaround time for lab results. EGPAF actively supported sites to implement the recommendations and continued over the years to participate in EID summits and think tanks to support improvement in results sharing, including advocacy for lab results to be shared via mobile phones with clinics. In 2010, the RBC automated an SMS (text message) system linked to the national HIV reporting system (TRACNet), whereby the NRL could input PCR results and the system could send those results by SMS to health facility staff, who would thus be enabled to do what is needed to enroll the child in care. This system has reduced the turnaround time from nine weeks to one week on average.
During the 5 years of project implementation, a total of 7,751 infants received ARV prophylaxis; 4,428 infants were tested at 6 weeks, 3,812 at 9 months, and 2,984 at 18 months. Table 6 presents the results for EID.

### Table 6: PEPFAR Indicators for EID

<table>
<thead>
<tr>
<th>PEPFAR Indicator</th>
<th>Cumulative Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCR test at 6 weeks</td>
<td>4,428</td>
</tr>
<tr>
<td>Tested positive at 6 weeks</td>
<td>75</td>
</tr>
<tr>
<td>Percent positive at 6 weeks</td>
<td>1.7%</td>
</tr>
<tr>
<td>Serology test at 9 months</td>
<td>3,812</td>
</tr>
<tr>
<td>Tested positive at 9 months</td>
<td>56</td>
</tr>
<tr>
<td>Percent positive at 9 months</td>
<td>1.5%</td>
</tr>
<tr>
<td>Serology test at 18 months</td>
<td>2,984</td>
</tr>
<tr>
<td>Tested positive at 18 months</td>
<td>31</td>
</tr>
<tr>
<td>Percent positive at 18 months</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

#### Elimination of Mother-to-child Transmission of HIV

In 2009, UNAIDS called for the “virtual elimination” of mother-to-child transmission (MTCT) of HIV, which further intensified global and regional advocacy and commitments in support of a global elimination agenda. In March 2011, a regional consultation on the elimination of MTCT in eastern and southern Africa was held in Nairobi, where a regional framework for elimination of MTCT was endorsed by 15 high-burden countries and U.N. agencies. In Rwanda, the RBC and the United Nations Children’s Fund (UNICEF) propelled the PMTCT Technical Working Group (TWG) into the creation of a national strategic plan on elimination of MTCT.

The drive to eliminate MTCT was fully endorsed by the GOR. In May 2011, the first lady of Rwanda officially launched a national initiative for the elimination of MTCT at Ruhuha health center in Bugesera, an EGPAF-supported district. The following month, President Paul Kagame and the first lady showcased the Rwanda elimination model to world leaders at the Joint United Nations Programme on HIV/AIDS (UNAIDS) meeting to launch the Global Plan Towards the Elimination of New HIV Infections Among Children and Keeping Their Mothers Alive at U.N. headquarters in New York.

At the end of May 2011, the country embarked on a process to develop and finalize the Rwanda elimination of MTCT (EMTCT) plan. The PMTCT TWG divided into subgroups following the four prongs of PMTCT to evaluate PMTCT performance (achievements, gaps, and challenges) and to outline priority interventions and elimination indicators for data collection and review. After a comprehensive equity-focused strategic analysis of the PMTCT program in Rwanda was conducted by the RBC and TWG members, several consultative meetings with stakeholders were held to discuss findings and recommendations. Rwanda’s national strategic plan for elimination was finalized in January 2012.

Rwanda then embarked on adapting the national EMTCT plan at decentralized levels. In July 2012 the RBC and partners started developing district EMTCT plans throughout the country.

As an active member of the PMTCT TWG, EGPAF provided technical assistance throughout this process. In 2011 EGPAF conducted a gap analysis, using an EGPAF-developed tool, to support the MOH in identifying missed opportunities for eliminating pediatric HIV along the PMTCT cascade. Based on the results of that analysis, presented at the 2011 Rwanda National Pediatric AIDS Conference, EGPAF found that PMTCT program performance is very high, as most women who attend ANC receive the full cascade of PMTCT services. Based on estimates of the number of expected pregnancies by district, overall ANC attendance was 87%, which indicates that 13% of pregnant women were not receiving appropriate diagnosis, care, and treatment. Taking this into account, nearly one-third of HIV-exposed infants were not receiving nevirapine prophylaxis. Dispensing infant nevirapine in ANC could significantly increase access and reduce MTCT. Based on this analysis, to achieve elimination of pediatric HIV, it was recommended that Rwanda expand access to reach more pregnant women and improve other postnatal care services.

The results of this analysis were also used to develop a district-level EMTCT strategic plan template, which each district is using to develop its own district-level strategic plan. In July 2012, EGPAF supported Gatsibo and Ngoma Districts to develop their EMTCT strategic plans for the period 2012–2015. There were 43 participants from these districts (those in charge of PMTCT, HIV services, and M&E at the district hospitals, and those in charge of the District Commission on the Fight Against AIDS and of M&E at the administrative districts). Based on key indicators of service coverage, EGPAF worked with the districts and RBC to develop strategies to help each district achieve the target of elimination by 2015.
Infant and Young Child Feeding Program

Since 2007, EGPAF has been providing technical assistance to the RBC (formerly known as TRAC Plus) and to HIV clinical services partners to strengthen the infant and young child feeding (IYCF) program for HIV-exposed infants being implemented in all the PEPFAR-supported PMTCT sites supported.

In 2007, a steering committee led by TRAC Plus was created to ensure coordination of the program across multiple partners. The steering committee members are the USG-funded clinical partners and Catholic Relief Services (CRS).

EGPAF signed a sub-agreement with the Program for Appropriate Technology in Health (PATH) to provide this program with technical support related to nutrition. EGPAF and PATH’s technical assistance has included development of a variety of program tools, such as counseling cards, training curricula, and training aids; planning, funding, and facilitation of training at all PEPFAR-funded PMTCT sites; development of M&E tools, including an infant monitoring form; and collection and analysis of relevant data. In 2009, EGPAF expanded its technical assistance to address maternal nutrition for HIV-positive pregnant and breastfeeding women, developing a one-day training program on maternal nutrition and delivering it to all PEPFAR-funded PMTCT sites.

In 2008, EGPAF also signed a sub-agreement with CRS to implement the PMTCT component of the USAID-funded Ibyiringiro Project. The project aims to ensure that high-quality, sustainable, comprehensive services are provided for people living with HIV and for orphans and vulnerable children in Rwanda. EGPAF’s role on the Ibyiringiro Project was to provide technical assistance for the implementation of the IYCF program managed by TRAC Plus and implemented by all the USG PEPFAR partners in all PEPFAR-supported PMTCT sites in 22 districts throughout the country. Since 2008, CRS has provided food support to HIV-exposed infants, and in 2010 this support expanded to include malnourished HIV-positive pregnant women and breastfeeding mothers.

Integrated Maternal, Infant, and Young Child Nutrition Counseling Package

In 2010, EGPAF again expanded its support to the MOH when the national PMTCT guidelines were revised. The revised guidelines reflected Rwanda’s adoption of PMTCT Option B and revised IYCF practices in accordance with the revised WHO 2010 guidelines. Also in 2010, to address high rates of malnutrition throughout the country, the MOH developed the National Multi-sectoral Strategy to Eliminate Malnutrition in Rwanda. In that same year, UNICEF released a global generic integrated package of capacity-building and counseling tools intended to strengthen community-based IYCF.

These three developments presented a strategic opportunity to develop an integrated package that would support the government in its efforts to strengthen and scale up maternal, infant, and young child nutrition (MIYCN) counseling interventions at the community level, as well as address infant feeding in the context of HIV. EGPAF proposed its support to the MOH for a systematic review of the generic package and its subsequent adaptation for Rwanda.

