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# QUALITY ASSURANCE AND WORKFORCE DEVELOPMENT PROJECT: YEAR FIVE ANNUAL REPORT

Performance Period: July 1, 2006–June 30, 2007

Contract Number GPH-C-00-02-00004-00



JULY 31, 2007

This publication was produced for review by the United States Agency for International Development and prepared by the Quality Assurance Project.

QUALITY  
ASSURANCE  
PROJECT



**Cover photo credits and captions (clockwise from top left):**

*Photo by Danilo Nuñez.* A nurse from Humberto Alvarado Hospital in Masaya, Nicaragua presents to co-workers during a QAP-supported workshop on HIV-related stigma and discrimination.

*Photo by Steve Harvey.* A trained observer assesses a nurse's compliance with delivery care standards in Kenya using an anatomical model.

*Photo by Jorge Hermida.* A facilitator observes health workers in Santa Cruz, Bolivia learning about tuberculosis case management using the computer-based training program developed by QAP for the Ministry of Health.

*Photo by Kurt Mulholland.* Three volunteer community health workers in Zambia watch as a trainer from the national malaria control program demonstrates how to take a finger-stick blood sample to perform a malaria rapid diagnostic test.

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## Abbreviations

ACP	AIDS Control Programme (Uganda)
ACT	Artemisinin Combination Therapy
ADD	Aplahoue-Dogbo-Djakotome (Benin)
AIHA	American International Health Alliance
AIM	AIDS/HIV Integrated Model District Programme
AIMA	<i>Programa de Atención Integral de la Mujer y Adolescencia</i>
AMTSL	Active Management of the Third Stage of Labor
ANC	Antenatal Care
ANE	Asia and Near East
ART	Antiretroviral Therapy
ARV	Antiretroviral
BCC	Behavior Change Communication
Business PART	Business Preventing AIDS and Accelerating Access to Antiretroviral Treatment (Uganda)
CBT	Computer-based Training
CCP	Critical Care Pathway
CDC	Centers for Disease Control and Prevention
CD-ROM	Compact Disc-Read Only Memory
CHAMCTPSA	Comprehensive HIV and AIDS Management, Care and Treatment Program for South Africa
CHW	Community Health Worker

COGEA	Community health management committee (Benin)
COUNSELNUTH	Centre for Counseling, Nutrition, and Health Care (Tanzania)
CPHL	Central Public Health Laboratories (Uganda)
CQI	Continuous Quality Improvement
CT	Counseling and Testing
CTC	Counseling and Treatment Center (Tanzania)
DAIA	Contraceptive Security Committee (Nicaragua)
DFID	Department for International Development (United Kingdom)
DHS	Demographic and Health Survey
DJCC	Directors Joint Consultative Committee
DOH	Department of Health (South Africa)
DOTS	Directly Observed Therapy, Short Course
DOW	Doctors of the World
DPQS	Division for the Promotion of Quality Services (Rwanda)
DSR	<i>Direction de la Santé de la Reproduction</i> (Directorate for Reproductive Health) (Niger)
DSS	Directorate of Healthcare (Rwanda)
ECSA	East, Central and Southern Africa
EGPAF	Elizabeth Glaser Pediatric AIDS Foundation
EMP	<i>Empresa Médica Previsional</i> (Private Medical Provider) (Nicaragua)
ENC	Essential Newborn Care
EOC	Essential Obstetric Care
EONC	Essential Obstetric and Newborn Care
ETAT	Emergency Triage Assessment and Treatment
ETR	Electronic TB Register
FCI	Family Care International
FECECAM	<i>Federation des Caisses de Credit Agricole Mutuelle</i> (Benin microcredit organization)
FHI	Family Health International
FP	Family Planning
GCS	Gestión y Calidad en Salud (Management and Quality in Health)
GDF	Global Drug Facility
GF	Global Fund
GFATM	Global Fund for AIDS, Tuberculosis and Malaria
GHC	Global Health Council
HACAP	Humanization and Cultural Adaptation of Delivery Care (Ecuador)
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HR	Human Resources
HRD	Human Resources Development
HRM	Human Resources Management
HRSA	Health Resources and Services Administration
HSA	Health Service Area
IBP	Implementing Best Practices
IDU	Intravenous Drug User
IEC	Information, Education, and Communication
IFH	Institute for Family Health (Russian Federation)
IHI	Institute for Healthcare Improvement
IMCI	Integrated Management of Childhood Illness
IMNCI	Integrated Management of Newborn and Childhood Illness
INEC	National Statistics and Census Bureau (Ecuador)
IPT	Isoniazid Preventive Therapy

ISQua	International Society for Quality in Health Care
IYCF	Infant and Young Child Feeding
JPM	Joint Malaria Program of the London School of Tropical Medicine and Hygiene
JSI	John Snow Inc.
KCMC	Kilimanjaro Christian Medical Centre
LAC	Latin America and Caribbean
MAQ	Maximizing Access and Quality
MCH	Maternal and Child Health
MDR	Multi-drug resistant
MIFAMILIA	Ministry of the Family (Nicaragua)
MINSA	Ministry of Health (Nicaragua)
MNH	Muhimbili National Hospital (Tanzania)
MOH	Ministry of Health
MOHSD	Ministry of Health and Social Development (Russia)
MOHSW	Ministry of Health and Social Welfare
MRC	Medical Research Council (South Africa)
MSH	Management Sciences for Health
NMCC	National Malaria Control Center (Zambia)
NACP	National AIDS Control Program (Tanzania)
NCQA	National Committee for Quality Assurance
NDOH	National Department of Health (South Africa)
NGO	Nongovernmental Organization
NMCC	Zambian National Malaria Control Center
NQAD	National Quality Assurance Department (Honduras)
NTCP	National Tuberculosis Control Program
NTP	National Tuberculosis Program
OFDA	Office of U.S. Foreign Disaster Assistance
OGAC	Office of the Global AIDS Coordinator
OI	Opportunistic Infections
OPD	Outpatient Department
OR	Operations Research
OVC	Orphans and Vulnerable Children
PAHO	Pan American Health Organization
PAK	Pobe-Adja-Ouere-Ketou (Benin)
PDOH	Provincial Department of Health (South Africa)
PDSA	Plan, Do, Study, Act
PEPFAR	President's Emergency Plan for AIDS Relief
PHI	Pediatric Hospital Improvement
PHR <sup>plus</sup>	Partners for Health Reform Plus Project
PISAF	<i>Projet Intégré de Santé Familiale</i>
PLWHA	Persons Living with HIV/AIDS
PMTCT	Prevention of Mother-to-Child Transmission of HIV
PNLP	National Malaria Control Program (Rwanda)
POPPHI	Prevention of Postpartum Hemorrhage Initiative
PPM	Public-Private Mix
PSI	Population Services International
PVO	Private Voluntary Organization
QA	Quality Assurance
QAP	Quality Assurance Project
QI	Quality Improvement
QoC	Quality of Care

QSM	Quality Supervision and Monitoring
RAAN	North Atlantic Autonomous Region
RAAS	South Atlantic Autonomous Region
RCHS	Reproductive and Child Health Service (Tanzania)
RCM	Referral Care Manual
RDT	Rapid Diagnostic Test
RPM+	Rational Pharmaceutical Management Plus Project
SANAM	Russian Association for the Prevention of Sexually Transmitted Diseases
SBA	Skilled Birth Attendant
SILAIS	Local Integrated Health Care System (Nicaragua)
SNAP	Swaziland National AIDS Program
SO	Strategic Objective
SSH	Secretariat of Health of Honduras
STI	Sexually Transmitted Infection
TACAIDS	Tanzania Commission for AIDS
TB	Tuberculosis
TCS	Treatment, care and support
TOT	Training of Trainers
TRAC	Treatment and Research AIDS Center (Rwanda)
UECF	Unit for Extension of Coverage (Ecuador)
UHC	Upazilla Health Complex (Bangladesh)
UHFPO	Upazilla Health and Family Planning Officer
UNDP	United Nations Development Program
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Emergency Fund
URC	University Research Co., LLC
USAID	United States Agency for International Development
USG	United States Government
VCT	Voluntary Counseling and Testing
WD	Workforce Development
WHO	World Health Organization
WHO/AFRO	Regional Office for Africa of the World Health Organization
XDR	Extreme drug resistant

## Executive Summary

In June 2007, the Quality Assurance and Workforce Development Project (QAP) completed five years of implementation. In that period, the Improvement Collaborative approach—previously applied in only a limited way in developing countries—emerged as a major strategy for organizing large-scale quality improvement efforts, with QAP at the forefront of adapting this modern QI method to the conditions of USAID-assisted countries. Since 2002, QAP has managed 29 collaboratives in 13 countries, addressing HIV/AIDS (8), Essential Obstetric and Newborn Care (6), Child Health (6), Tuberculosis (4), Family Planning (2), Malaria (1), and other topics (2). QAP’s experience has demonstrated that the collaborative approach is robust, applicable in diverse settings, and can lead to significant improvements in compliance with clinical standards for curative, preventive, and chronic care.

This year, QAP staff and consultants from EnCompass LLC conducted field evaluations of the implementation process and results of nine QAP-supported collaboratives in six countries. The evaluations sought to deepen our understanding of the essential elements and mechanisms for sharing and rapid learning in collaboratives implemented in developing countries, to inform future applications of the approach. During the year, QAP also conducted briefings and trainings for other organizations on how to conduct improvement collaboratives, including the BASICS III Project, the CORE Secretariat, and the Benin team of Plan International, which has received a grant to implement, with limited QAP technical assistance, a community-based malaria collaborative in that country.

A recurring theme in QAP’s quality improvement work in many countries this year was spread. Collaboratives begun in 2003 in places such as Niger, Ecuador, and Russia have both consolidated gains in the original sites, but more importantly begun spreading improvements to many new sites through systematic spread collaboratives.

African countries continued to be the main recipients of QAP technical assistance in Year Five. In Benin, the Essential Obstetric Care Collaborative was re-started with a stronger focus on essential newborn care (ENC) and strengthening linkages between communities and facilities. In Niger, the first year of implementation of the EONC Collaborative showed important results in the practice and spread of active management of the third stage of labor (AMTSL) and ENC interventions in participating sites, leading to a reduction of 75% in the incidence of postpartum hemorrhage in participating facilities. The integration of nutritional recuperation services in pediatric care in 15 of the 32 Pediatric Hospital Improvement (PHI) sites in Niger has also shown dramatic results: in less than a year, case fatality rates for acute malnutrition have dropped from 29% to 13%. In South Africa, QAP’s local team mentored staff in 153 facilities in the delivery of quality HIV/AIDS services and assisted the National Department of Health in assessing progress in facility preparedness for ART accreditation and in developing strategies to strengthen the quality of HIV and AIDS care, treatment, and support services. Assistance to the Ministries of Health and Social Welfare in Lesotho and Swaziland to strengthen TB case management expanded to address the growing threat of multi-drug and extremely resistant TB through emergency response plans and new clinical guidelines. In Tanzania, QAP support to the PHI Collaborative in five regions is transitioning to broader QAP support for strengthening the national HIV/AIDS/ART program with respect to service quality and performance monitoring, and to building quality improvement capacity in implementing partners. QAP also began a new program of assistance to Tanzania’s national referral facility, Muhimbili National Hospital, to implement a whole facility quality improvement collaborative to raise the quality of clinical services across the hospital. In Uganda, the HIV/AIDS Care Improvement Collaborative expanded from 57 to 90 sites, including four private health facilities, and added the integration of family planning services in existing HIV/AIDS clinics, diagnosis, and treatment of HIV-positive infants and children, and TB assessment and diagnosis among HIV-positive clients as new focus areas.

In Russia, the HIV/AIDS Treatment, Care, and Support Collaborative begun in 2003 was completed and followed on by new spread collaboratives in St. Petersburg City and Orenburg Oblast to scale up, throughout those territories, improved systems for detection, ART referral, and follow-up of HIV-positive

persons and for the management of TB-HIV co-infection. Work continued on the Collaborative to extend family planning services for persons with HIV/AIDS, and new activities were launched to improve social support services for HIV-positive mothers and to link drug rehabilitation services to ART treatment for intravenous drug users.

In Ecuador, QAP supported the Ministry of Health in launching two new collaboratives: one involving six provincial hospitals to address the difficult challenges posed by obstetrical complications—principally postpartum hemorrhage, eclampsia, and sepsis—and the other, a spread collaborative to rapidly introduce the practice of AMTSL to the 11 provinces in the country where it had not been established through the EOC Collaborative. In Honduras, QAP continued providing support for the institutionalization of continuous quality improvement (CQI) in the five USAID-assisted departmental regions, assisting departmental authorities to monitor performance under management agreements with the departmental hospitals and introducing new management agreements with nine maternity clinics. QAP also supported the Honduran Secretariat of Health in expanding CQI activities to six new regions, now covering over half the health system. In Nicaragua, QAP support to the Ministry of Health and to 15 of the 17 regional health systems included continuation of the PHI Collaborative in 17 hospitals, the addition of 19 health centers to the pediatric care improvement work, and the development and dissemination of new protocols for the management of obstetrical complications. QAP also supported Nicaragua's Ministry of Health in expanding HIV/AIDS services with a quality focus in 10 regions, focusing on PMTCT, integration of family planning and HIV/AIDS counseling, strengthening of the laboratory network, and workshops with providers to address HIV stigma and discrimination.

New TB Collaboratives were started in Vietnam and Bolivia, and a new TB Collaborative is in planning in India. In Bangladesh, QAP continued to assist the National TB Program in pilot testing, in 24 sub-districts, a Quality Supervision and Monitoring strategy aimed at increasing TB case detection and improving the quality of directly observed treatment.