Over the past two years, EGPAF and PATH have worked closely with the Nutrition Desk of the Maternal and Child Health Department of the MOH and members of both the Nutrition and PMTCT TWGs to adapt and expand the generic UNICEF package while harmonizing it with the existing MIYCN tools.

SYNERGY WITH THE IBYIRINGIRO PROJECT

IYCF activities under the HCSP are complemented with activities under the CRS-led Ibyiringiro Project.

EGPAF, together with the clinical partners, supported 196 health facilities across the country in the provision of quality nutrition counseling for HIV-positive pregnant and breastfeeding mothers, provision of supplemental food (a corn-soy blend) by CRS for malnourished pregnant and breastfeeding mothers, and provision of supplemental food to all HIV-exposed infants. During the last year of implementation at all the PEPFAR-supported PMTCT sites, the following data were reported:

- More than 7,500 mothers and other caregivers received nutrition counseling.
- 7,152 HIV-exposed infants received food support.
- 2,423 mothers received food support.

*** For pregnant HIV-positive women whose CD4 count is greater than 350, Option A involves (1) a daily dose of AZT (an ARV drug) during pregnancy and (2) a combination of several ARVs during labor, during delivery, and one week postpartum. Option B and Option B+ call for the administration of triple-combination ART. Under Option B, ART would be stopped after the breastfeeding period for women with CD4 counts higher than 350, while Option B+ calls for lifelong treatment regardless of CD4 count for HIV-positive women initiated on ART while pregnant or breastfeeding.
This effort has resulted in a single national package of MIYCN behavior change communication tools, described below. A complementary question-and-answer (Q&A) guide for facility health workers, a take-home brochure, and a poster on the new PMTCT/IYCF guidelines were also designed as part of the expanded package.

Contents of the Nutrition Package

The package includes the following tools:

- 28 counseling cards for community health workers (CHWs)
- 31 counseling cards for facility health care providers
- 4 take-home brochures for mothers and other caregivers
- 3 posters
- A facilitator's manual and training aids, intended for use in training CHWs
- Participant materials, including training handouts and monitoring tools
- A Q&A guide

Counseling Cards: Two sets of counseling cards were developed for use by both facility health care providers and CHWs. These counseling cards will help health care providers and CHWs ensure accuracy and consistency of messages and provide quality counseling to mothers, fathers, and other caregivers.

Training Materials: A set of training materials was created for trainers who are working to improve the interpersonal skills of CHWs and facility-based health care workers. These materials include a facilitator's guide, participant materials, and training aids.

Take-home Brochures: The package of materials contains take-home brochures, including Nutrition During Pregnancy and Breastfeeding, How to Breastfeed Your Baby, and How to Feed a Baby After 6 Months.

Posters: Also included in the package are brightly colored posters to be displayed in health facilities and other strategic places in the community such as local administration offices, churches, or schools. There are two posters—one on the importance of exclusive breastfeeding and one on the importance of ANC.

PMTCT Guidelines Package

A set of tools was also created to support the dissemination of the new PMTCT guidelines for Option B.

Q&A Guide: The guide is designed to be a quick reference tool for health care providers in PMTCT and maternal and child health programs in Rwanda when counseling mothers, fathers, and other caregivers. The Q&A guide for IYCF was originally developed by the MOH in Uganda. Rwanda adopted the package but expanded it to reflect the new PMTCT protocol and the latest recommended infant feeding practices in the context of HIV. It provides accurate, easy-to-understand answers to some of the most commonly asked questions that HIV-positive mothers, their families, and communities are asking about the new national PMTCT protocol, ARV drugs, and IYCF guidance. The Q&A guide was translated into French.

Take-home Brochure: The brochure reinforces the same messages as the Q&A guide but provides the mother or caregiver with the opportunity to discuss some of the key messages at home with family members or friends.

Poster: A brightly colored poster is included in the package to be displayed in health facilities and other strategic places in the community such as local administration offices, churches, or schools. The poster reinforces messages relating to the new PMTCT guidelines.

Process for Harmonization, Pre-testing, and Development of the Package

Under the leadership of the Nutrition and PMTCT TWGs and with support from EGPAF and PATH, a series of stakeholder meetings was held in 2010–2011 to review existing materials from Rwanda and abroad and to adapt the generic UNICEF community IYCF counseling package to the Rwandan context. The final draft materials were field tested in all regions of the country with end users (mothers, CHWs, and facility health care providers).

EGPAF and PATH began drafting a national scale-up plan outlining the cascade of training sessions that needed to take place from the national level down to the community level, with a corresponding budget and proposed timeline. This draft was discussed by the Nutrition TWG, and several implementing partners started allocating funds in their budgets to support the roll-out of these training sessions. The plan included identifying and training 24 master trainers at the national level, 130 trainers/supervisors in district and referral hospitals, and 1,335 trainers/supervisors at 445 clinics in the 30 districts (who are training 30,000 CHWs covering 15,000 villages).

The first training took place in December 2011, establishing a pool of national trainers that included government officials from the national level and implementing partners. This training was organized by the MOH, with technical support from EGPAF and PATH. From January 2012 onward, EGPAF and other partners supported the training of trainers at the district hospital level, and various partners started to roll out the package at the health center
Counseling Cards

Maternal, Infant and Young Child Nutrition
National Counselling Cards for Health Workers

Maternal, Infant and Young Child Nutrition
National Counselling Cards for Community Health Workers

Take-home Brochures

Nutrition During Pregnancy and Breastfeeding

Posters

Protect your baby during pregnancy with regular ANC visits and care!

GIVE YOUR BABY THE BEST START IN LIFE

Training Materials

Q&A Guides

A Question and Answer Guide on the National Guidelines on PMTCT and Infant Feeding in the Context of HIV

A Reference Tool for Health Care Providers in PMTCT and MCH Programs in Rwanda
and community levels. The training sessions made use of a unique participatory, adult-learning approach.

In February 2012, Rwanda changed its PMTCT protocol from Option B to Option B+, and EGPAF revised certain sections of the training materials as well as key messages on some of the brochures and counseling cards. By April 2012, the entire MIYCN package plus PMTCT posters and brochure were officially approved by the MOH and RBC/IHDPC. The Q&A guide was finalized in November to incorporate the changes related to Option B+.

The MOH and development partners also negotiated the quantities of materials to be printed. EGPAF supported the printing of all the MIYCN tools (posters, brochures, and counseling cards) for Rwanda. By September 2012 the MIYCN materials had arrived in Kigali and were distributed through hospitals and health centers across the country, and to the first trained CHWs.

**Pediatric Mentorship**

EGPAF started the implementation of a PMTCT / pediatric mentorship program in Ngoma District in 2011. The program aimed to improve the PMTCT cascade and ensure follow-up of pediatric HIV clients. EGPAF trained a team of mentees at the Kibungo District Hospital who carry out mentorship activities at sites in the catchment area. The team developed a set of indicators that covered prenatal care, postnatal follow-up, vaccination, hospitalization, nutrition, and provider-initiated counseling and testing. These indicators were assessed at sites at the beginning of the mentorship program and again six months after implementation of new approaches developed during mentorship.

**Prevention with Positives**

National prevention-with-positives interventions focus on aspects such as disclosure, partner testing, adherence support, screening and treatment of sexually transmitted infections, safer ways to become pregnant while HIV-positive, and condom use. Information and counseling on these issues is provided to HIV-positive persons during their visits to health facilities as well as in association and community meetings. Under the leadership of TRAC Plus / RBC and with support from Project San Francisco, EGPAF and partners participated in development of national tools for the follow-up of serodiscordant couples and started implementation at selected sites in Kigali City in 2009.

At the end of the program (September 2012), 17,905 persons had received the minimum package of services for prevention with positives.

**Postexposure Prophylaxis**

In the case of accidental exposure to the HIV virus, a course of ARV drugs is given as a preventive measure to attempt to stop infection from taking hold in a client. This is most commonly given in the case of accidental needle pricks for health care workers or to victims of sexual violence. In 2010, EGPAF started supporting the RBC to implement postexposure prophylaxis (PEP) at EGPAF-supported sites. Cumulatively, EGPAF sites provided more than 795 clients with PEP (see Figure 10 on page 26 for number of clients receiving PEP by type of exposure and Table 7 for the total number of clients receiving PEP). In August 2010 this information was added to the national TRAC Plus indicators, allowing for monthly tracking. In the latest quarter, tracked HIV exposure through sexual violence has increased, likely due to an intense effort in Rwanda to sensitize the community on gender-based violence issues and services available for victims, thus enabling more victims to come forward and report the crimes.
An assessment in 2007 indicated that provision of this type of care at non-ART sites improved client retention and was an effective intermediate step to extending services during the process of full ART scale-up. This result provided the basis for its expansion to all sites in 2008 and 2009.

In addition, starting in 2007, EGPAF defined and established two staff positions at each site—the community liaison (ALAC) and the services integration focal point (POFIS)—to ensure that care services among active clients in the assessment showed that 96% of clients received a CD4 result, of whom 29% received it in the first 7 days after enrollment. The model showed improvements over time in enrolling patients in care: 94% received pre-ART services and more than 50% initiated ART within 7 days of becoming eligible. As for TB screenings, 97% of patients received a screening, of whom 7 screened positive; 55% received their TB screening on the same day their medical record was opened.

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**TABLE 7: PEPFAR INDICATORS FOR PEP**

<table>
<thead>
<tr>
<th>PEPFAR INDICATOR</th>
<th>CUMULATIVE RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of persons provided with PEP</td>
<td>795</td>
</tr>
<tr>
<td>Percent positive at 18 months</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

**MORE CoC ASSESSMENT RESULTS**

The sample considered 307 patients, of whom 55 were pregnant women, 4 were children under the age of 14, 117 were males, and 135 were nonpregnant females.

Care services among active clients in the assessment showed that 96% of clients received a CD4 result, of whom 29% received it in the first 7 days after enrollment. The model showed improvements over time in enrolling patients in care; 94% received pre-ART services and more than 50% initiated ART within 7 days of becoming eligible. As for TB screenings, 97% of patients received a screening, of whom 7 screened positive; 55% received their TB screening on the same day their medical record was opened.

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**FIGURE 10: CLIENTS RECEIVING PEP**
**FIGURE 11: CoC ASSESSMENT RESULTS: CHANGES IN PERCENTAGE OF PATIENTS INITIATING CARE FROM 2009 TO 2010**

![Bar chart showing changes in percentage of patients initiating care from 2009 to 2010.](image)

**FIGURE 12: PATIENTS ENROLLED IN CLINICAL CARE**

![Bar chart showing the number of patients enrolled in clinical care from Year 1 to Year 5.](image)
addition, the training covered the roles and responsibilities of the ALAC and POFIS and the client flow of the CoC program. EGPAF also created a job aid manual for providers, which summarizes the client flow in the CoC model and the common protocols used in HIV and PMTCT services.

In late 2010, EGPAF launched a follow-up assessment to evaluate the services after two years of implementation. Overall results of the program, shown in Figure 11, were encouraging. Overall enrollment rates and those of pregnant women were high—74% and 79%, respectively—compared with 2009, when they were 67% and 59%, respectively. Care services among active clients, such as CD4 testing, initiation of ART, and TB screening, also showed improvement over the years.

EGPAF supported clinical care services provided to both ART clients and pre-ART clients. At the end of the project, 17,907 clients were still enrolled in clinical care, of whom 1,115 were children (see Figure 12 on page 27). Cumulatively, a total of 31,673 clients received HIV-related care services at EGPAF-supported sites. EGPAF supported the guidelines for national universal access to cotrimoxazole by ensuring a rapid implementation and scale-up of the guidelines in its supported facilities. The annual

<table>
<thead>
<tr>
<th>TABLE 8: PEPFAR INDICATORS FOR CLINICAL SERVICES AND COTRIMOXAZOLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEPFAR INDICATOR</td>
</tr>
<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>HIV+ adults and children receiving a minimum of one clinical service</td>
</tr>
<tr>
<td>HIV+ persons receiving cotrimoxazole prophylaxis</td>
</tr>
</tbody>
</table>

all clients identified as HIV-positive enrolled in the care program and received all the care services they needed, including referral to ART sites upon eligibility. The ALAC was also responsible for community outreach and home visits for defaulting clients. EGPAF developed tools to implement the program including individual client records based on the WHO pre-ART files. CoC orientation training for new sites was comprehensive and included five days of technical support and field coaching for care providers for client care and follow-up, monitoring tools, and reporting in different services including VCT, PMTCT, pre-ARV, and ART, as well as other non-HIV-related services such as maternity, consultation, family planning, immunization, and nutrition. In
positive children and their counselors. In total, 3 Ariel camps were organized over the life of the project: 2 in 2009 and 1 in 2011. During these events children had the opportunity to share their life experiences in a recreational environment free from stigma and learn about positive living with HIV/AIDS and the importance of taking their drugs, getting good nutrition, and practicing reproductive health.

Client Access to High-quality ART
In order to increase client access to high-quality ART, EGPAF supported an increase in the number of sites to provide ART services; trained staff; supported the ARV accreditation of sites; and facilitated visits by district physicians to sites to carry out weekly medical consultations, prescribe ART, and provide clinical mentoring to health centers.

To ensure that these clients would receive high-quality services, in collaboration with RBC/IHDP, EGPAF organized and conducted trainings on ART for 346 health care providers over the life of the project, following the national ART protocol.

number of persons receiving cotrimoxazole increased from 5,602 in 2007 to 17,757 in 2012, amounting to 99.2% of people enrolled in clinical care in 2012 (see Table 8).

Client Access to High-quality Pediatric HIV Care
As a leader and innovator in pediatric HIV care, EGPAF supported the national strategy on psychosocial care for children living with HIV. In collaboration with TRAC Plus (today’s RBC/IHDP), in 2008 EGPAF launched the psychosocial care program targeting children aged 6–18 years. Since 2009, EGPAF has continued the expansion of these services to a total of 27 sites. Psychosocial care activities included training 74 health providers over the life of the project in announcing and disclosing HIV status to children infected with HIV and their families; offering age-appropriate support to 943 children during the last year of the project; sponsoring therapeutic outings for children living with HIV organized by ART sites, such as visits to Akagera National Park, the Nyanza museum, and the Rusumo waterfalls; and organizing 4-day overnight camps (Ariel camps***) for HIV-****

These camps were named after Ariel, Elizabeth Glaser’s daughter.

---

**Figure 13: Number of Adult and Pediatric Patients on ART**

<table>
<thead>
<tr>
<th>Year</th>
<th>Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,925</td>
<td>246</td>
</tr>
<tr>
<td>2</td>
<td>5,827</td>
<td>515</td>
</tr>
<tr>
<td>3</td>
<td>6,948</td>
<td>568</td>
</tr>
<tr>
<td>4</td>
<td>8,673</td>
<td>664</td>
</tr>
<tr>
<td>5</td>
<td>10,386</td>
<td>673</td>
</tr>
</tbody>
</table>
In 2010, the RBC adopted a national task-shifting policy, which allows for nurses to dispense ARVs to clients and to provide regular care to clients on treatment.

In collaboration with RBC/IHDPC and the University of Maryland, EGPAF participated in a mentoring program for staff trained in national task-shifting guidelines. The mentoring program had as an objective to evaluate the nurses’ expanded practice of ARV treatment and validate the task-shifting training they received. The mentees worked closely with medical doctors during consultations, participated in ART drug distribution, and oversaw the enrollment of clients in pre-ART and ART programs.