The project started six new operations research studies during the past year, completed three more studies, and continued work on another 10. One new study, commissioned by USAID/East Africa and the East, Central, and Southern Africa Health Community Secretariat and conducted in Kenya, identified critical gaps in the competency of birth attendants; findings were presented to regional Ministers of Health and sparked interest in similar studies in other countries.

Four articles on results of QAP-support research were published this past year in peer-reviewed journals and another two were accepted for publication. The Project published six operations research reports and one technical manual, the latter jointly with the Ministry of Health of Ecuador and Family Care International. QAP staff also conducted 15 briefings for USAID and cooperating agency staff and presented at 10 regional and international conferences.

Support from USAID's Strategic Objective groups allowed us to participate actively in the LAC Regional Neonatal Alliance, the Implementing Best Practice Consortium, WHO technical meetings on PHI and on HIV and Infant Feeding, and the STOP TB Secretariat. QAP also collaborated with other partners to develop a methodology and tools for improving the quality of programming for orphans and vulnerable children.

FY08 will be the final year of implementation of the Quality Assurance Project. Its work to apply modern quality improvement approaches to ameliorate problems of quality, safety, and efficiency that constrain health care in USAID-assisted countries have produced dramatic results. The evidence of the Project's impact from Niger, Rwanda, Tanzania, Russia, Ecuador, Honduras, and Nicaragua shows that the Improvement Collaborative approach is effective in improving quality of care and that it is possible to spread improvements to large areas of a country or health system. Important questions remain concerning the factors that facilitate spread, institutionalization, and sustainability of improvements in care. Our efforts in this final year will focus on identifying these factors and drawing local and global lessons from these experiences.

# 1 Introduction

This annual report of the Quality Assurance and Workforce Development Project, widely known as the Quality Assurance Project or QAP, describes the activities and results of the contract during the fifth year of project implementation, covering the period July 1, 2006 to June 30, 2007.

QAP's objectives are to:

- Build capacity in countries to develop and sustain quality assurance and workforce improvement activities
- Assist countries to achieve demonstrable results in quality of care and outcomes
- Strengthen USAID programming under its Global Health Strategic Objective (SO) programs through quality assurance (QA) approaches, methods, and tools
- Carry out research to develop and test new QA and workforce development approaches and methods
- Provide leadership in the technical development of the quality improvement field and in advocacy of the essential goal of high quality of care worldwide.

QAP is managed by University Research Co., LLC (URC). Women-owned small businesses Initiatives Inc. and EnCompass, LLC also contributed to the implementation of QAP activities during the past year.

The sections of this report follow the major components of the contract scope of work.

Institutionalization refers to the project's long-term activities to support the development of institutionalized QA programs in USAID-assisted countries. Reports of the past year's field activities are presented alphabetically by geographic region and country. These are followed by reports of progress achieved under the project's core technical activities and USAID strategic objectives.

## 2 Institutionalization

### Africa

#### 2.1 Benin

##### Background

QAP's work with the Ministry of Health Division of Family Health to support an Essential Obstetric Care Collaborative in two health districts—Pobe-Adja-Ouere-Ketou and Aplahoue-Dogbo-Djakotome (ADD)—started in February 2005. The Collaborative's aim is to improve the quality of maternal and newborn care and to develop an operational model that can be spread to other districts. Fifteen facilities in each district started in the Collaborative: three regional hospitals, two district hospitals, and five health centers and large health posts. Following three learning sessions in the first year, collaborative activities stalled in early 2006 when the project coordinator left. With the hiring of two local technical staff in late 2006, the Collaborative has regained momentum and strengthened its technical focus on newborn care and the facility-community continuum of care. Activities are currently focused only on ADD district, where non-governmental organizations (NGOs) are supporting community-based activities in malaria, integrated management of childhood illness (IMCI), prevention of mother-to-child transmission of HIV (PMTCT), and other technical areas. Four additional health posts with high numbers of facility births have joined the Collaborative, for a current participation of one district hospital, three health centers, and six health posts.

## Activities and Results

### Essential Obstetric and Newborn Care Improvement Collaborative

The re-starting of the Benin Collaborative benefited from the country's close proximity to Niger, where QAP has been supporting an Essential Obstetric and Newborn Care (EONC) Collaborative. In July 2006, the newly appointed QAP-Benin midwife, Marthe Agbobey, visited Niger to learn about the collaborative approach and quality assurance. She, in turn, provided technical assistance to the Niger team for the national training on active management of the third stage of labor (AMTSL), since Benin had used AMTSL for several years, though the practice was new for Niger. The expanded focus on essential newborn care (ENC) in the Benin Collaborative has progressed more quickly as a result of the Ministry's decision to adapt for Benin the conceptual model developed for Niger (a core package of services based on integrated AMTSL and essential newborn care, shown in Table 1).

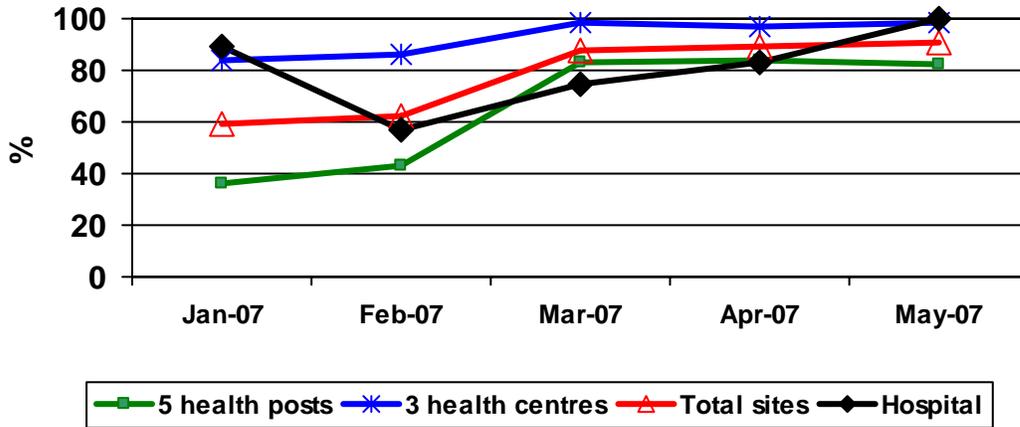
**Table 1. Benin: Technical content of the EONC Collaborative**

<b>Phase I</b>	Active management of the third stage of labor Immediate and essential newborn care (thermal protection, eye care, early and exclusive breastfeeding, BCG/oral polio virus, umbilical care) Infection prevention (facility cleaning, hand washing, high level sterilization) Mother-friendly services (a companion in labor room and kinder welcome) Improved postpartum counseling Improved antenatal care (ANC) counseling (new concepts of birth preparedness and counseling on routine danger signs)
<b>Phase II</b>	Improved management of obstetric complications Improved management of newborn complications Better integration with PMTCT at point of delivery

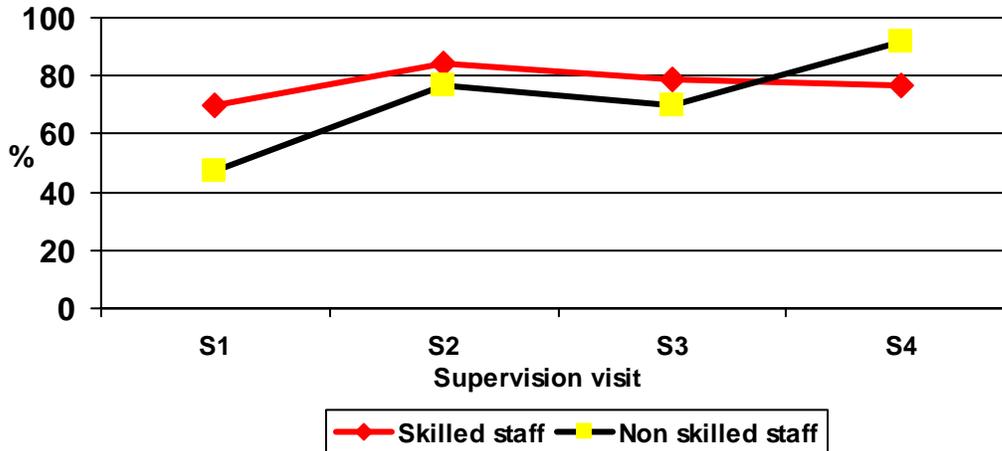
In late 2006, QAP Benin convened a technical advisory group comprising leading experts, neonatologists, pediatricians, obstetricians, and midwives from nationally recognized institutions and the Ministry of Health. The group updated the existing national policies and protocols to include immediate newborn care and agreed to the piloting of these changes in ADD. The group also agreed that QAP Benin would train *aides-soignantes* (unskilled workers) to provide two of the three elements of AMTSL (giving oxytocin and uterine massage but not controlled cord traction), a decision that could have far-reaching consequences for national policy. Between December 2006 and April 2007, a series of trainings was conducted for facility-based teams on AMTSL and essential newborn care; quality assurance, including working in teams; and self-assessment. The tools and approaches introduced in Benin were adapted from those developed for Niger. Tools and materials for the training in AMTSL and ENC were adapted with relatively few changes, but the tools and indicators for monitoring and evaluation required more local adaptation because of concerns about their complexity and the validity of the data being collected. Teams started collecting self-monitoring data in late April 2007, and the first learning session was held in June. Illustrative results from the first months' activities are in Figures 1–3.

The self-monitoring data and direct observation in the facilities show that there has been slow but consistent progress over the past few months. Overall, facilities are visibly cleaner and better organized, and several have systems in place to help ensure that these newly adopted standards are maintained. There is much greater awareness of the needs of newborns; staff have improved competency with AMTSL and ENC; and more babies are put the breast, receive ENC, and are kept warm in the first few hours after delivery than previously.

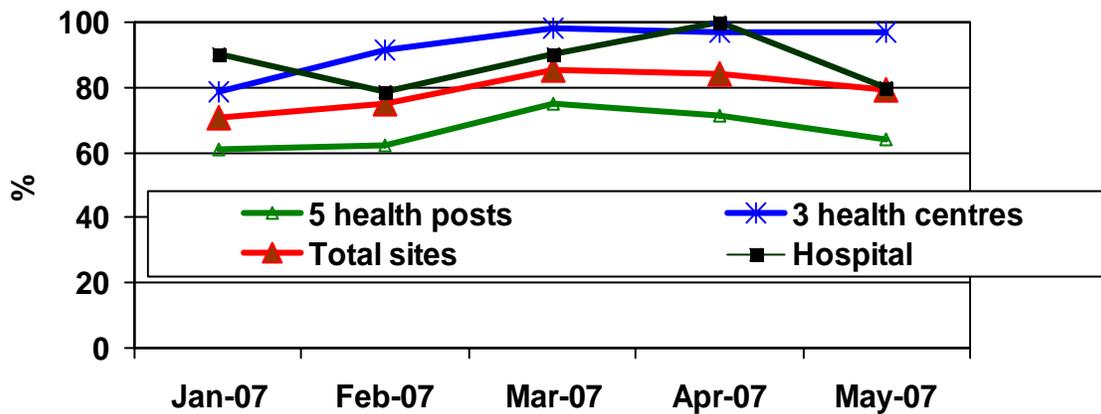
**Figure 1. Benin: Percent of babies put to breast in first hour after delivery (9 facilities). January- May 2007**



**Figure 2. Benin: Performance of essential newborn care skills observed during supervision visits (9 facilities participating in collaborative, Jan-May 2007)**



**Figure 3. Benin: Percent compliance with AMTSL standards (9 facilities in the EONC Collaborative, Jan.-May 2007)**



Despite this early success, significant challenges remain, and longer-term support to facility teams and the district management team is required if these preliminary results are to be sustained. Many facilities do not have an assured supply of running water; several lack electricity; and all lack the most basic equipment and supplies. In the short term, QAP Benin has supplied facilities with equipment (a locally made warming table, thermometers, and blood pressure cuffs) and has provided grants to facilities for the purchase of electric torches and large water buckets with taps. In the long term, QAP Benin is working to create stronger linkages between the health facility staff and the local health management committees (COGEA), which manage facility budgets.

While improving the quality of facility care, QAP Benin is also working to raise community awareness of the needs of mothers and newborns and to strengthen linkages between the community and facility. This harmonizes with the national strategy, which emphasizes the community's role. Last year, QAP developed a series of 14 illustrations with key messages for counseling mothers about essential maternal and newborn care at the community and facility level. A first draft of a community curriculum was developed, and discussions were initiated with a local microcredit NGO, FECECAM, to use the curriculum with their women's groups as part of their ongoing "credit with education" program. Also, limited qualitative research was conducted to identify local newborn care practices (including harmful ones, such as the use of unclean instruments to cut the umbilical cord) and inform the development of key messages.



During the June 2007 learning session, a day was added to facilitate discussion among facility staff, COGEA, and community members about the aims of the quality improvement activities and how to improve maternal and newborn care using local resources.

A traditional birth attendant cuts the cord with a rusty blade. Despite an official ban, up to 40% of deliveries take place at home. Unsafe practices such as this one are possibly more common in ADD district than in other areas of Benin.

### **Assistance to PLAN International to Implement a Community Malaria Collaborative**

In November 2006, QAP awarded a grant to Plan International to apply the collaborative approach to its community-based malaria program in Benin, which involves bed net distribution, appropriate care-seeking, and community-based case management in 20 villages. Plan delayed project startup until April 2007, when QAP ran a workshop to train Plan Benin staff in the collaborative approach. QAP led a follow-on workshop in May and has supported the development of the detailed implementation plan.

### **Directions for FY08**

In the upcoming year, QAP Benin will finalize the community curriculum and provide support to FECECAM to ensure that the training is rolled out to their large number of women's credit groups throughout ADD. QAP will also continue to provide support to COGEA and will evaluate the effectiveness of the strategy to link the COGEA, communities, and facilities. The technical breadth of the Collaborative will be expanded with the introduction of new priorities determined by the technical

advisory group, such as care for obstetric and newborn complications. QAP will also support advocacy for the integration of AMTSL and ENC as national policy and work with PISAF and other partners to ensure that the tools and lessons learned are expanded to other geographical areas. Limited technical assistance will be provided to Plan Benin to foster development of a community-monitoring strategy and to organize the learning sessions for Plan's Community Malaria Collaborative.

## **2.2 Lesotho**

### **Background**

QAP has been working with the Ministry of Health and Social Welfare (MOHSW) for the past two years in its efforts to strengthen Lesotho's tuberculosis (TB) program. Project activities are being funded by USAID's Regional HIV/AIDS Office for Southern Africa. The implementation strategies were designed with inputs from WHO's Africa Regional Office (WHO/AFRO) and MOHSW National Tuberculosis Program (NTP) staff in 2005. As part of the strategy, QAP has developed clinical training on TB and management of TB-HIV co-infected patients and worked to strengthen support systems, such as supervision, clinical records management, and reporting.

### **Activities and Results**

This past year, QAP assisted the NTP in improving access to quality TB services in seven districts: Maseru, Leribe, Mohale's Hoek, Mokhotlong, Berea, Butha Buthe, and Qacha's Nek. QAP conducted training for 34 health workers from these districts on TB-HIV co-management and HIV testing and counseling among TB patients as well as quality assurance training. In collaboration with the Sexually Transmitted Infections and HIV/AIDS Directorate, QAP supported the training of 150 counselors for the new national "Know Your Status" campaign. QAP also supported the development and printing of TB registers with TB-HIV co-management indicators and the training of health workers on the new TB register and reporting forms. The Project sponsored the re-printing of 5000 pamphlets on TB-HIV in Sesotho and their distribution to all health facilities, as well as the broadcast of TB-HIV messages on three radio stations since March 2007.

Together with other partners, QAP supported the NTP in the development of the following policy and programmatic documents: National Tuberculosis Policy Manual, Multi-drug Resistance (MDR) TB Guidelines, TB-HIV Training Guidelines, and the Drug Resistance Survey. QAP also supported the development of the MDR-TB register for Lesotho. QAP helped the NTP develop a monitoring and evaluation framework and targets for Round 2 and Round 6 proposals to the Global Fund for AIDS, Tuberculosis and Malaria and revise its Round 6 budget during the grant negotiation process.

Following on work in Year Four to develop guidelines for TB case management for private practitioners, QAP conducted TB case management training this year for 17 private health care providers, most of them based in Maseru.

### **Directions for FY08**

QAP will continue to provide support to the MOHSW next year on TB and TB-HIV policy and programmatic issues. QAP staff will also assist the NTP and HIV/AIDS Directorates in the expansion of TB-HIV coordinated activities to other districts in the country. A greater emphasis will be put on strengthening facility and district-level monitoring of TB and TB-HIV programs, to enable facilities to monitor TB cohorts for outcomes and treatment efficacy. QAP will also work with the NTP to improve the quality of microscopy services in the country.

## **2.3 Niger**

### **Background**

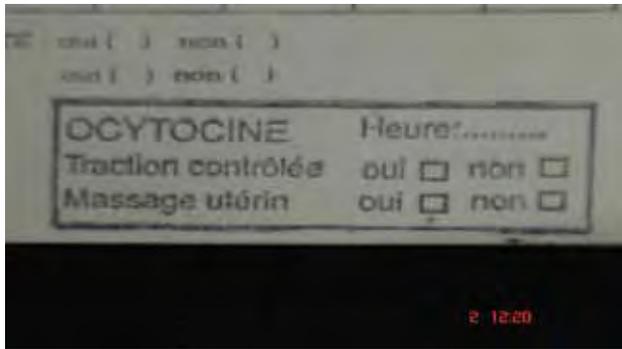
QAP has worked in Niger since 1993 and has supported collaboratives in the country since 2003. The Niger QAP program has grown substantially in both technical breadth and geographic coverage over the past five years to include a Pediatric Hospital Improvement (PHI) Collaborative launched in 2003 and an EONC collaborative launched in 2006, now operating in 63% of Niger's districts at primary care and reference levels. The PHI and EONC Collaboratives reinforce a maternal-newborn-child health continuum in shared sites in a country with among the highest maternal (700/100,000), newborn (48/1000), and early childhood (198/1000) mortality rates in the world (DHS, 2006). QAP's sustained presence in Niger has fostered strong MOH institutional QA capacity at national and regional levels over the last decade, which has proven essential for scale-up of Niger's QAP program and most importantly for routine MOH application of modern QI methods to leading health system challenges.

### **Activities and Results by Major Program Area**

#### **Essential Obstetric and Newborn Care Collaborative**

On average a Nigerien woman faces a 1 in 7 risk of dying from pregnancy complications over the course of her lifetime, one of the highest maternal mortality risks in the world. For every maternal complication there is an even higher proportion of newborn deaths and morbidity. Important contributions to Niger's elevated maternal and newborn death rates include extreme poverty, poor access to skilled care, and poor quality of existent services. Leveraging the accumulated experience of the QAP LAC EOC Collaborative and the PHI collaborative in Niger, QAP launched the EONC Collaborative in Niger in January 2006 to improve quality of maternal and newborn care services according to evidence-based best practices. The Niger EONC Collaborative is being implemented in sequential phases due to its new and large technical content and in light of lessons learned in implementing QAP collaboratives worldwide. In its first year of implementation, the EONC Collaborative has introduced Active Management of the Third Stage of Labor (AMTSL) and Essential Newborn Care (ENC)--two packages of evidence-based high-impact interventions, historically absent in Niger health services, demonstrated to reduce post-partum hemorrhage and newborn mortality, respectively. The first phase of the EONC Collaborative has also included basic infection prevention (handwashing, instrument decontamination) and an emphasis on improving client satisfaction. Originally launched in 28 reference maternities, or 76% of reference maternities in seven of Niger's eight regions, the collaborative expanded in April 2007 to include an additional 11 primary care maternities, for current coverage of 39 total maternity care facilities in 64% of Niger's districts.

A Technical Advisory Group (TAG) of national and regional MOH maternal newborn experts guides all collaborative planning and activities, ensuring that international evidence-based standards are appropriately adapted to the Nigerien context. Launched at scale, the country-wide collaborative is partially decentralized to the regional level, with training, coaching and learning sessions conducted and managed by regional MOH staff. All regions share common improvement objectives, tools and indicators, and regional results are routinely disseminated to all participating sites country-wide. Regional MOH experts act as trainers and "external coaches" to support local site-level QI work. At the individual site level, health care providers are trained and supported as the "true local experts" to apply QI methods to identify innovative and often simple changes to ensure that every woman and her newborn can benefit from the interventions promoted by the EONC Collaborative. For example, instituting 24-hour call schedules has made it possible for participating sites to ensure that a skilled birth attendant (SBA) is present at all births in a setting where auxiliary nurses often perform deliveries during night and weekend hours. Since power outages are common, sites have purchased and placed coolers in delivery areas to maintain oxytocin at the required cold temperatures for application of AMTSL. Local providers have introduced a rubber "AMTSL and ENC" stamp into the birth medical record in Niger to help remind



Stamp introduced into partograph to monitor AMTSL



Cooler introduced into delivery area to maintain Oxytocin at required cold temperatures during power outages

providers to provide and record AMTSL and ENC services that have not traditionally been part of the standard medical record. In the quarterly regional Learning Sessions that form a cornerstone of the Improvement Collaborative model, local midwives and doctors from different sites have shared their experiences about changes that have enabled sites to rapidly and systematically integrate AMTSL, ENC, and improved infection prevention practices into routine delivery care in their local setting. A written summary of most effective changes identified at the regional level is shared among all collaborative participants so that individual sites can rapidly adapt successful innovations that have been tested by other collaborative participant sites.

Ongoing training reinforced by on-site supervision has been central to the EONC Collaborative's success in introducing AMTSL and ENC standards. Provider job aids, a training manual, and uniform practical exercises have been developed based on expert group review and widely distributed. Regional midwife and obstetrician trainers have been identified and formally trained by national experts in two national demonstration maternities (Zinder and Niamey). At the local level, training has been conducted on-site as part of a "whole-site model" in which all maternal health providers in a targeted facility are trained in unison by regional trainers. On-site "whole-site" training has helped to support team work at the facility level which is so essential for effective QI work. As of June 2007, 325 providers have been trained in basic EONC as part of the collaborative. The highly practical training integrates both technical skills and quality assurance methodology so that providers learn to problem-solve to reduce obstacles to systematic application of new standards in their local settings. All collaborative activities emphasize team-building at the site level and basic capacity for quality monitoring of shared indicators.



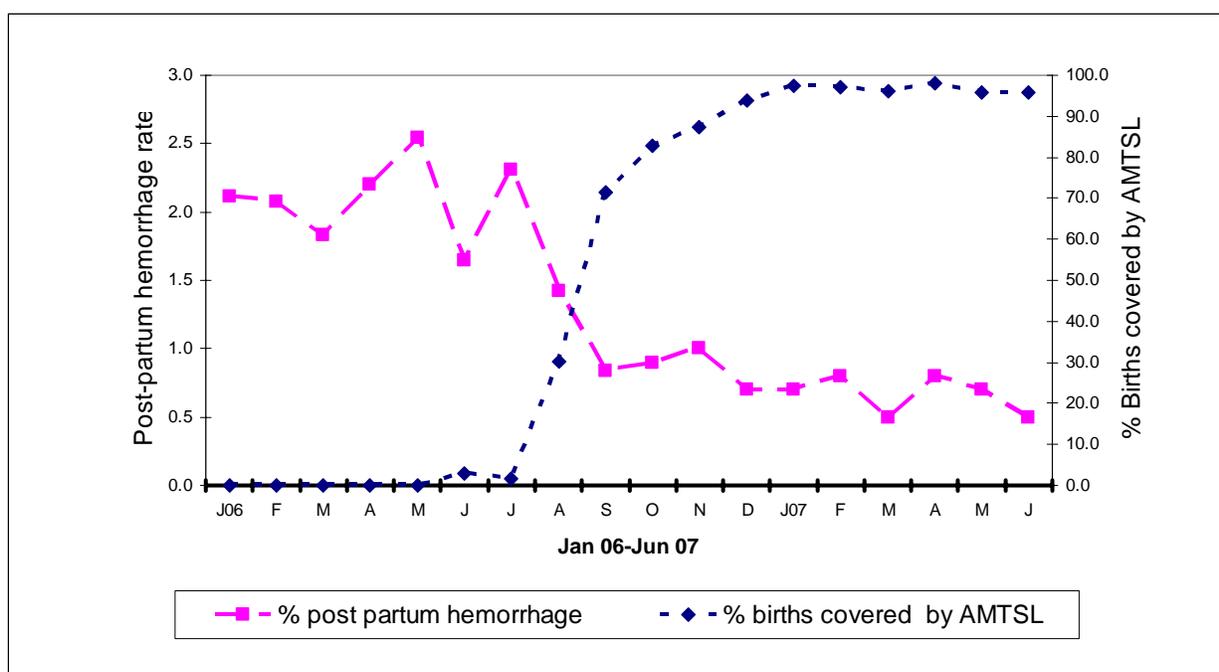
On-site training in AMTSL and ENC

As can be seen in Table 2, the intensive work of the EONC collaborative in the first year has shown important results in the practice and spread of AMTSL and ENC interventions in participating sites. Most importantly, as demonstrated in Figure 4, the incidence of post-partum hemorrhage in participating facilities has been reduced by over 50% through implementation of AMTSL. Post-partum hemorrhage is the leading cause of maternal mortality in Niger, and the observed reduction in PPH rates has been a powerful local motivator for sustaining systematic AMTSL practice given the huge health system challenges in the face of sudden post-partum hemorrhage.

**Table 2. Niger: EONC Collaborative phase 1 results, Jan. 2006 – June 2007**

Indicator	Jan 2006 (Baseline)	Dec 06	Mar 07	June 07
% births AMTSL applied	0%	95%	96%	96%
% births given immediate breastfeeding	23%	89%	97%	94%
% compliance ENC standards (composite)	17%	78%	94%	96%
% compliance AMTSL standards (composite)	25%	97%	96%	99%
Post-partum hemorrhage rate (# PPH/ # births / month)	2.1%	0.7%	0.5%	0.5%
Average monthly births = 2,173 (28 facilities)				

**Figure 4. Niger: AMTSL coverage and PPH rates in the EONC Collaborative January 2006-June 2007**



At the policy level, QAP has worked closely with the MOH and other partners to promote EONC evidence-based practices as part of national standards of maternal newborn care. For example, over the past year the Niger QAP team has worked with the national MOH Reproductive Health Division and WHO to revise the national partograph form to include AMTSL and ENC elements.