By September 2012, 30 EGPAF-supported sites were offering ART services, up from 3 sites at the end of 2007. At the end of the project, as Figure 13 and Table 9 illustrate, EGPAF sites reported 11,059 clients still on ART, of whom 673 were children. During the course of the project, 14,993 clients, of whom 1,129 were children, had ever been on ART.

EGPAF also conducted an assessment of health facilities’ adherence to national guidelines for viral load testing. Several weaknesses in the implementation of viral load testing were observed and recommendations were made to ensure that workers understood the guidelines and were able to interpret the results.

### Table 9: PEPFAR Indicators for ART

<table>
<thead>
<tr>
<th>PEPFAR Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults and children with advanced HIV infection who ever started on ART during the project (cumulative)</td>
<td>14,993</td>
</tr>
<tr>
<td>Adults and children with advanced HIV infection receiving ART (current)</td>
<td>11,059</td>
</tr>
</tbody>
</table>

EGPAF recommended that doctors and nurses be trained again on the timing of viral load tests and how to interpret the results, and that the districts reinforce messages related to timing and interpretation of results at their facilities. EGPAF also recommend a further assessment of how the logistics of getting samples to the National Reference Laboratory and the results back to sites can be improved so as to ensure timely and accurate results.

To improve the monitoring of pre-ART and ART clients, in 2010 EGPAF rolled out the IQ Chart client management system to all 30 ART sites. Developed by AIDS Relief International and Futures Group, and based on WHO pre-ART and ART registers, the software uses unique client identifiers to track client history and key clinical information (CD4 counts, body mass index, regimen, TB coinfection) for individuals receiving ART treatment and care. The software is intended to ease and improve follow-up of clients, identification of lost clients, program reporting, and quality monitoring. At the time of implementation, sites entered all data for clients currently enrolled in the care program. Sites have reported using IQ Chart to

- identify clients who are lost to follow-up (not identified earlier due to difficulties in managing large numbers of paper-based records),
- share lost-to-follow-up and missed appointment information with community liaisons and CHWs to facilitate tracking,
- share information on lost clients with nearby facilities to identify clients who transferred without official documentation,
- identify and discuss gaps in medical records so as to improve medical record quality, and
- track clients missing CD4 appointments so that they can be followed up with immediately.

The program is also used by the facility managers and EGPAF technical staff to monitor program quality.
EGPAF staff followed up with all 30 EGPAF-supported ART sites to ensure that information was being input into IQ Chart on a regular basis and that all sites knew how to use the system and were free from technological problems. EGPAF visited every site regularly to discuss IQ Chart and to troubleshoot any issues sites were having, most commonly related to computer viruses or other technology issues.

**Food Support Through World Food Program**

Until December 2007, EGPAF facilitated distribution of food support donated by the World Food Program (WFP) to malnourished pregnant women and lactating mothers in nine EGPAF-supported PMTCT sites.

The program was replaced by the Food for ART program, which focused on malnourished clients initiating ART in food-insecure zones in Rwanda. Initially, only Bugesera District benefited from this support, but in 2009 the program was extended to all ART sites supported by EGPAF. The program, which targeted malnourished ART clients, included three key components: nutritional support through provision of a WFP-provided corn-soy blend (CSB), counseling on good nutrition practices, and support for demonstration and kitchen gardens. Through these initiatives the program aimed to improve tolerance and absorption of ART for the first six months of initiation for clients who would have difficulties with ART due to weak nutritional status, to increase adherence to the medication, to reduce default and death rates, and to improve food security. At the beginning of the program, service providers were trained on nutrition counseling, food stock management, and program monitoring. WFP provided CSB to the sites, and EGPAF supported the sites in quantifying their needs. In addition to food support, clients received nutrition status monitoring, nutrition counseling, and training on kitchen gardens to support good feeding practices and food security. EGPAF organized training of site staff and program beneficiaries by GAKO Organic Farms, distributed garden-starting materials (seeds, tools), and organized meetings with sector agronomists, who will collaborate on the project. Demonstration gardens have been established at all the sites, were maintained by facility staff and beneficiaries, and served as models for kitchen gardens at the homes of people living with HIV. The MOH advocates kitchen gardens as a means of improving food security, which is especially critical to the health of HIV-positive persons. At the end of December 2009, a total of 1,050 beneficiaries were enrolled in the program. EGPAF gave a presentation on the progress of the implementation of the Food for ART kitchen garden exit strategy at the First Rwanda Nutrition Summit in November.

*Kitchen gardens by People Living with HIV as part of EGPAF/WFP program support. Photos: The Elizabeth Glaser Pediatric AIDS Foundation*
FIGURE 14: TB/HIV INTEGRATION: NUMBER OF PATIENTS NEWLY ENROLLED IN HIV CARE SCREENED FOR TB

IMPROVE ACCESS TO TB SCREENING AND TREATMENT

TB/HIV coinfection has been a national priority to which EGPAF has lent full support, participating regularly in the TB/HIV TWG that developed the national TB/HIV integration policy and treatment algorithms currently being used at all sites.

EGPAF-supported sites have strengthened their TB infection control measures and support the implementation of the national TB/HIV integration policy. According to the protocol, EGPAF-supported sites ensure that all TB-exposed children under five years old receive isoniazid prophylaxis (TB-exposed clients above five years do not automatically receive isoniazid).

By creating dedicated service delivery points for TB/HIV-coinfected clients, the “TB one-stop service” model allows a comprehensive response to TB-coinfected client needs and reduces the exposure of clients in regular HIV clinics to TB. The “one-stop” model also includes HIV testing for all TB clients, TB screening for all HIV-positive clients, and treatment for TB-positive clients.

As of 2010, screening for TB was done at all EGPAF sites when clients received care services. Data on TB screening for HIV-positive clients were collected from our treatment and nontreatment sites, and reported to PEPFAR in April and October of each year for the preceding six months. In addition, EGPAF collected data on TB screening for HIV-positive clients and submitted them to the National Integrated Fight Against Leprosy and Tuberculosis and RBC/IHDPC. From an early stage, EGPAF sites have reported high rates of TB screening for HIV-positive clients. Figure 14 shows the number of clients newly enrolled in HIV care services who have been screened for TB, with a reach of 96% in 2012. The number of newly enrolled HIV-positive clients screened for TB at EGPAF sites was 16,490.
### TABLE 10: QI INDICATORS

<table>
<thead>
<tr>
<th>QI Indicator</th>
<th>Baseline (%)</th>
<th>Reassessment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% eligible HIV+ pregnant women receiving ART</td>
<td>84.5 (93/110)</td>
<td>89.8 (88/98)</td>
</tr>
<tr>
<td>% HIV+ women initiated on ARV prophylaxis</td>
<td>81.4 (83/102)</td>
<td>91.8 (89/97)</td>
</tr>
<tr>
<td>% exposed infants with PCR test done at 4–8 weeks of age</td>
<td>5.5 (7/128)</td>
<td>1.5 (2/131)</td>
</tr>
<tr>
<td>% exposed children with confirmed HIV infection at 18 months of age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% lost to follow-up in pre-ARV care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% adults who remain active and receive ART with no interruption over 12 months of treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% children who remain active and receive ART with no interruption over 12 months of treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% patients enrolled in care (pre-ARV and ARV) with CD4 control done during the past 6-month review period</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 11: COMPARISON OF QoC INDICATORS AT BASELINE AND SIX MONTHS AFTER IMPLEMENTATION