The next round of regional learning sessions will be held in July 2007 and will focus on consolidating gains in all facilities with respect to AMTSL, ENC, and basic infection prevention. A national conference of teams from both collaboratives planned for August 2007 will summarize and disseminate phase 1 achievements in the EONC Collaborative to all seven regions. In its second phase, to be implemented in late 2007, the EONC Collaborative will improve technical capacity for improved prevention and treatment of maternal-newborn sepsis (leading causes of mortality); birth preparedness and systematic application of intermittent preventive anti-malarial treatment as standard elements of antenatal care; and improved advanced infection prevention practices (high level sterilization and waste disposal).

## **Pediatric Hospital Improvement Collaborative**

The QAP multi-country PHI Collaboratives first launched in 2003 seek to improve first-referral level IMCI care for seriously ill and malnourished children according to WHO standards. In Niger—one of the first countries to implement IMCI in 1993—the PHI Collaborative has proven a powerful mechanism for strengthening first-referral IMCI care for the 10-20% of acutely ill children presenting for ambulatory IMCI care who will require a higher level of care. Historically, the district hospital level has been largely neglected in Niger, and the QAP 2003 baseline survey demonstrated very low quality of care for leading causes of child mortality in district hospitals. From the outset, the Niger PHI Collaborative has been implemented in close collaboration with the national IMCI program and has enjoyed financial and technical support from WHO and UNICEF in Niger. Since its scale-up in 2005, the PHI Collaborative operates in 76% of reference hospitals in 32 facilities in seven of Niger’s eight regions. The collaborative has made considerable gains in improving quality of pediatric pneumonia, malaria and diarrheal disease case management along with the systematic introduction of WHO Emergency Triage Assessment and Treatment (ETAT) standards for pediatric emergencies.

The focus of the PHI Collaborative over the past year has been to maintain gains in improved compliance with malaria, pneumonia, diarrheal disease, and ETAT standards. Collaborative activities have focused on specific diseases according to their peak season of prevalence. Bimonthly coaching visits by regional MOH “external coaches” and QAP staff provide ongoing reinforcement and training to individual site teams. In addition, refresher training in coaching and monitoring skills is provided to on-site “internal coaches” to reinforce continuous support of collaborative objectives at the individual site level.

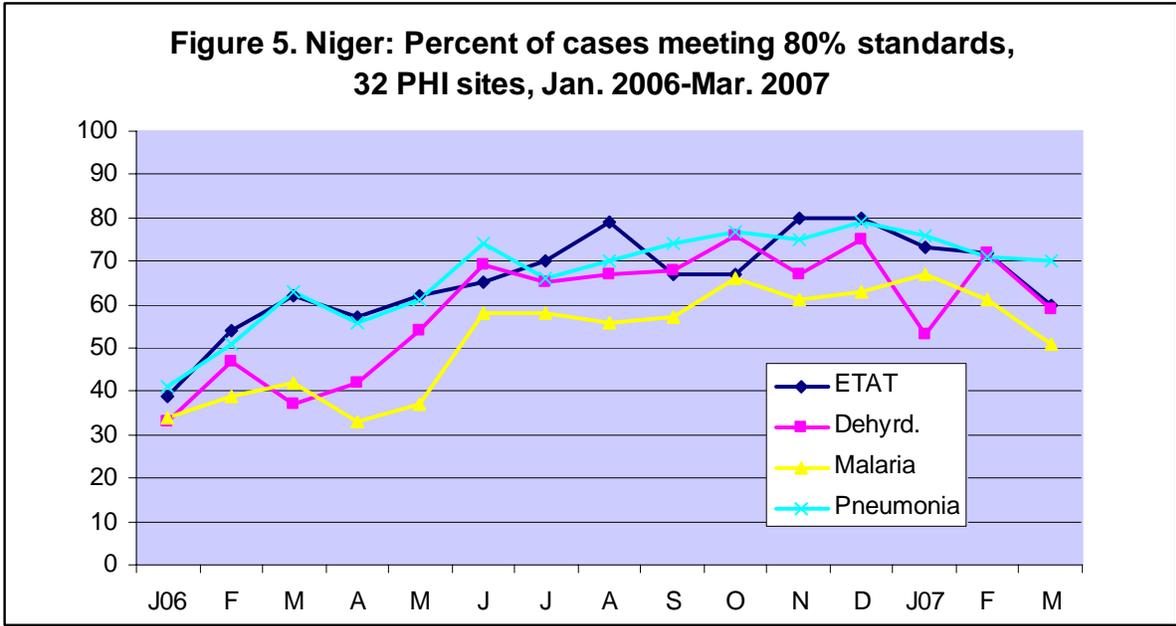
In the first half of 2007, QAP supported on-site refresher training to improve provider compliance with ETAT standards for quality management of urgency signs in normal and malnourished children. Working closely with regional MOH experts and partners (UNICEF, PLAN), QAP provided additional intensive QI coaching to all established PHI sites to further improve and solidify local health system capacity to manage pediatric urgencies. Key changes introduced or reinforced included: improved patient flow and triage via designated triage and stabilization centers in the facility; upgrading of the standard medical record to contain ETAT standards; and support for improved management and stocking of essential laboratory, medication, and equipment inputs (including oxygen concentrators). The combined emphasis on improving provider competence and strengthening health system capacity will be important for sustaining gains in quality of ETAT services.

QAP has worked closely with the National Malaria Control Program (PNLP) to support dissemination and improved local compliance with standards for the new national anti-malarial Artesiminin-combination treatment (Coartem) which has replaced traditional Chloroquine monotherapy due to rising resistance rates. QAP is currently collaborating with the PNLP to adapt the malaria treatment standards, guidelines, and job aids developed by the PHI national expert group as national reference materials for facility case management of complicated and uncomplicated malaria.

Teams in the PHI Collaborative continue to monitor compliance with case management standards for common conditions, as shown in Figure 5. In addition to process indicators, the PHI Collaborative also monitors system indicators related to supervision, training, and availability of essential inputs.

In 2005, the national MOH elected to adopt a national ETAT protocol based on PHI Collaborative achievements to date and the pressing need to expand ETAT capacity in Nigerien facilities for children with urgency signs. QAP has assisted the MOH and WHO in rolling out this national ETAT protocol and is currently assisting the MOH to develop a practical training manual that integrates technical and QI training elements based on accumulated PHI experience over the past three years.

In April 2007, QAP staff from Niger traveled to Benin to serve as technical trainers for a regional WHO-sponsored ETAT regional training for West Africa. In addition to the provision of trainers, QAP provided mannequins for the training and the adapted French ETAT guidelines that were developed in Niger.



**PHI Malnutrition Program**

In the spring of 2006, in the aftermath of the 2005 Niger food crisis, the technical interventions of the PHI Collaborative were expanded to include development of public sector capacity to provide nutritional recuperation services for children suffering from acute malnutrition. Supplemental funding by the U.S. Office of Foreign Disaster Assistance (OFDA) allowed the PHI Collaborative to introduce intensive nutrition recuperation services (CRENI’s) into 15 of the 32 PHI sites in collaboration with UNICEF, Helen Keller International, the World Food Program, and Islamic Relief. Nutrition recuperation services have been closely integrated into routine pediatric services as part of the PHI Collaborative, including improved triage and systematic screening for acute malnutrition, specialized management of urgency signs in malnourished children, and improved coordination of care between primary and referral levels of care. In addition to introducing recuperation capacity into 15 district hospitals that historically had no such services, the PHI Collaborative expanded activities with OFDA funding to strengthen district-level referral/counter-referral coordination of care of seriously ill and/or malnourished children and to introduce a behavior change communication strategy to integrate nutrition counseling into all PHI activities, using a set of counseling posters and job aids developed by QAP. In Year Five, two sets of district-level PHI referral/counter-referral workshops have been conducted to identify primary obstacles and opportunities for strengthening a continuum of care for children from primary care to first referral levels. As part of these workshops, a common protocol and referral/counter-referral form has been developed in collaboration with partners that is now being field-tested in all participating PHI districts.

Results have been encouraging to date for the 1,936 acutely malnourished children admitted to the 15 PHI intensive recuperation sites as of March 2007. As seen in Table 3, participating facilities have rapidly increased compliance with malnutrition case management standards with a concomitant decrease in malnutrition case fatality rates from over 29 % prior to the introduction of public hospital CRENI’s to 13% as of the end of March 2007. The proportion of children referred from the community or primary care level for evaluation of severe acute malnutrition has increased from 43 to 55%. In March 2007, UNICEF Niger provided modest funding to CHS/Niger to expand the PHI recuperation centers to an additional six districts for coverage of 21 PHI facilities. QAP hopes to extend its child nutrition work in 2008 to reinforce preventive and recuperative nutrition programming for the prevention and management of acute malnutrition, a leading cause of direct and indirect childhood mortality in Niger where 50% of children suffer from chronic malnutrition and 12% suffer from acute malnutrition (DHS 2006).

**Table 3. Niger: Achievements in introducing effective nutritional recuperation in MOH facilities**

*Total admissions to 15 PHI sites: Apr 06-Mar 07: 1,936 children with acute severe malnutrition*

Indicator	Apr-Jun 2006	Jul-Aug 2006	Oct-Dec 2006	Jan-Mar 2007
% children admitted referred from primary health center or community	43 %	45 %	64%	55%
% children seen in health sites systematically screened for nutritional status	0%	13 %	30 %	41%
% available essential inputs	67 %	79 %	72%	91%
% acutely malnourished children with > 80% case-management compliance with recuperation standards	12 %	31 %	74 %	88%
Acute malnutrition case-fatality rate	29 %	26 %	16 %	13%

## Operations Research

QAP began an operations research study in January 2005 to evaluate the effectiveness of the Niger PHI Collaborative for improving malaria and pneumonia case management in district hospitals. The study is evaluating the impact of the PHI Collaborative on quality of malaria and pneumonia care in six district hospitals and compares the PHI collaborative intervention with a traditional training intervention in an intervention and control group. The research methodology uses both direct pediatric care observation and a caretaker questionnaire that also describes care-seeking behaviors. Baseline data were collected in the spring of 2005 and a training intervention completed in 2006. Final data collection was completed in April 2007, and the results are now being analyzed. Final data collection and analysis have been somewhat complicated by the introduction of new national anti-malarial treatment standards requiring minimal modification of the original study tools. A final study report is anticipated in November 2007.

## Directions for FY08

In FY08, QAP Niger will continue to support national and regional MOH QA capacity to apply modern QI methods to continuously improve quality of priority health services in Niger according to evidence-based standards. In its child health work, QAP will continue to work closely with the national IMCI and nutrition divisions to promote a continuum of quality community, ambulatory and first referral IMCI and nutrition services according to national priorities and PHI achievements to date. QAP will continue to work closely with the national Reproductive Health program to scale up evidence-based maternal newborn interventions through the country-wide EONC Collaborative. Phase 2 of the EONC Collaborative is anticipated to begin in late 2007. Supporting the institutionalization of MOH QA capacity to tackle Niger's leading health care challenges will remain the overriding objective of all QAP work in Niger across all technical areas. To this end, QAP will continue to reinforce national and regional MOH QA proficiency to plan, integrate, mobilize resources, and ultimately appropriate all QI work in Niger for leading health care priorities.

## 2.4 Rwanda

### Background

QAP has operated in Rwanda with field support since 1998. In 2002, the MOH requested that QAP provide technical support to national programs for HIV/AIDS and malaria. With President's Emergency Plan for AIDS Relief (PEPFAR) funding, QAP implemented two improvement collaboratives in partnership with the MOH Directorate of Healthcare (DSS) and the Treatment Research on AIDS Center (TRAC): a PMTCT/VCT Improvement Collaborative, initiated in 16 sites in 2003 and scaled up to a total of 37 sites in all 12 provinces and an ART Improvement Collaborative started in 16 sites in 2004. QAP also supported a Malaria Care Improvement Collaborative with the DSS and the National Malaria Control Program (PNLP), using core funds. QAP also provided technical support to the DSS Division for the Promotion of Quality Services (DPQS) to strengthen its capacity to conduct quality improvement activities, including collaboratives. In 2005, the Ministry of Health requested that QAP assist in the development of a quality assurance policy, as well as a QA Program document and a strategic plan. QAP provided assistance in drafting the *National Policy on Quality of Health Care*, which was presented by the Minister of Health officially and accepted by the Cabinet in May 2006. FY2006 was the final year USAID/Rwanda provided field support.

### Activities and Results

#### Improvement Collaboratives on PMTCT, ART, and Malaria

All field and PEPFAR-supported activities in Rwanda were completed in September 2006. On August 25, 2006, QAP and the Ministry of Health held a one-day conference in Kigali with the objectives of: 1) sharing the experience and results from the application of the improvement collaborative approach to PMTCT, ART, and malaria services; 2) discussing lessons learned from the application of that approach; and 3) making recommendations to the MOH for the institutionalization of quality assurance in Rwanda. The conference was opened by the Minister of Health and attended by 62 participants, including district hospital medical directors, health center in-charges, collaborating partners for health, and MOH staff.

#### Support to the Ministry of Health for Development of National Policies on Quality of Care

Following on the development of separate national policy statements on the quality of health care, performance-based financing, and community-based health insurance through *mutuelles*, the Minister of Health requested QAP assistance in integrating them. During Year Five, QAP helped senior MOH staff draft a single policy statement on quality management of health care by exploiting the synergy among these three health care issues. The consolidated policy statement, *National Program for Quality Management of Healthcare in Rwanda*, outlines strategic directions with specific results, strategies, activities, and roles and responsibilities of all health system actors. The Ministry's view that quality is the responsibility of all health system actors paves the way for more sustainable efforts to improve and maintain quality. QAP provided assistance in developing a strategic plan for 2006–08 to accompany the policy statement. It sets out the path for implementing quality management by presenting the indicators, activities, budgets, and units responsible for implementing each strategic result in the consolidated policy statement.

During FY07, QAP also provided a minimal level of support to the DPQS to continue to carry on its QI work and to integrate it with the QI activities of performance-based financing and community-based health insurance through *mutuelles*, thus helping to operationalize the National Policy on Quality Management.

## **Directions for FY08**

Minimal support will be provided to the MOH/DPQS from core funds for 12 months of activities in developing standards, QI training, and field-based coaching from the DPQS. In addition, QAP will provide up to six person-weeks of short-term technical assistance, as requested by the DPQS.

## **2.5 South Africa**

### **Background**

QAP has worked in South Africa since 2000, beginning with assistance to the Mpumalanga Province Department of Health to implement quality improvement interventions that demonstrated results in TB and in maternal and perinatal health. QAP assistance gradually expanded to cover the five USAID-priority provinces: the Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga, and North West. In each, QAP works in close partnership with Provincial Department of Health staff as well as with district staff, community health workers, and private service health providers. Since October 2004, QAP's work has focused entirely on PEPFAR-funded treatment and care interventions. As part of this mandate, QAP is working closely with the National Health Department, provincial health departments, and local service area levels to help facilities integrate health services to better identify patient needs and reduce missed opportunities and ensure that HIV patients are screened for TB and other opportunistic infections and receive appropriate care and treatment.

During Year Five, QAP expanded the program to provide direct technical support to a total of 153 health facilities in the five provinces: 44 facilities in two districts (Chris Hani and the Nelson Mandela Metropolitan Area) in the Eastern Cape; 38 facilities in two districts (Uthungulu and Sisonke) in KwaZulu-Natal; 13 facilities in two districts (Greater Sekhukhune and Bohlabela) in Limpopo; 40 facilities in three districts (Gert Sibande, Ehlanzeni, and Nkangala) in Mpumalanga; and 18 facilities in the Southern District in North West Province. QAP also supported training and information system strengthening activities that benefited the country's other four provinces.

### **Activities and Results by Major Program Area**

#### **PMTCT Services Expansion and Support**

QAP continues to work with the provincial and district health offices to strengthen health facility capacity in providing PMTCT services. In the reporting period, QAP covered 120 facilities. At each facility, QAP joined district/provincial health staff to assist facility-based health workers in integrating HIV testing and counseling with antenatal care services to give nevirapine to HIV-positive pregnant women and their newborns and place HIV-positive women on ART. Facilities were also assisted in implementing a process for re-testing HIV-negative patients during pregnancy in order to reduce missed opportunities. QAP also worked with facilities to improve 1) postnatal follow up of HIV-exposed babies and 2) provision of cotrimoxazole prophylaxis to all HIV-exposed babies in the PMTCT program. To improve the quality of the PMTCT program at participating facilities, QAP introduced chart audits to ensure the completeness of PMTCT records and the presence of PMTCT codes on patient files, in accordance with national guidelines. QAP also worked with national and provincial PMTCT program managers to develop a sustainable monitoring and evaluation system for the PMTCT program. With the involvement and participation of all stakeholders, QAP completed training on the new system, hailed as an essential step for ensuring accuracy and sustainability within the program in all nine provinces.

Box 1 describing QAP assistance to one hospital in KwaZulu-Natal Province illustrates the type of technical support provided by QAP to health care facilities in South Africa.

### Box 1. South Africa: Improving PMTCT in KwaZulu-Natal

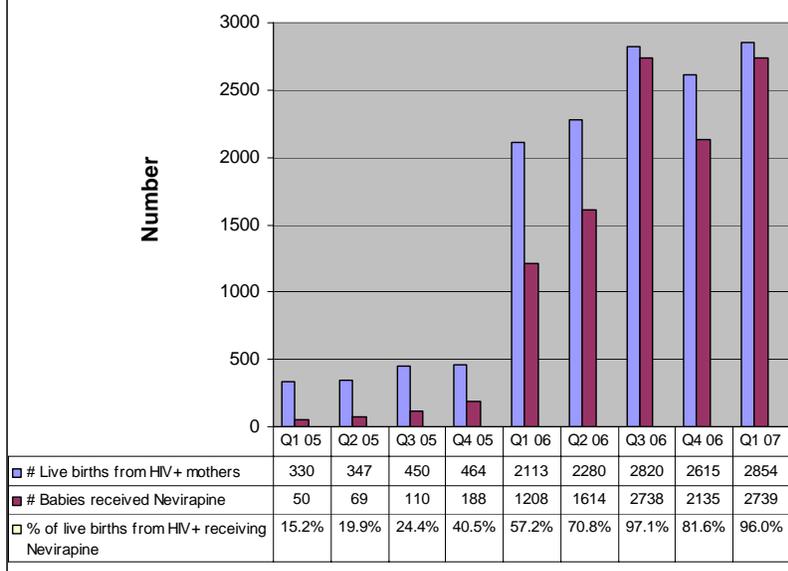
The Lower Umfolozi District War Memorial (LUDWM) Hospital (formerly Empangeni Hospital), is a secondary-level referral hospital for maternity services in Uthungulu District in Kwa-Zulu Natal Province. The Hospital serves a population of 800,000, with an estimated HIV prevalence rate of 35–40%. The surrounding hospitals and clinics refer high-risk pregnant women (including those with HIV) to this hospital for delivery, resulting in approximately 900 deliveries by HIV-infected women per month. Challenges facing the maternity staff in these deliveries include lack of effective supervision, negative attitudes, staff turnover, lack of effective dissemination of technical information, poor recording of information, and a general lack of knowledge and skills regarding PMTCT.

QAP has been providing support to the Hospital in improving HIV counseling and testing, PMTCT, and ART services since 2005. QAP's district coordinator, Mrs. Pretty Harrison, provides technical support to the district MCH coordinator and QA coordinator, who are often overwhelmed with many demands. QAP's role has been to help the Department of Health implement policies and guidelines for quality PMTCT services by conducting on-site technical and QA training for hospital staff and working side-by-side with facility staff to conduct monthly chart audits, analyze their data, and find solutions to barriers to quality care. Supervision has improved with the appointment of a dedicated PMTCT coordinator and a QA nurse at the hospital. Mrs. Harrison has helped district staff organize community awareness programs and support groups for HIV-infected pregnant women.

QAP's reinforcement of quality improvement emphasis is having an impact, even in facilities facing such severe challenges as this hospital. Documented improvements in compliance with national PMTCT guidelines include compliance with screening pregnant woman for STIs, which rose from 63% in early 2005 to 93% by mid-2006. Since January 2006, every HIV-exposed baby in the PMTCT program has received nevirapine.

A major cause of maternal mortality among HIV-infected women is tuberculosis. Mrs. Harrison worked with DOH staff to create awareness of the importance of screening all clients, especially HIV-infected pregnant women, for TB. In 2006 only 10% of HIV-infected pregnant women were screened for TB. Through training and monitoring, TB screening of HIV-infected pregnant women rose to 100% in early 2007. Similarly, clinical staging of HIV-infected pregnant women has increased from 7% in early 2005 to 100% in early 2007. Performing CD4 counts for all-HIV infected pregnant women improved annually, growing from 33% in early 2005 to 100% in early 2007.

**Figure 6. South Africa: PMTCT coverage in five provinces, Jan. 2005-March 2007**



Within this reporting period, QAP staff trained and mentored 221 health care workers and ensured the provision of PMTCT services to 38,968 pregnant women. Figure 6 shows a sharp increase in the number and proportion of babies born to HIV-positive mothers who received nevirapine at birth during the past two years in the QAP-supported project areas. Quality monitoring data collected by teams also show that virtually all HIV-positive mothers are now counseled about family planning and infant-feeding options.

## Palliative Care: Basic Care and Support and TB-HIV services

During the past year, QAP provided support to district health offices in designing strategies to improve basic health care and support for HIV-infected individuals. QAP worked with the provincial health offices to improve operational policies and guidelines so that HIV-positive patients are routinely screened for TB and TB patients are tested for HIV at the respective sites. QAP provided training to improve health care provider knowledge and skills in the provision of basic health care and identification and management of TB-HIV co-infected patients. As shown in Figures 7 and 8, this has improved screening and detection of TB and opportunistic infections among HIV-positive patients. Figure 9 shows that referral of TB patients for HIV testing has also continued to increase, although at a slower pace, given that it is now above 75%. Since 2006, over 60% of TB patients tested in QAP-supported facilities have tested positive for HIV. Health care workers in the QAP-supported districts are also receiving help to improve counseling regarding TB prevention and nutritional support to HIV-infected individuals.

Record keeping at QAP-assisted facilities has been improved to ensure that patients receive appropriate follow-up care and referral to home-based care and/or higher level care facilities. Figure 10 shows improvements in the proportion of HIV-positive patients who are referred for CD4 counts. QAP has also encouraged dialogue between facility staff and community-based and home-based organizations in order to improve the continuum of care for PLWHA and has supported two community-based organizations (one each in KwaZulu-Natal and Mpumalanga) for this purpose.

Figure 7. South Africa: Number of new patients on ART screened for TB, Five provinces, Jan. 2005-Mar. 2007

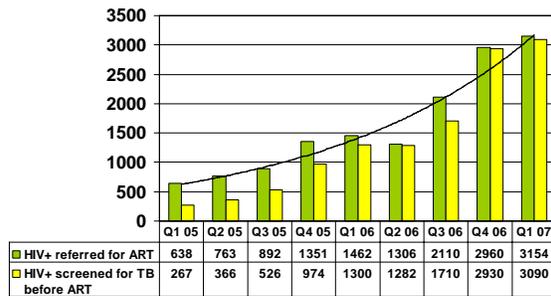


Figure 8. South Africa: Proportion of new patients on ART screened for opportunistic infections (excluding TB), Five provinces, Jan. 2005-Mar. 2007

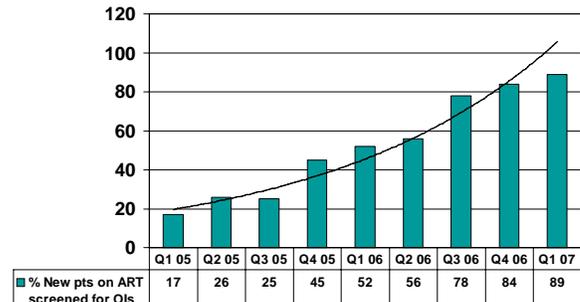


Figure 9. South Africa: Percent of TB patients referred for HIV testing, Five provinces, Jan. 2005-Mar. 2007

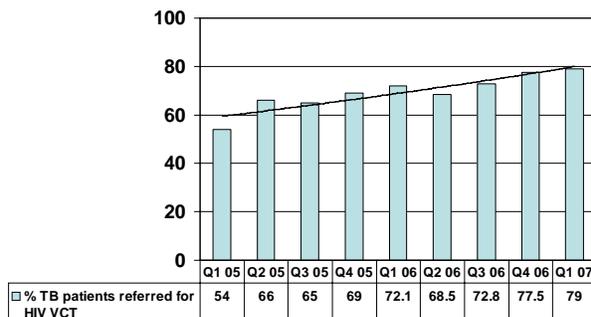
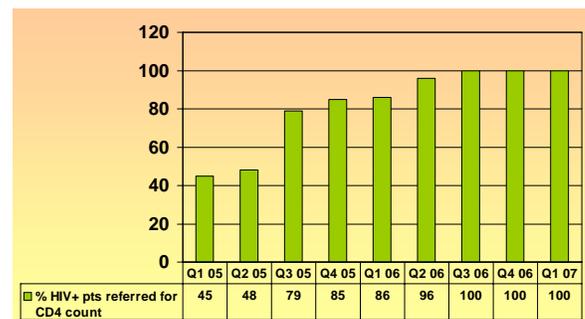


Figure 10. South Africa: Proportion of HIV-positive clients referred for CD4 count, Five provinces, Jan. 2005-Mar. 2007



Within this reporting period, QAP staff trained and mentored 498 health care workers and ensured the provision of basic health care and support and TB-HIV services to 45,441 HIV-infected individuals.

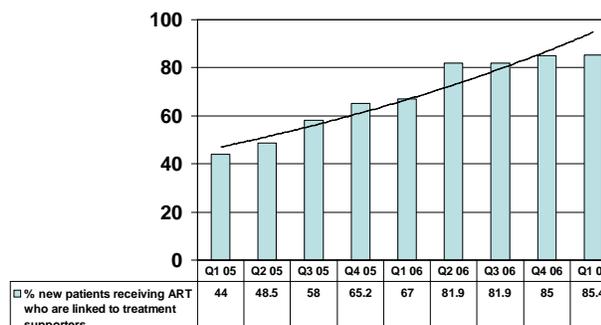
### Counseling and Testing Services

During the past year, QAP has worked with local Departments of Health to increase and improve the availability of quality counseling and testing (CT) services in facilities. QAP-supported facilities offer client-initiated VCT and family-centered/community-based models of CT. QAP has provided in-service training and onsite mentoring to improve provider performance to increase client satisfaction and uptake of HIV testing in diagnostic settings. QAP is also supporting these sites to ensure that HIV-positive patients are referred for CD4 and other onward care and support services. Within Year Five, QAP staff trained and mentored 237 health care workers and ensured the provision of CT services to 54,298 individuals.