<table>
<thead>
<tr>
<th>QoC Indicator</th>
<th>Baseline (%)</th>
<th>Reassessment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant women receiving ART*****</td>
<td>84.5 (93/110)</td>
<td>89.8 (88/98)</td>
</tr>
<tr>
<td>Exposed infants with DBS at 6 weeks</td>
<td>81.4 (83/102)</td>
<td>91.8 (89/97)</td>
</tr>
<tr>
<td>Exposed infants found HIV+</td>
<td>5.5 (7/128)</td>
<td>1.5 (2/131)</td>
</tr>
<tr>
<td>New HIV+ enrolled in care</td>
<td>57.8 (63/109)</td>
<td>82.2 (88/107)</td>
</tr>
<tr>
<td>Lost to follow-up in pre-ART care</td>
<td>20.8 (84/403)</td>
<td>5.4 (22/408)</td>
</tr>
<tr>
<td>Eligible children receiving ART</td>
<td>89.7 (26/29)</td>
<td>89.7 (26/29)</td>
</tr>
<tr>
<td>Children active &amp; on ART over 12 months</td>
<td>78.3 (18/23)</td>
<td>92.9 (26/28)</td>
</tr>
<tr>
<td>Adults active &amp; on ART over 12 months</td>
<td>73.1 (49/67)</td>
<td>81.1 (56/69)</td>
</tr>
<tr>
<td>CD4 up-to-date</td>
<td>81.7 (576/705)</td>
<td>82.0 (578/705)</td>
</tr>
</tbody>
</table>

### DEVELOP AND INSTITUTIONALIZE A PROCESS OF CONTINUING QUALITY IMPROVEMENT

The aim of the EGPAF Quality Improvement Program was to improve the quality of prevention, care, and treatment services at the facility and district hospital levels, with the ultimate goal of better health outcomes for clients. Beginning in July 2011, EGPAF focused its quality improvement (QI) efforts on implementing the national QI strategic plan, aligned with the national policy and incorporating the plan-do-study-act (PDSA) cycle approach.

In close collaboration with the MOH, in May 2011, EGPAF prepared and delivered a QI skill-building workshop for EGPAF technical and M&E teams and a program officer from the RBC/IHDPC’s HIV division. Following this workshop, a training module for care providers was developed in collaboration with the MOH and the RBC/IHDPC’s HIV division. Over the next several months, EGPAF conducted workshops for managers, care providers from different services, support staff, and community representatives. Overall, 278 participants were trained from March 2011 to January 2012.

*Following the introduction of new national HIV guidelines in March 2012, which state that all HIV-positive pregnant women should start lifelong ART regardless of clinical stage or CD4 count, the indicators on percentage of HIV-positive pregnant women receiving ART and HIV-positive pregnant women initiated on ARV prophylaxis were merged into one indicator labeled “percentage of pregnant women receiving ART.” This brought the number of indicators down to nine.*
During the skill-building workshop for EGPAF and RBC/IHDPC teams, participants selected and defined 10 SMART (specific, measurable, achievable, reliable, and timely) quality indicators for PMTCT and care and treatment, based on national priorities (see Table 10). Participants then analyzed routine M&E data reported in EGPAF’s electronic database, the Global AIDS System for Evaluation and Reporting (GLASER), for the preceding quarter and identified 10 pilot sites for QI intervention. These pilot sites were those with the lowest performance levels in HIV services based on the data in the GLASER database.

A quality management committee (QMC) was established at EGPAF to support the implementation of QI activities. At the pilot health facilities, the team supported establishment or revitalization of facility-level QMCs and included community representatives (including people living with HIV) in addition to managers and health care providers. The roles and responsibilities of these QMCs included discussing monthly quality issues, reviewing progress, and identifying key actions to be implemented using PDSA cycles for continuous QI.

Selected quality of care (QoC) indicators were measured at baseline and six months later for all clients. The results, presented in Table 11, are drawn from two consecutive measurements of QoC indicators. Using the collected data, the site-level QMCs assessed their facilities’ baseline performance, identified low performance areas for PMTCT and HIV care and treatment for both children and adults, discussed root causes of observed weaknesses, and established performance targets and corrective strategies. The QMCs implemented PDSA improvement cycles through interventions expected to improve QoC and service delivery. Providers developed plans for change, tested the change, implemented the change, and remeasured to determine whether improvement had occurred and to identify how to adapt interventions accordingly.

After identifying gaps between actual and desired performance, targets were established as performance contracts for the following 12 months. To monitor performance trends and ensure that national protocols were applied, the site-level QMC, district hospital staff, and EGPAF technical staff conducted quarterly follow-up visits, and biannual assessments were planned as part of PDSA cycles.

The nine QoC indicators were measured at baseline and again six months after the implementation of improvement projects. Overall, improvements in QoC indicators were observed, with a reduction in the numbers of lost-to-follow-up pre-ART clients and an increase in the numbers of new HIV-positive clients enrolled in care. Due to the limited number of sites implementing QI interventions (10) and the limited number of observations, we were unable to determine the statistical significance of the improvements in the indicators. However, by looking at the data we can see the improvement from the baseline to six months later in nearly all indicators (see Table 11).

Staff of sites implementing QI projects were enthused to learn about and implement QI techniques. According to the discussions held with providers six months after implementation, staff seem to be motivated to implement and own the QI activities. For example, a health care worker from Nyagasambu Health Center said, “EGPAF showed us how to manage our data, to deal with our weaknesses, to plan and implement quality improvement interventions.” In addition, community representatives are very excited to bring their inputs into improvement of service delivery in their health facilities. One person living with HIV shared, “You cannot imagine how valued I feel when I get invited to participate in the monthly QMC meetings.”

With EGPAF support, through QMCs and other activities at sites, health care providers took ownership of QI initiatives and became more accountable for the quality of services they deliver. However, achieving the sustainability of these QI initiatives will require continued support for existing QI initiatives and the reinforcement of community involvement. There is also a need to scale up and harmonize QI interventions throughout the country.

**IMPROVE MATERNAL, NEONATAL, AND CHILD HEALTH, AND FAMILY PLANNING AND REPRODUCTIVE HEALTH**

The GOR has prioritized the reduction of maternal and infant morbidity and mortality in Rwanda to reach the targets of Millennium Development Goals 4 and 5. Therefore EGPAF placed an increasing emphasis on supporting the MOH and decentralized health institutions to improve maternal, neonatal, and child health (MNCH) services. The following section gives a snapshot of the MNCH, family planning (FP), and reproductive health (RH) activities over the life of the project.
In 2009, EGPAF staff participated in an exchange visit to Swaziland to learn more about the government of Swaziland’s approach to integrated service delivery and how it might be customized to the Rwandan health setting. To begin to understand how to implement integrated services in Rwanda, EGPAF began by working in consultation with three districts and the Maternal and Child Health (MCH) Department of MOH to assess the current state of MNCH/HIV integration programming in five EGPAF-supported sites in the Eastern Province. The goal was to understand the current level of service integration at those sites and to see whether those sites were providing the comprehensive package of MNCH and HIV services.

EGPAF and districts organized a district-level meeting where 12 health care providers discussed the results from the assessment, recognized the gaps in service integration, and acknowledged and discussed the challenges they faced in integrating MNCH and HIV services. Chief among the challenges discussed were human resource constraints, the habit of offering “vertical” services, the need for trainings on service integration, and the need for a method of measuring the level of integration over time. The group proceeded with the formulation and documentation of a “one-stop” model to integrate HIV services in MNCH (see Figure 15). The model envisions improvements in client flow and service schedules—making sure the provider has time to offer all the services in one appointment and avoiding having clients move from room to room or come back on different days to receive services. In accordance with the implementation plan, the MOH, EGPAF, and health providers held trainings for the staff at the selected sites on the requirements for service integration, including reorganizing staff and client flow, and cross-training staff where necessary.