### Antiretroviral Treatment Services

A major focus of QAP support during the past year was to improve staff compliance with national guidelines through initial training in national guidelines and standards and through ongoing mentoring and support in their implementation. QAP is helping project-supported sites increase referral of patients for ART by developing vertical (from community to tertiary) and horizontal (among various clinical services within a facility) linkages and by linking ART patients with community-based support. Figure 11 shows progress in assigning treatment supporters to new ART patients at QAP-supported sites. Assistance has been provided to improve the completeness of patient records and to use these records and information systems to monitor the quality of each patient’s care. During Year Five, QAP staff trained and mentored 159 health care workers and ensured the provision of ART services to 8995 PLWHA.

Figure 11. South Africa: Proportion of new patients on ART linked to treatment supporters at QAP-supported sites, Five provinces, Jan. 2005-Mar. 2007



### Operations Research

#### Rapid Assessment of ART

QAP undertook a six-week, system-level assessment of service provision in selected health care facilities that offer ART as part of the Comprehensive HIV and AIDS Management, Care and Treatment Program for South Africa (CHAMCTPSA) in May 2005. Examining nine facilities in five provinces, the study found varying levels of preparedness and capacity in terms of organization, service provision, and resource utilization. A September 2004 NDOH report on CHAMCTPSA implementation had highlighted key accreditation process areas that needed strengthening: personnel issues, structural renovations, pharmacy modifications, patient-tracking mechanisms, data management and information systems, referral systems, and civic involvement. The assessment gauged progress toward improvements in these areas to illuminate the ART facilities’ successes and shortcomings and their effects on the quality of care. The study documented progress in pharmacy procurement procedures and storage practices, patient-tracking systems, referral systems, engagement with civil society, and staff understanding of government care and treatment protocols; it recommended more effort in staff recruitment, information access and sharing, and financial accountability and control.

### ***Rapid Assessment of Sustainability of Quality Assurance in Maternal and Neonatal Care***

QAP began providing technical assistance to strengthen quality assurance interventions in maternal and neonatal care in health centers and hospitals in one district in Mpumalanga in 2001. By late 2002, these interventions were expanded to cover the entire Province and one district in KwaZulu-Natal, and in mid-2003, they were rolled out to Limpopo, Eastern Cape, and North West Provinces. The introduction of evidence-based guidelines, changes in service delivery procedures, and regular performance review resulted in significant increases in guideline compliance, which led to significant declines in peri- and neo-natal mortality. QAP support to these facilities ended in mid-2004. In December 2005, interviews were conducted in 40 facilities in three previously supported districts to assess whether they had continued to use QI interventions and whether improvements in service delivery had been sustained. The facilities showed that improvements had been sustained and that mortality was declining.

### ***Rapid Assessment of Sustainability of TB Quality Improvement***

QAP started supporting QI for the TB program in several provinces in 2002, resulting in improved treatment outcomes in most project areas. In 2004, USAID requested that QAP focus only on: PMTCT, counseling and testing, basic health care for people with HIV/AIDS, HIV/TB services, and ART. Technical support to facilities on TB-only care ceased in June 2004. In 2006, QAP commissioned a rapid assessment to determine whether the facilities that had been supported during 2002–04 were sustaining improvements in treatment outcomes. The assessment was done through discussion with QA coordinators, interviews with providers, and analysis of monthly statistical data. The services had not received any technical support for TB management from July 2004 to March 2005 when technical support was initiated for TB-HIV with the focus on screening all TB clients for HIV and all HIV-positive clients for TB as well as providing cotrimoxazole prophylaxis to HIV-positive TB clients. The assessment revealed that facilities that had not received any further quality improvement support tended to perform poorly on many TB indicators. In general, during the period when no support was received, case-finding decreased, the proportion of TB clients diagnosed by X-ray increased, and cure rates decreased. When QI in TB-HIV was introduced in the second quarter of 2005, record-keeping and case finding improved, diagnosis through sputa investigation increased, and treatment outcomes improved.

### **Directions for FY08**

QAP will expand its assistance in the coming year to cover about 200 clinics in the five provinces. We will continue to expand on our approach to building local capacity in ARV service provision through the placement of sessional doctors in over 30 hospital clusters in hard-to-reach areas. In addition, we will explore the possibility of using telemedicine to support ARV providers in far-flung areas. Our technical assistance will include a stronger emphasis on infection prevention and control and on strengthening linkages between pediatric HIV care and services for orphans and vulnerable children. In addition, at USAID request, QAP will provide QI training to other PEPFAR partners.

## **2.6 Swaziland**

### **Background**

The Regional AIDS Office in Southern Africa asked QAP in April 2005 to assist with an assessment of TB-HIV co-infection in Swaziland, which has one of the highest five TB incidence rates worldwide and which has the highest per capita burden of both TB and HIV. That June, QAP collaborated with the Ministry of Health and Social Welfare (MOHSW), WHO/AFRO, and the Centers for Disease Control and Prevention (CDC) Global AIDS Program to conduct a rapid assessment of the TB and HIV control and care activities in Swaziland. Based on the assessment findings, QAP developed a program of technical assistance to support the MOHSW in developing policies and integrated TB-HIV service delivery models and algorithms for health facilities and providers. By the end of FY06, QAP was supporting three TB

diagnostic units in the Manzini Region. In the first half of FY07, QAP expanded assistance to three new diagnostic sites in the Shiselweni Region and one in Lubombo Region. In addition, QAP provides technical assistance to 52 clinics in the same regions.

## **Activities and Results**

### **TB Program Strengthening and TB-HIV Collaboration**

Much of QAP's work this past year focused on building the capacity of the restructured central TB unit to plan, direct, and monitor national TB interventions. QAP trained National TB Program (NTP) staff and regional TB coordinators in facilitative supervision for TB and TB-HIV and in the revised recording, reporting, and monitoring tools for TB and TB-HIV, including the use of the CDC-developed electronic TB register (ETR) for TB report compilation and data analysis. QAP also assisted the NTP to link TB program data to the MOHSW health and management information system and to the Swaziland National AIDS Program (SNAP) monitoring and evaluation system. QAP supported NTP and TB diagnostic facility focal persons to conduct quarterly data review meetings and to compile the annual morbidity report for 2006 and treatment outcomes for 2005. QAP also assisted the NTP in developing a memorandum of understanding with the army to promote TB and TB-HIV improvement activities in this employer of a highly vulnerable sub-population.

QAP supported technical training of facility staff in: training on TB case finding, TB case management, community-based TB care, fixed drug combination regimens, provider-initiated HIV counseling of TB patients, cotrimoxazole prophylaxis, referral systems, and management of records. In collaboration with the CDC, QAP supported training for health care workers from the diagnostic centers on the use of the web-based ETR (ETR.net).

In the area of TB-HIV, QAP assisted the MOHSW in establishing a TB-HIV core working committee with representation from the NTP, SNAP, and QAP to strengthen coordination between programs for each condition. The working committee held a five-day stakeholder workshop to develop TB-HIV implementation and policy guidelines; they were finalized in June 2007. QAP has worked closely with the HIV Testing and Counseling Project to conduct joint training and supervision activities to increase provider-initiated HIV counseling and testing at TB diagnostic and treatment centers.

QAP was also involved in preparations for the March 24, 2007, World TB Day activities through printing information, education, and communication materials on TB, TB-HIV, and MDR-TB and facilitating a breakfast meeting/briefing with local journalists.

### **Technical Assistance in MDR/XDR**

QAP is participating in a collaborative effort with the MOHSW, Medical Research Council (MRC) of South Africa, CDC, and WHO to conduct a survey on MDR/XDR-TB following the XDR-TB threat last year in South Africa. QAP participated in the protocol development, supported the in-country MDR-TB study team in training health workers on the survey protocol, and conducted pre-study inspections of the participating facilities. QAP also assisted the NTP to develop an emergency plan for MDR-TB and assisted the MOHSW to set up an MDR/XDR Response Task Force under the chairmanship of the Director of Health Services to operationalize the plan.

### **Global Fund Grant Support**

QAP helped the NTP to justify continued funding in FY07 despite its history of poor performance in the GFATM grant. After withholding funding for almost a year, GFATM released funds at the beginning of FY07. QAP assisted in the implementation, monitoring, and reporting of Global Fund activities and in collaboration with CDC, the National Emergency Response Council on HIV/AIDS, and the Country Coordinating Mechanism, petitioned for extension of the GFATM Round 3 grant for a further three years.

In February 2007, the Global Fund extended the Swaziland TB grant, and QAP is now assisting the NTP to work on the conditions precedent. QAP also assisted the NTP to re-program the Global Fund grant to provide for hiring and training microscopists and laboratory technologists. This effort has helped reduce turn-around time for sputum smears from time of collection to receipt of result.

### **Directions for FY08**

During the next year, QAP will 1) continue to work with the NTP and SNAP to develop and implement national policies and guidelines related to TB-HIV, MDR/XDR, and infection control; 2) continue to provide training to health care workers in TB care settings and in HIV care settings for TB screening, treatment, TB drug management, DOTS, and treatment monitoring, including patients co-infected with HIV and those on ARVs; 3) continue to work with the MOHSW in strengthening the capacity of laboratory staff in smear microscopy and culture and first line drug susceptibility testing; 4) work with academic and training institutions to incorporate TB-HIV as a module in health worker training curricula; and 5) continue to work with USG partners to implement integrated TB and PMTCT activities that include screening algorithms for TB in expectant mothers and children in MCH services and TB training for health care workers working in PMTCT, ANC, and MCH settings.

## **2.7 Tanzania**

### **Background**

QAP has provided technical support in quality improvement to the Ministry of Health of Tanzania since 2003. The first activity, implemented with the Dar es Salaam Regional Health Office, was an improvement collaborative on infection prevention that involved three district hospitals. That same year, as part of a joint formative research activity with a team at Kilimanjaro Christian Medical Centre (KCMC) in Moshi, Kilimanjaro, QAP developed and tested a set of job aids for use in counseling women about HIV and infant feeding in the context of HIV. Since 2004, QAP has received PEPFAR funding to implement an improvement collaborative on pediatric HIV/AIDS care and support involving referral level hospitals in several regions and to develop and support training in the use the counseling materials in PMTCT programs across the country. The roll-out of the counseling materials has included training of national and regional trainers and infant-feeding counselors and whole site training of managers and providers who provide services to mothers and children. In late 2005, the Ministry decided to extend Pediatric AIDS Collaborative to 11 district hospitals and one health center in three regions in the northern zone (Arusha, Tanga, and Manyara), with QAP providing technical support for the learning sessions.

### **Activities and Results by Major Program Area**

#### **Pediatric Hospital Care Improvement and AIDS Treatment Collaborative**

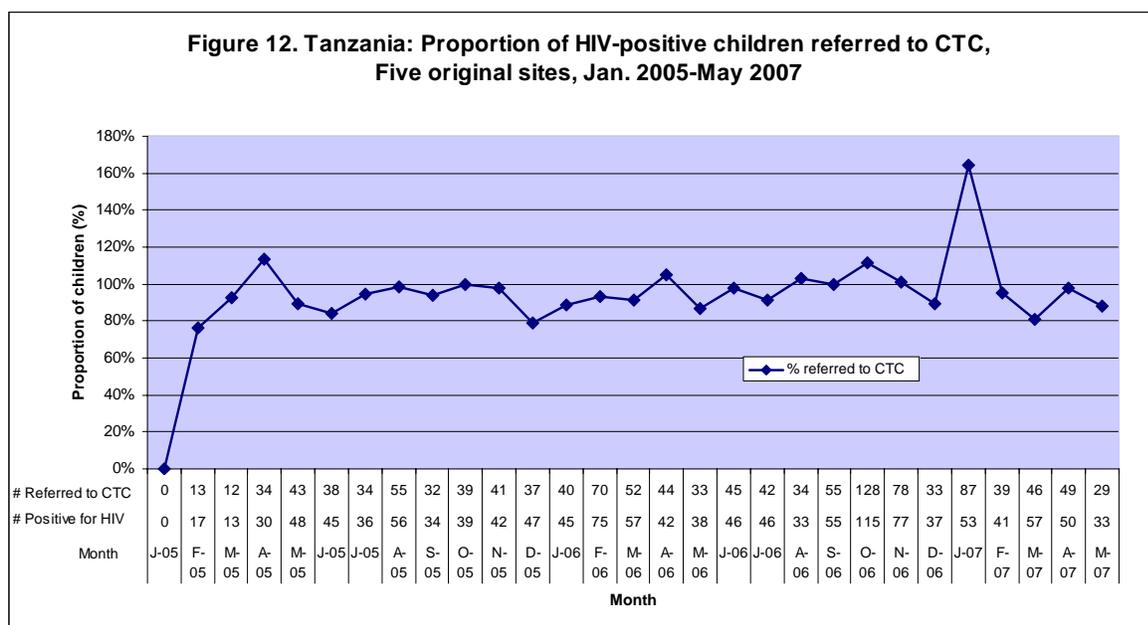
During Year Five, QAP continued to provide coaching support to teams in the original five hospitals participating in the Pediatric Hospital Improvement and AIDS Collaborative begun in October 2004. The sixth learning session was held November 2006 with 40 staff from the original sites, which are located in the Dar es Salaam, Coast, and Morogoro regions. The second learning session was held in December 2006 for 12 new sites in Arusha and Tanga regions: 85 participants focused on improving HIV/AIDS care and treatment based on the experience from the demonstration sites. The third learning session for Tanga sites was held in May 2007 and had 36 participants. In the original sites, the seventh and final learning session was held in June 2007 and involved 36 participants. This was followed by the third learning session for the Arusha and Manyara sites (46 participants). Participants included health providers from PMTCT, pediatric outpatient departments, and counseling and treatment centers (CTC), labor ward, pediatric ward, and one anesthetist: the varied selection will facilitate functional networks. Some participants were oriented to use of the HIV screening algorithm and practiced using it during the training, and 88 received a copy of the QAP-developed IMCI CD-ROM. The sites now participating in the PHI/Pediatric AIDS Collaborative are shown in Table 4.