The model was piloted in the five sites in the Eastern Province, the implementation documented, and an evaluation of the model conducted in 2012. The results showed that the health workers are very satisfied with the model, both because it reduces their workload now that clients are equally distributed over the week.
When services are not integrated, the patient receives each service separately, usually at a different appointment. Under an integrated, or one-stop, service model, the patient can receive multiple services in one visit, thus reducing her trips to the health facility and receiving a holistic approach to health care.
and because they are able to provide better-quality services. Advantages for the clients living with HIV are reduced frequency and duration of visits to the facility and increased confidentiality, and it is therefore expected that there will be reduced loss to follow-up. The evaluation did not identify any harmful implications for health workers or clients—neither those who were HIV-positive nor those who were HIV-negative—and the MOH is considering scaling up the model across the country.

Family Planning and Reproductive Health

In 2007, EGPAF led development of an FP/HIV integration model in collaboration with the MOH and clinical partners. The model maximized all women’s access to contraceptives by training all health providers in key services, including HIV and making appropriate FP referrals, and by ensuring nurses were able to refill oral and injectable contraceptive prescriptions at all service delivery points and at all times during the week. Additionally, certain nurses were trained to handle new clients, long-term FP methods, and complicated cases. EGPAF supported and implemented this model 2008.

Since 2010, EGPAF has supported the MOH and health facilities to improve the use of modern FP in general as well as long-acting methods such as intrauterine devices and hormonal implants, providing formal training in long-acting methods to 186 health workers from all EGPAF-supported districts. Users are no longer required to go to the hospital to access long-acting methods but can receive them at their nearest health facility.

EGPAF also supported the MOH in piloting community-based FP service delivery, including injectables, in Gatsibo District in 2010. The evaluation of this pilot showed good results, and the MOH requested that partners scale up community-based FP services. EGPAF responded in 2012 by supporting the training of 581 CHWs in Bugesera District and providing them with the necessary supplies. The community-based FP program in Bugesera was officially launched by the MOH on July 16, 2012.

EGPAF also supported the MOH in rolling out training for permanent methods of birth control, particularly vasectomy services. In collaboration with the MOH, EGPAF supported the training of staff from all EGPAF-supported district hospitals on nonsurgical vasectomy, and 10 lab technicians and 42 health providers in 2 sites in Gatsibo on using spermogram analysis.

While FP is promoted by the GOR as a crucial tool in development, access barriers remain, especially in the catchment areas of health centers attached to faith-based organizations that do not support the use of modern FP methods. To improve access to FP for clients of these health centers who want it, the MOH recommended the establishment of secondary FP posts close to these faith-based facilities.

EGPAF supported the establishment of nine secondary health posts, which are linked to faith-based health facilities that do not provide modern contraceptives. Following an equipment needs assessment, the proposed equipment and furniture was endorsed by the MOH and procured. All sites are now able to provide the full range of FP methods except permanent FP methods.

Maternal, Neonatal, and Child Health

Since 2008, EGPAF has actively participated in the MCH TWG and its subcommittees—for example, the Safe Motherhood & Child Health, Emergency Obstetric and Neonatal Care (EmONC), Neonatology, and Integrated Management of Childhood Illness (IMCI) TWGs—and in 2011 hired a full-time senior advisor for MCH/FP/RH. EGPAF participated in revision of the national EmONC training and reference materials, development of a national database for EmONC trainees, development of protocols for the major obstetric complications, development of a mother and child health booklet, development of a protocol for postabortion care, and introduction of misoprostol for prevention of postpartum hemorrhage.

EGPAF supported the training of 106 health workers at both hospital and health center levels in EmONC, covering all EGPAF-supported districts. The three-week-long training consisted of normal delivery, management of obstetric and newborn complications, and maternal death auditing. The first week was theory, the second week a combination of theory and practical exercises with mannequins, and the third week clinical attachment to busy maternities at district hospitals. Three months after the training, the MOH, with EGPAF support, followed up with all trainees to assess whether they were applying the skills acquired, and administered a test before issuing certificates of competence.

EGPAF also supported the facilities with procurement of essential equipment to provide maternal and newborn health services. Some of the equipment procured included delivery couches, delivery kits, resuscitation units, weighing scales, gynecological lamps, operating room equipment, and general furniture.

During the project, EGPAF has supported the implementation of IMCI, neonatology, and infant death audits at both the central and district levels. EGPAF support included the following:
Neonatal and Child Death Audit

- EGPAF seconded a full-time staff member to the MCH Department at MOH to support implementation of the national infant death audit program and to coordinate activities around neonatology. The seconded staff member rolled out the national infant death audit program to all the district hospitals in Rwanda, and entered and analyzed data. Results showed that the majority of neonatal deaths were due to prematurity and asphyxia during birth. In 2011, the neonatal and child death audit tools were reviewed, and a total of 81 health providers from EGPAF-supported districts were trained on the revised tools, which will assist them in identifying shortcomings in care provision and developing an action plan to address those gaps so as to reduce neonatal and infant mortality.

Integrated Management of Childhood Illness

- EGPAF participated in revision of the tools and training methodology for IMCI. The duration of the IMCI training was reduced from 12 to 6 days, and the next step will be to integrate HIV and nutrition components into the curriculum.
- EGPAF trained 142 health workers in 2 districts in clinical IMCI. The training also included a day of training in infant death audits and verbal autopsy.

Kangaroo Mother Care

- EGPAF supported the training of five district hospitals in kangaroo mother care (KMC) for low-birth-weight babies and supported Kibungo District Hospital with establishment of a separate KMC unit. All district hospitals have staff trained on KMC, but only six district hospitals in the country have fully functional KMC units. MOH urged all partners during a KMC stakeholder meeting to support their districts in implementing KMC at all levels.

Elimination of Malnutrition

- EGPAF also participated at the national and district levels in development of strategies to eliminate malnutrition. As planned though the Nutrition TWG, EGPAF participated in a field trip to Musanze in the Northern Province of Rwanda to work with the MOH and other partners to develop the national nutrition strategy. EGPAF also participated in launching district-level plans to eliminate malnutrition.

Sexual and Gender-based Violence

EGPAF first received funding in 2010 to implement activities related to sexual and gender-based violence (SGBV). Since then, EGPAF has supported the training of 168 service providers in EGPAF-supported sites in SGBV. Doctors, nurses, social assistants, and police officers have been trained to ensure delivery of a comprehensive package for victims of SGBV.

In 2010, EGPAF supported the sensitization of more than 265 “male champions” in SGBV and MCH. During 2011, EGPAF held meetings with health facilities to establish a process of continuing support to these male champions to sensitize peers in their communities on MCH and SGBV messages, including but not limited to the importance of supporting their wives and families to seek MCH/HIV services, refraining from SGBV, and referral to SGBV services. The training also intended to help men to understand different aspects of SGBV, including the responsibility of men to respect women’s and children’s rights.

In 2011, EGPAF participated through the SGBV TWG in development of a treatment protocol, monitoring framework, and tools for SGBV prevention and care activities at the facility and community levels, as well as development of a scaling-up strategy for one-stop centers.

In 2012, EGPAF supported Kibungo District Hospital with establishment of a one-stop center for SGBV prevention and care services through training and procurement of equipment and furniture, and the center started operating in November 2012. Three dissemination meetings were conducted with 147 local authorities, church leaders, health centers in-charge, cooperative representatives, community-based organizations, and SGBV committee representatives to create awareness about the newly opened one-stop center for SGBV.

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>CUMULATIVE RESULTS SINCE 2010</th>
</tr>
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<tbody>
<tr>
<td>Number of people reached by an individual, small-group, or community-level intervention or service that explicitly addresses SGBV and coercion related to HIV/AIDS</td>
<td>509</td>
</tr>
<tr>
<td>Number of people trained in SGBV service provision / clinical management</td>
<td>168</td>
</tr>
<tr>
<td>Number of new SGBV cases that received care and support through USG-supported programs</td>
<td>340</td>
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</tbody>
</table>
EGPAF started collecting data on SGBV indicators in 2010 when we first received SGBV funds. Table 12 shows cumulative results for three SGBV indicators.

**GOAL 3: PROVIDE NATIONAL TECHNICAL ASSISTANCE IN PEDIATRIC AIDS CARE AND TREATMENT, PMTCT, AND INFANT NUTRITION**

EGPAF's third major goal for the HCSP was to provide targeted technical assistance at the national level, to include support to the MOH, Rwanda Biomedical Center / Institute for HIV/AIDS Diseases, Prevention and Control (RBC/IHDPC), USG partners, and other key stakeholders. EGPAF’s recognized active participation in development, review, and dissemination of national policies and procedures is a key component of this technical assistance.

Technical staff participated in numerous technical working groups (TWGs) addressing various aspects of services related to maternal and child health (MCH), family planning (FP), reproductive health (RP), HIV/AIDS, health system strengthening, and quality improvement (QI). Others were involved in national workshops and planning committees, and regularly participated in national conferences and symposia. EGPAF also contributed to development of counseling and job aids; program monitoring tools; information, education, and communication materials; and implementation models, which have been incorporated into national policy and standardized across facilities. Table 13 lists EGPAF’s involvement in these groups.

Strengthening the response to pediatric HIV/AIDS is part of EGPAF’s worldwide mission. In Rwanda, EGPAF worked to strengthen knowledge of pediatric HIV/AIDS issues among generalists and medical students at University Central Hospital of Kigali through weekly consultations in the pediatric ward by two pediatricians on EGPAF’s technical team. EGPAF also continues to advocate for strong national policies that address the specific needs of children infected with and affected by HIV, especially in the areas of testing, treatment, clinical care, and psychosocial care.

During the duration of the project, EGPAF has also supported the Rwandan Pediatric Society (RPS) over which is presided, by the Rwanda minister of health and which has as principal objective to actively promote child health in Rwanda. Two of EGPAF’s pediatricians are active members of the RPS and participate in meetings, trainings, and other activities. In addition, in 2010, EGPAF provided financial support to RPS for the development of its strategic plan, including hiring a consultant to facilitate plan development and dissemination. The strategic plan will define the objectives and activities RPS intends to achieve over the next three years, taking into account linkages with other national and international organizations pursuing similar aims, such as EGPAF.

**TABLE 13: TECHNICAL WORKING GROUPS, TASK FORCES, AND COMMITTEES OF WHICH EGPAF WAS A MEMBER**

<table>
<thead>
<tr>
<th>HIV AND AIDS</th>
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<tbody>
<tr>
<td>HIV/AIDS Care and Support for Adults and Children TWG</td>
<td></td>
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<tr>
<td>Prevention TWG 5 (including PMTCT)</td>
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<tr>
<td>TB/HIV TWG</td>
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<tr>
<td>Psychosocial Care TWG</td>
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<tr>
<td>Monitoring and Evaluation on HIV TWG</td>
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<tr>
<td>Steering Committee on Pediatric Care and Support</td>
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<tr>
<td>Steering Committee on Condom Programming</td>
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<tr>
<td>HIV Research Review Committee</td>
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<tr>
<td>Clinical Mentorship TWG</td>
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<tr>
<td>Palliative Care TWG</td>
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<tr>
<td>MATERNAL AND CHILD HEALTH</td>
<td></td>
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<tr>
<td>MCH TWG and the following subgroups:</td>
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<tr>
<td>Family Planning TWG</td>
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<tr>
<td>Safe Motherhood and Child Health TWG</td>
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<tr>
<td>Gender-based Violence TWG</td>
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<tr>
<td>Nutrition TWG</td>
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<tr>
<td>Adolescent Sexual and Reproductive Health and Rights TWG</td>
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<tr>
<td>HEALTH SYSTEM STRENGTHENING</td>
<td></td>
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<tr>
<td>Committee on the Contractual Approach of Performance-based Financing</td>
<td></td>
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<tr>
<td>Common Procurement and Distribution System TWG</td>
<td></td>
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<tr>
<td>Health Financing TWG</td>
<td></td>
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<tr>
<td>Quality Improvement TWG</td>
<td></td>
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<tr>
<td>Governance and Decentralization TWG</td>
<td></td>
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<tr>
<td>OTHER</td>
<td></td>
</tr>
<tr>
<td>Development Partners Group</td>
<td></td>
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<tr>
<td>Committee on the MOH Resource Tracking Tool</td>
<td></td>
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</table>

(continued)
STRATEGIC INFORMATION SYSTEMS AND RESEARCH

Routine Monitoring and Evaluation
EGPAF's M&E department measured program progress and facilitated evidence-informed decision making in the implementation and design of program activities, while meeting the reporting requirements of USAID.

Reporting: EGPAF submitted timely quarterly progress reports as well as semiannual and annual reports to USAID via the Monitoring and Evaluation Management Systems (MEMS) Web-based database. During 2011, EGPAF updated the database we use to track EGPAF-sponsored trainings to better record and report on training data. In addition, our M&E team participated in a series of meetings with other USAID HIV clinical services partners and with MEMS to identify gaps between data available from MOH systems and data required by USAID. The group formulated a common approach to PEPFAR reporting based on the new TRACNet reporting system and available indicators. MEMS, MOH, and USAID continue to work together to ensure that all required indicators are available but not duplicated.

Supporting Central-level M&E: EGPAF provided support to enable the MOH to use its health information systems such as TRACNet and Health Management Information System (HMIS) for reporting, rather than creating separate databases for reporting. To this effect, EGPAF actively participated in the central-level development and revision of HIV services monitoring systems and tools. In 2011, EGPAF M&E staff played a critical role in liaising between sites and RBC/IHDPC as they fully implemented the TRACNet online reporting system. EGPAF helped to ensure that sites made a smooth transition to online reporting and were entering monthly data into the national system on time. In addition, EGPAF participated with MEMS and other HIV service clinical partners in data quality assessments (DQAs) of the MOH HMIS system. This system is used to collect a variety of health-related data from health facilities in Rwanda. EGPAF and other HIV clinical services partners rely on it to provide information for USAID-required FP and MCH indicators. During the DQA, the assessment team worked to understand the data that sites are reporting under various MCH and FP indicators to ensure that data reported to USAID and the MOH are accurate and reliable. Further work is needed to define indicators to ensure that all sites report the same information under the indicators.

District-level Data Use: A priority for EGPAF was to reinforce data use at the district level. As part of our graduation strategy, EGPAF worked to build capacity at the district level to use monitoring data to inform programming and decision making through a number of initiatives:

- Development of a data dashboard to give an overview of critical data at the site, district, and organizational levels. The data dashboard enabled sites, districts, and EGPAF staff to quickly compare the last four quarters’ worth of data in several program areas and identify gaps in services or problems with recording or reporting (see the appendix).
- Review of monthly data, error checks for irregularities, and comparisons of reported data against the TRACNet system. If inconsistencies were noted, the M&E team worked with site staff to clarify the issue, thereby ensuring that both our database and the TRACNet system were highly accurate and reliable.
- Monitoring of changing trends in the data. When changing trends were noted, the M&E team worked with the technical team and sites to assess the source of the change in trend.
- Review and updating of the extra data collection forms to track the activities of the ALAC (community liaison) and POFIS (service integration focal point) in the continuum of care program.
- Training for data managers and health providers in HIV services at EGPAF-supported sites. In 2011, the M&E team designed and led a 3-day training for data managers with the objective of helping sites collect and report accurate and timely data. In addition to going over indicators, registers, and reporting forms, EGPAF introduced the data dashboards to sites. More than 130 health staff were trained over 4 weeks. In preparation for the training, EGPAF held focus groups with data managers at health centers and hospitals to understand their training needs and to tailor the training to meet those needs. In 2012, EGPAF provided on-the-job training to data managers at sites.
- Intensive training and roll-out of new national indicators to ensure data quality as sites transition to using new indicators and tools.
- Regular M&E mentoring to the districts and sites, synthesizing data on the monitoring and use of services as discussion items with districts and sites.
- Reinforcement of data quality checks as part of the technical team’s regular supervision to identify areas needing additional support through quality assurance and QI approaches (such as the plan-do-study-act and exchange visits).
Program Assessments
EGPAF conducted several program assessments as part of its effort to improve the quality of the programs and to analyze particular service areas in order to identify good practices or to address areas of weakness. These assessments were generally rapid and limited in scope, but they revealed much about program implementation. Table 14 provides examples of assessments that were carried out but is not exhaustive.