**Table 4. Tanzania: Expansion of the PHI/Pediatric AIDS Collaborative**

Region	Participating Hospitals
<b>Dar es Salaam</b>	<i>Temeke, Amana , Mwananyamala, Muhimbili National Hospital</i>
<b>Coast</b>	<i>Tumbi Special Hospital</i>
<b>Kilimanjaro</b>	<i>KCMC</i>
<b>Arusha</b>	Mt Meru Regional Hospital, Monduli Hospital, Seliani Lutheran Hospital, Arumeru District Hospital, Longido Health Centre
<b>Morogoro</b>	<i>Morogoro Regional Hospital</i>
<b>Tanga</b>	Pangani, Korogwe, Bombo, Lushoto, Handeni and Muheza Hospitals
<b>Manyara</b>	Hanang Tumaini Hospital

\*Original sites shown in italic.

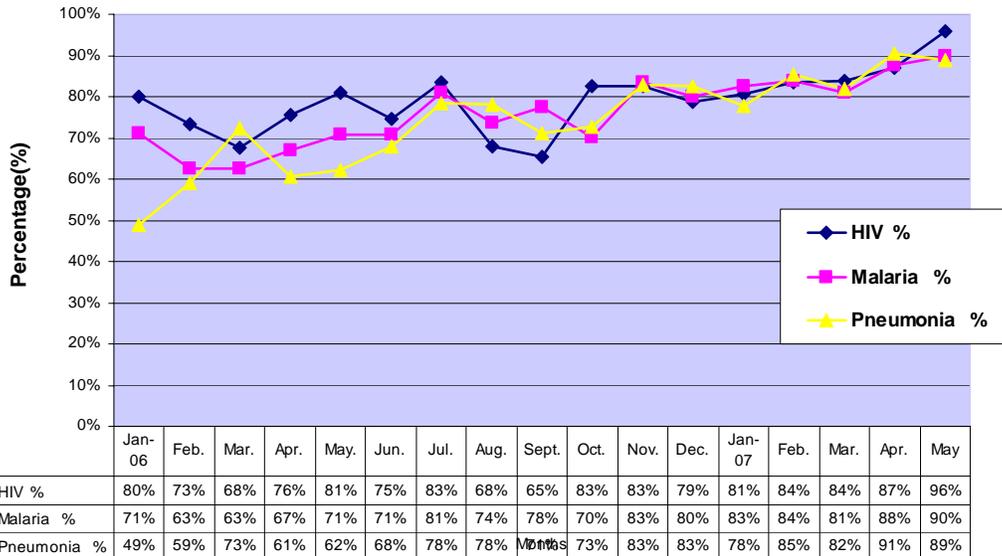
The original sites in the Collaborative showed steady improvement during the past year in referring children suspected of HIV infection to the CTC for testing and treatment. By September 2006, 3086 children were suspected (using the WHO clinical screening algorithm) to have HIV infection among children admitted to the hospitals. Of these, 2094 were tested (68%); 1048 were found to be HIV-positive, and 943 (90% of those positive) were referred to the CTC for care and ART if eligible (see Figure 12).



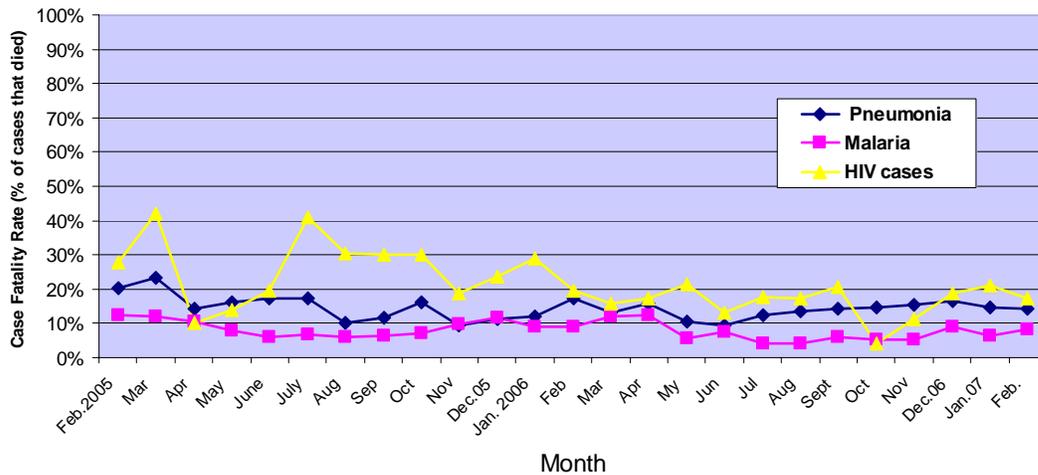
Between September 2006 and June 2007, another 1485 children were suspected to be HIV-positive; of these, 1290 were tested (86.9%) and 593 (46%) found to be HIV-positive. In spite of some data anomalies that need further cleaning, most children (80–100%) identified as HIV-positive are successfully referred for care and treatment.

Teams continued to be strengthened through regular coaching visits and learning sessions that reinforce adherence to standard case management guidelines. During the past year, the five original sites have carried out monthly self-assessments using a tool designed to assess compliance with standards based on a review of five randomly selected case files of discharged patients. At the start of the Collaborative, compliance with case management guidelines was very low (28%). Although the initial assessment was quite subjective and tended to exaggerate health provider performance, the high level of compliance with standard treatment guidelines now reported has been maintained over time (see Figure 13). Disease-specific case fatality rates among children under five, including for AIDS, have also exhibited downward trends (see Figure 14). These declines may be attributable to improvements in ETAT and in adherence to standard case management guidelines resulting from the work of hospital quality improvement teams.

**Figure 13: Tanzania: Compliance with case management standards in five original Collaborative sites, Jan. 2006-May 2007**



**Figure 14. Tanzania: Consolidated data for disease-specific case fatality rates for pneumonia, malaria, and AIDS cases in children under five, Five hospitals, Feb. 2005-May 2007**



***Continuum of Care for Children Affected by AIDS***

A new activity within the Collaborative this year was a focused effort to strengthen linkages between various points of service of care for children affected by HIV/AIDS in the facility and in the community. The first step was to map the location of community-based organizations (CBOs), traditional birth attendants, and community health care workers providing HIV/AIDS-related services within the districts. In FY08, Kibaha/Tumbi in the Coast Region will serve as a pilot area for the development of a community linkage network. The process of identifying and mapping all CBOs was completed in April 2007. In all, 89 active CBOs were identified in the five districts. Tumbi will be the pilot hospital for implementing interventions to link facilities with community organizations. Best practices will be documented there and then disseminated for adoption nationwide.

## **Collaborative to Improve Clinical Services at Muhimbili National Hospital**

Prior studies have shown client dissatisfaction with the quality of services provided at Muhimbili National Hospital (MNH). The Hospital has embarked on a program to improve quality of services provided to both providers and clients and requested QAP technical assistance to develop and support the program. MNH has proposed to implement a whole facility quality improvement collaborative to raise the quality of clinical services. The AXIOS Foundation will provide technical and financial support for this collaborative.

In January and February 2007, QAP supported a series of workshops with different levels of MNH management to orient them to the improvement collaborative approach and principles of quality improvement. A core team was selected to serve as trainers and mentors in the implementation of quality improvement activities. The core team members include all heads of departments, block managers and a nominated quality improvement assistant from each department. In May 2007, QAP conducted a five-day training on QI and the improvement collaborative approach for 77 core team members from all clinical, non-clinical, and technical support departments.

Forthcoming activities to begin in July 2007 include competency-based skills training to 24 members of the core team and training of multi-disciplinary QI teams in each clinical department. Once trained, the QI teams, under the guidance of department core team members, will undertake baseline assessments of the quality of services in their respective departments against which future performance will be measured in order to demonstrate improvement. Departments will develop service guidelines and standards for priority conditions they are dealing with in their respective service areas. The QI teams will in turn provide on-the-job transfer training to remaining staff members in their department on quality improvement, with special emphasis on their roles and functions as members of the QI team.

## **Implementation of Integrated HIV and Infant Feeding Job Aids**

In Year Three, QAP worked with key stakeholders in Tanzania to produce the set of HIV and infant feeding job aids: a question and answer guide, five counseling cards, four brochures for mothers on exclusive breastfeeding and other topics, and two aids on infant-feeding options. Since 2005, QAP has worked with EGPAF and COUNSELNUTH to train 110 regional trainers and 349 infant-feeding counselors in 204 facilities on infant feeding in the context of HIV in eight regions of Tanzania. Approximately 50% of the facilities where training was supported—which include regional and district hospitals, health centers, and dispensaries—now have functioning PMTCT services.

In November 2006, the National AIDS Control Program (NACP) and national coordinator for Infant and Young Child Nutrition (IYCN) conducted a formal national evaluation of the whole facility training package on infant feeding in context of HIV that had been developed by QAP with partners. NACP suggested some modifications to the job aids (including addition of the NACP logo) and officially adopted the set of job aids as NACP materials. QAP made the requested changes to the training materials and the revised job aids will be printed in July 2007. The NACP and Ministry of Health and Social Welfare will officially launch the job aids.

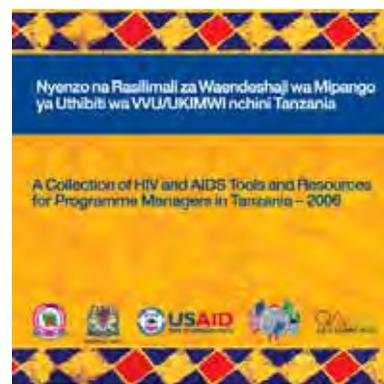
During Year Five, QAP provided support training of staff in EGPAF-assisted sites in Moshi Rural District in Kilimanjaro Region in effective counseling on infant and young child feeding and use of the job aids. Other sites that received similar support training were AMREF-supported sites in Dar es Salaam Region and Medicine de Monde-supported sites in Kagera Region.

QAP also worked with the NACP and national PMTCT program to develop a monitoring and evaluation plan to track the impact of the job aids and the training strategy. Facility checklists, exit interview guides, and provider checklists were developed to assess the quality of infant-feeding counseling. Because of the successes realized so far, the infant-feeding training program was been identified by the Global Development Network as an innovative activity and received funding for its evaluation by an external

institution. The Ifakara Health Research and Development Centre was selected to undertake the evaluation, which began in May 2007.

### **Dissemination of HIV/AIDS Toolkit**

During 2006, QAP supported the finalization and reproduction of a CD-ROM collection of over 390 HIV and AIDS tools and resources for program managers in Tanzania. The CD-ROM, *A Collection of HIV and AIDS Tools and Resources for Programme Managers in Tanzania – 2006*, was developed by Noreen Mucha in partnership with the Tanzania Commission for AIDS (TACAIDS) and reviewed by the Tanzania Development Partners Group on AIDS. The CD-ROM was designed to provide a “one-stop shop” for many of the HIV and AIDS national guidelines, policies, surveillance, and program tools and resources for program management and implementation in Tanzania. QAP sponsored Ms. Mucha to attend the National Multi-Sectoral AIDS Conference in Arusha in



December 2006 to present the toolkit and distribute it to participants. Since the conference, QAP has supported the wide dissemination of the toolkit in Tanzania. A briefing was held in Washington in February 2007 to present the toolkit at USAID.

### **Operations Research**

#### ***Sequential Validity of Self-assessment in the PHI/Pediatric AIDS Collaborative***

Because of the problems identified in the Health Information Management System, especially involving patient records, QAP developed a study to measure the validity of self-assessment of compliance by facility-based teams over time and to determine whether the level of performance in the use of self-assessment can improve as a result of coaching. A feasibility study for this work was conducted at Morogoro, Tumbi and Amana hospitals. English and Kiswahili versions of the data collection forms were field tested and finalized. The final report for the feasibility study is undergoing final corrections.

#### ***Validity of HIV-Screening Algorithm***

Experience with the use of the WHO algorithm for screening children suspected of having HIV infection and earlier studies have shown varying results. This year, an operations research proposal was developed to validate the HIV-screening algorithm in Tanzania. The study proposal was approved by the Muhimbili University of Health Sciences Institutional Review board in January 2007. Three study sites were selected: Temeke, Amana, and Mwananyamala district hospitals. The data collectors have been identified and will be trained in July 2007. Data collection will start soon thereafter with results expected by the end of 2007.

### **Directions for FY08**

The Government of Tanzania and its USG partners have initiated a process to improve the quality of HIV/AIDS care and treatment including ART throughout the continuum of care. The Health Ministry and USG have asked QAP to support strengthening of the national HIV/AIDS/ART program with respect to service quality and performance monitoring. QAP will work with other USG cooperating agencies (including PASADA, EGPAF, JPM, and FHI) to develop the capacity of the Ministry, regional health management teams, and district health management teams to implement quality improvement of HIV/AIDS care and treatment. Activities will include establishing a National Quality of ART Core Team and working with this team to develop a national framework for monitoring quality of ART services at the service delivery level. The Core Team will develop key indicators to track achievement of quality improvement objectives, develop tools for monitoring compliance with standards of care, and train trainers from the NACP who will in turn train facility CQI teams in self-assessment and use of the data

for HIV/AIDS services quality monitoring and improvement. QAP will also support training of CQI coordinators (Core Team) and trainers in CQI and the collaborative approach from the NACP and from among USG partners. QAP will also document and facilitate sharing of lessons and experiences from demonstration improvement collaboratives.