| TABLE 14: PROGRAM ASSESSMENTS PERFORMED DURING THE PROJECT PERIOD |
| --- | --- |
| **TITLE** | **OBJECTIVE** |
| **2008** |  |
| EGPAF’s Continuum of Care Model at ART and Non-ART Sites | To assess service delivery and follow-up of clients testing positive for HIV at both ART and non-ART sites under EGPAF/Rwanda’s care program, one year postimplementation |
| **2009** |  |
| DBS/PCR Infant Testing | To explore turnaround time of results and major causes of delays |
| **2010** |  |
| Evaluation of the Continuum of Care Program, Two Years Postimplementation (2010) | To assess service delivery and follow-up of clients testing positive for HIV at both ART and non-ART sites under EGPAF/Rwanda’s care program, two years postimplementation |
| **2011** |  |
| Assessment of Implementation of Viral Load Testing According to National Protocol (2011) | To assess implementation of national protocol requiring that a viral load test be conducted annually for clients on ART |
| Immunological and Clinical Outcomes of HIV+ Adolescents on ART | To determine the clinical outcomes of adolescents on ART in Rwanda |
| **2012** |  |
| Integration of HIV Services into Maternal and Child Health | To evaluate the one-stop model in Rwanda |
| Health-seeking Behaviors of Pregnant Women in Rwanda | To determine factors contributing to the dropout of pregnant women between first and fourth ANC visits |
**KEY RESULTS**

Referral of all HIV+ clients from PMTCT/VCT sites to ART sites was not functioning well. Provision of care or pre-ART services at VCT/PMTCT sites was an effective intermediate step to extending services during the process of full scale-up. More clients were staged and enrolled in care locally, while only those most in need of treatment were referred.

The assessment showed that the uptake of DBS/PCR testing was high (95% of the 96 HIV-exposed infants received a DBS/PCR test); however, where documented, results took on average nine weeks to return (two weeks was national policy). During the same year, the National AIDS Control Commission and the National Reference Laboratory (NRL) also conducted an early infant diagnosis assessment and came up with a series of recommendations to shorten turnaround time for lab results.

Care services among active clients in the assessment showed that 96% of clients received a CD4 result, of whom 29% received it in the first seven days after enrollment. The model showed improvements over time in enrolling clients in care; 94% received pre-ART services and more than 50% initiated ART within seven days of becoming eligible.

Several weaknesses in the implementation of viral load testing were observed. EGPAF recommended that doctors and nurses be trained again on the timing of viral load tests and how to interpret the results, and that the districts reinforce messages related to timing and interpretation of results at their facilities. EGPAF also recommend a further assessment of how the logistics of getting samples to the NRL and the results back to sites can be improved so as to ensure timely and accurate results.

Outcomes for adolescents on ART in this study were comparable to those reported in the medical literature for clients in developed countries, but immunologic failure and drug toxicity were higher. There is a need to reinforce client and provider monitoring and follow-up and educate clients on the importance of adherence.

Results shared with MOH but not yet validated

Results shared with MOH but not yet validated
PUBLICATIONS AND PRESENTATIONS BY EGPAF STAFF


Nkiko G (EGPAF/Rwanda technical advisor). Immunological and clinical outcomes of HIV-positive adolescents on HAART. Oral abstract presented at: 7th Annual Pediatric Conference; November 9-11, 2011; Kigali, Rwanda; and at: ICASA; December 4-8, 2011; Addis Ababa, Ethiopia.


Ubarijoro S (EGPAF/Rwanda technical advisor). Efficacy of providing pre-ART care at PMTCT/VCT sites vs. referral of all HIV+ clients to ART sites. Oral abstract presented at: HIV Implementers Meeting; June 4-7, 2008; Kampala, Uganda; and abstract presented at International AIDS Society (IAS) Conference; August 2008; Mexico City, Mexico.


LESSONS LEARNED

Through the implementation of the HCSP, EGPAF has gained extensive expertise in supporting the implementation of HIV services in maternal, neonatal, and child health; family planning and reproductive health; nutrition; and the integration of services. EGPAF’s support to strengthen the district health networks through a health systems approach has also been lauded by district mayors, district hospital directors, and other stakeholders. Several lessons have been learned over the course of this project:

Collaboration with the MOH, with districts, and with district forums (such as the Joint Action Development Forum) is crucial for the success of the project.

Implementing activities directly in response to national strategies and MOH and district priorities strengthens the national health system and reduces parallel implementation.

Having strong local leadership and good technical oversight for projects and products such as the maternal, infant, and young child nutrition package ensured that all partners supported the initiatives. With good communication, advocacy, and technical support, partners were willing to join hands and support the government in the creation of health products and programs. This coordination also eliminated duplication of efforts.

The GOR’s leadership in the fight to eliminate MTCT has made EGPAF’s work in elimination of MTCT possible and has led to thousands of infants born HIV-free.

Adaptation of lessons learned from EGPAF’s other country programs brings innovation to the Rwanda national project.

As EGPAF has an important technical role on the RFHP, this project and EGPAF staff will build on their thorough understanding of the gaps in service delivery and will focus attention on ensuring continuation of the gains made under the HCSP.

EGPAF/Rwanda has also been awarded funding by USAID to conduct a three-year implementation science research project on PMTCT (the Kabeho study). Under this project, EGPAF and MOH partners will systematically measure breastfeeding practices, ART adherence, growth, nutrition, and ultimately, HIV-free survival of children in Rwanda born to HIV-positive women.

As the needs of the MOH change, EGPAF/Rwanda will remain a strong partner through provision of technical assistance and advocacy efforts, and as a leader in implementing research and evaluation.

FUTURE DIRECTION

As the GOR is taking more ownership of service delivery, beyond December 2012 EGPAF will play a different role in Rwanda. EGPAF is a sub-contractor under the Chemonics-led USAID Rwanda Family Health Project (RFHP), the USAID flagship health service delivery project in Rwanda, which will build on the achievements of the HCSP and continue in supporting the MOH in providing quality care to all Rwandans. The RFHP will focus on increasing the use of district facility–based and community-based family health services, including an integrated package of services related to family planning and reproductive health; HIV and AIDS; maternal, neonatal, and child health; malaria prevention and treatment; nutrition, safe water, and hygiene; and tuberculosis treatment.

The RFHP aims to build local capacity, promote healthy behaviors, increase the use of health services, and strengthen linkages between and within community health facilities.

As EGPAF has an important technical role on the RFHP, this project and EGPAF staff will build on their thorough understanding of the gaps in service delivery and will focus attention on ensuring continuation of the gains made under the HCSP.

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As the needs of the MOH change, EGPAF/Rwanda will remain a strong partner through provision of technical assistance and advocacy efforts, and as a leader in implementing research and evaluation.


REFERENCES


APPENDIX: SAMPLE DATA DASHBOARD

Butarwa HC Oct-Dec 2011

Testés Positifs vs. Nouveaux enroîlés en Pré-ARV

Nouveaux Enrôlés en ARV

Pré-ARV PDV et Retrouvés

Actuellement en soins, traitement, CTX

ARV PDV et Retrouvés

CPN

Maternité

Enfants Testés - 6 semaines

Enfants Testés - 9 mois

Enfants Testés - 18 mois

END-OF-PROJECT REPORT: RWANDA 45