QAP will continue to strengthen infant-feeding counseling within PMTCT programs and scale up counseling training in additional regions (Dar es Salaam, Iringa, Mwanza, Zanzibar, Mtwara, and Tabora) prioritized by the PMTCT Secretariat. QAP will focus on developing capacity of facility administrators, district and regional health management teams, and PMTCT implementers to conduct ongoing training in the use of the job aids. QAP will also collaborate with the Ifakara Health Research and Development Centre in conducting the impact evaluation of the infant-feeding counseling training and job aids.

## **2.8 Uganda**

### **Background**

Since 2004, Uganda's Ministry of Health has rapidly scaled up ART services, going from regional to district and lower health facilities to increase access to ARVs for more patients. The number of sites providing ART has grown from 26 in July 2004 to more than 220 in June 2007. This rapid scale-up has highlighted the need to ensure service quality, especially in the areas of care and support for HIV-positive patients, monitoring and follow-up of ART patients, and treatment adherence to minimize treatment failure and the development of drug resistance. In 2005, the Ministry requested support from QAP to strengthen and institutionalize quality assurance in its ART expansion program to ensure that services are high quality and meet clients' expectations. With PEPFAR funding, QAP and the MOH launched the HIV/AIDS Quality of Care (QoC) Initiative nationwide in November 2005. The Initiative's primary purpose is to use a collaborative approach to support continuous quality improvement activities at participating health facilities offering ART. A core technical team, composed of technical staff from the MOH, the private sector, and QAP Uganda, helps to build capacity in HIV/AIDS quality improvement and supervises regional teams that in turn direct activities of the collaborative in the 11 regions. Facility-level activities of the collaborative began in January 2006 with the participation of 57 facilities in 51 of the then 56 districts in the country.

### **Activities and Results**

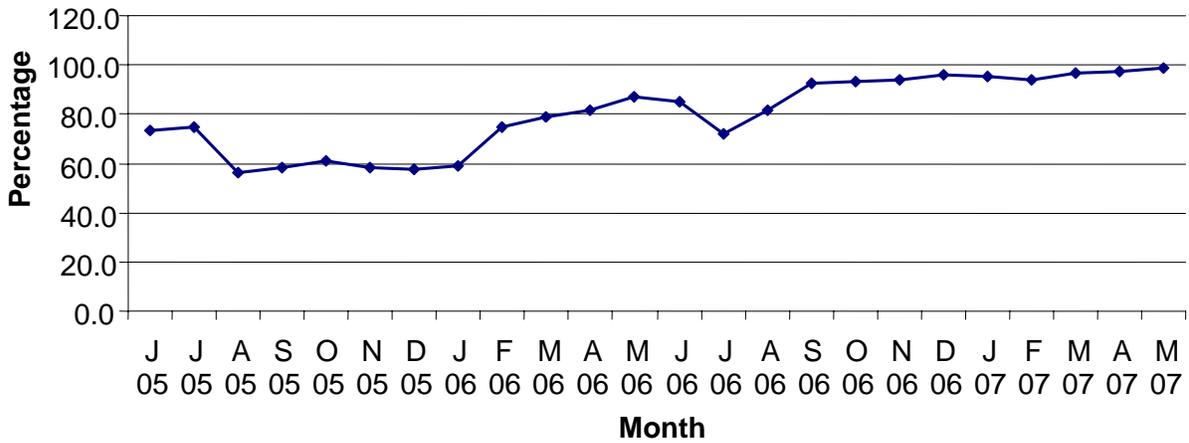
#### **ART Collaborative**

In September 2006, the Collaborative's third learning session brought together QI teams from all 57 participating facilities to present their data on key indicators, share measures they had tested to improve key areas, and describe their successes. Two important changes were task-shifting and reorganizing clinic days. In some facilities, nurses learned to do clinical staging, and clinical officers' capacity was expanded so they could initiate and monitor patients on ART, tasks previously limited to medical officers.

Teams also shared their successes and challenges in working on five quality improvement objectives each team had selected from a list of 30 that had been defined by the MOH as QoC Initiative objectives. These objectives focus on three areas: improving integration of TB in HIV/AIDS clinics, improving ARV adherence monitoring, and increasing access to pediatric AIDS care.

The session's technical content focused on ensuring integration of TB assessment and diagnosis among HIV-positive clients, practical approaches to assessment and monitoring of ARV adherence at health units, and pediatric AIDS care. Many facilities had tried to integrate TB into HIV and to assess ARV adherence at least since the first learning session nine months earlier. These facilities demonstrated progress in instituting assessment for TB at every ART patient visit, as seen in Figure 15. However, a brief survey of participating facilities revealed that access to pediatric AIDS treatment was limited to only 21 of the 57 facilities and that pediatric palliative care was being provided at only 26.

**Figure 15. Uganda: Percent of HIV-positive patients who are assessed for active TB at every visit (Data from 46 sites), June 2005-May 2007**

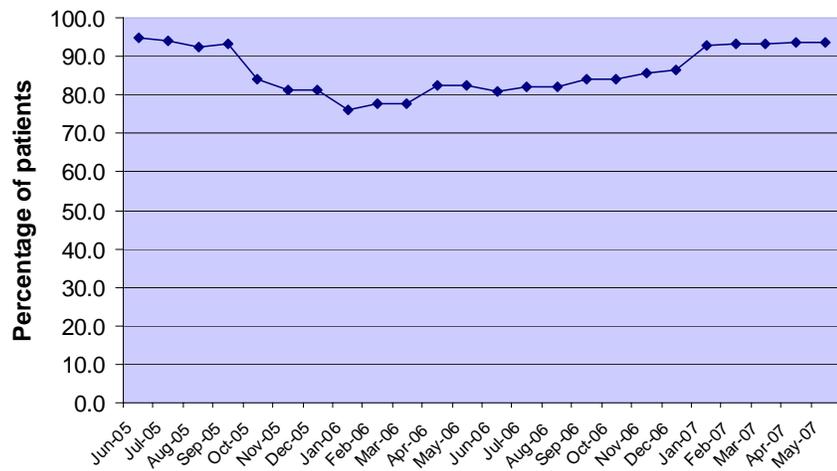


Since the third learning session, monthly supervision and coaching visits have continued. These site visits seek to strengthen facility team functionality and to provide guidance and encouragement as teams implement their planned activities, with special focus on TB-HIV, adherence, and pediatric AIDS. Coaches also provide on-the-job training in these areas. More than 520 site visits have been conducted by trained QI coaches who are members of the core and regional technical teams, with support from QAP staff. In addition, coaches meet regularly with district officials and heads of health facilities in order to share teams' results and the challenges related to implementing and sustaining quality improvement efforts.

One of the contributions of the QoC Initiative is to help facilities recognize the importance of ensuring patient adherence and the complexity of monitoring it. Baseline analysis revealed that while facilities were reporting that a high percentage of their patients were adherent, assessment of clients for adherence was subjective and not quantified, and a process for regular monitoring of adherence was not institutionalized. Facilities that once reported erratically are now paying more attention, establishing new processes or improving existing ones that are yielding more consistent results. Figure 16 shows progress achieved in 42 sites in improving patient adherence to ARVs.

Another advance this past year has been to assist providers to overcome resistance to identifying and treating HIV-positive children. Since the third learning session, teams have been testing and implementing numerous

**Figure 16. Uganda: Percent of ART patients who have taken 95% of prescribed ARVs (42 sites), Jan. 2005-May 2007**



changes to improve processes for diagnosing and treating HIV-positive infants and children. Such changes include:

- Establishing linkages with PMTCT programs to identify and enroll exposed children
- Screening children seen in out-patient clinics or on pediatric wards
- Asking adult HIV-positive patients to bring their children in for screening
- Establishing a specific pediatric AIDS clinic (either on a specific day or at a specific location, such as in the antenatal clinic, to facilitate access for mothers in the PMTCT program)
- Introducing documentation forms for the management of HIV-positive children
- Placing WHO pediatric clinical staging chart/guidelines in every examination room
- Collaborating with OVC social support groups
- Holding weekly continuing medical education sessions for health workers.

By June 2007, the number of sites providing HIV/AIDS services to children had more than doubled to 56 facilities. Of those, 87.5% (49 sites) provide palliative care and ART, while 12.5% (seven sites) provide only palliative care. Data from one site shows that the proportion of HIV-positive children receiving daily cotrimoxazole increased from 45.7% in September 2005 to 100% in December 2006. Partnerships with EGPAF and the Regional Center for Healthcare Quality have supported this expansion of pediatric AIDS care.

Health facilities face key challenges as they attempt to improve the quality of HIV/AIDS services: large patient loads, limited monitoring skills, and lack of human resources. Similarly, the Ministry continues to have challenges in meeting ART needs. In February 2007, 40% of facilities that QAP assists were out of ARV stocks. Other commodities that are not always available include HIV test kits and forms.

### **Scale-up Activities**

In January 2007, the QoC Initiative was expanded to include 29 more Ministry facilities, including five more districts. Four private health facilities were also added from sites that are being supported by the Business PART Project of the Emerging Partners Group and PSI. A stakeholders' meeting was held in early January for all district medical officers and medical superintendents of the new facilities to explain the Collaborative's objectives and approach. The meeting was chaired by MOH officials, opened by the Program Manager of the national AIDS Control Program, and closed by the Commissioner of the MOH Quality Assurance Department. Most district officials attending were already familiar with and supportive of the Initiative. The 90 health facilities (representing 56 of the now 80 districts in Uganda) now participating in the Collaborative comprise 10 regional hospitals, one national referral hospital, 31 general hospitals, 17 NGO hospitals, 25 level IV health centers, four private health facilities, and two military hospitals.

To jump start the new facilities in learning about and making quality improvements, two ART providers from each new facility were invited to the first session in a new round of learning sessions in January 2007. Representatives from two of the original 57 participating health facilities shared their experiences, stressing the importance of establishing a strong quality improvement team, reporting activities and improvements, and using run charts to show results. MOH officials also answered questions about the Initiative and HIV/AIDS policies.

### **Integration of Family Planning and HIV/AIDS Services**

While family planning services are available in almost all health facilities in Uganda, they are largely unavailable in HIV/AIDS clinics. As part of the January 2007 launch of the new sites, family planning was added as a focus area, with the objective of ensuring the integration of family planning services in existing HIV/AIDS clinics. Three improvement indicators were developed to measure progress toward this objective.

At the first learning session the new sites responded positively to integrating family planning within HIV/AIDS services: 13 sites from 11 districts self-selected to do so during the first action period and agreed to monitor their improvement with respect to the three indicators. As of June 2007, baseline data on all three indicators had been collected from eight of the 13 sites.

### **Improving Laboratory Management**

Another area given more intensive focus in 2007 is laboratory management to support ART monitoring. A lab advisor joined the QAP staff in November 2006 and has visited 20 facilities in nine out of 11 health regions to conduct training in HIV/AIDS lab processes. Problems identified thus far include that key tests, including CD4 and CD8 counts, are restricted to national and regional referral hospital labs and are thus unavailable to patients seen in lower level facilities (test sample transport processes are unavailable); testing equipment is not functional in many regional hospitals; standard operating procedures, although developed by the MOH, have not been distributed to many facilities; labs are understaffed and suffer from high turnover; and many lab technicians have not received procedure-specific training for HIV/AIDS testing.

To help define opportunities for lab services improvement within the QoC Initiative, Dr. Beth Turesson, an HIV/AIDS lab specialist from URC's home office, visited Uganda in June to work with the lab advisor to conduct a systematic assessment of representative laboratories (discussed in Section 4.4).

### **Directions for FY08**

The QoC Initiative will be expanded to at least 30 more sites, raising the number of participating sites to 120. Twenty-four of the new sites will come from Uganda's new districts, thus establishing the ART quality improvement work in every district. Selection of participating sites will be done at the district level this time, subject to final MOH approval, to ensure that all participating sites have been accredited to provide ART. The core team of national QI specialists will be expanded and multi-disciplinary coordination teams will be established in all 12 regions to lead training and coaching of teams.

## **2.9 USAID/East Africa**

### **Background**

USAID/East Africa asked QAP in 2006 to assist its regional partner, the East, Central and Southern Africa (ECSA) Health Community Secretariat, formerly the Commonwealth Regional Health Community Secretariat, to undertake a workforce study that had been mandated by the region's health ministers at their 2006 conference. In Kenya, the results of the 2004 Service Provision Assessment had found gaps in health worker knowledge and competency. QAP proposed an assessment of the competency of birth attendants and the adequacy of their working environment to support quality labor, delivery, and immediate postpartum care. USAID, ECSA, and QAP agreed that the study would be implemented in Kenya in two randomly selected districts in each of three provinces: Coast, Eastern, and Nyanza.

### **Activities and Results**

QAP's Dr. Steven Harvey worked with Dr. Alice Mutungi of Kenyatta National Hospital and the University of Nairobi Department of Obstetrics and Gynecology in December 2006 to finalize and pre-test the instruments, train observers, and supervise data collection. Data were collected in Nyanza Province in health facilities in Gucha and Kisii districts, in Coast Province in Kwale and Kilifi districts, and in Eastern Province in Isiolo and Meru Central districts. The study sample included 119 birth attendants recruited from the district hospitals and from health centers feeding into those hospitals (usually three to five centers per hospital). Facilities were randomly selected from among district or sub-district hospitals, and all available personnel were included in the study sample.

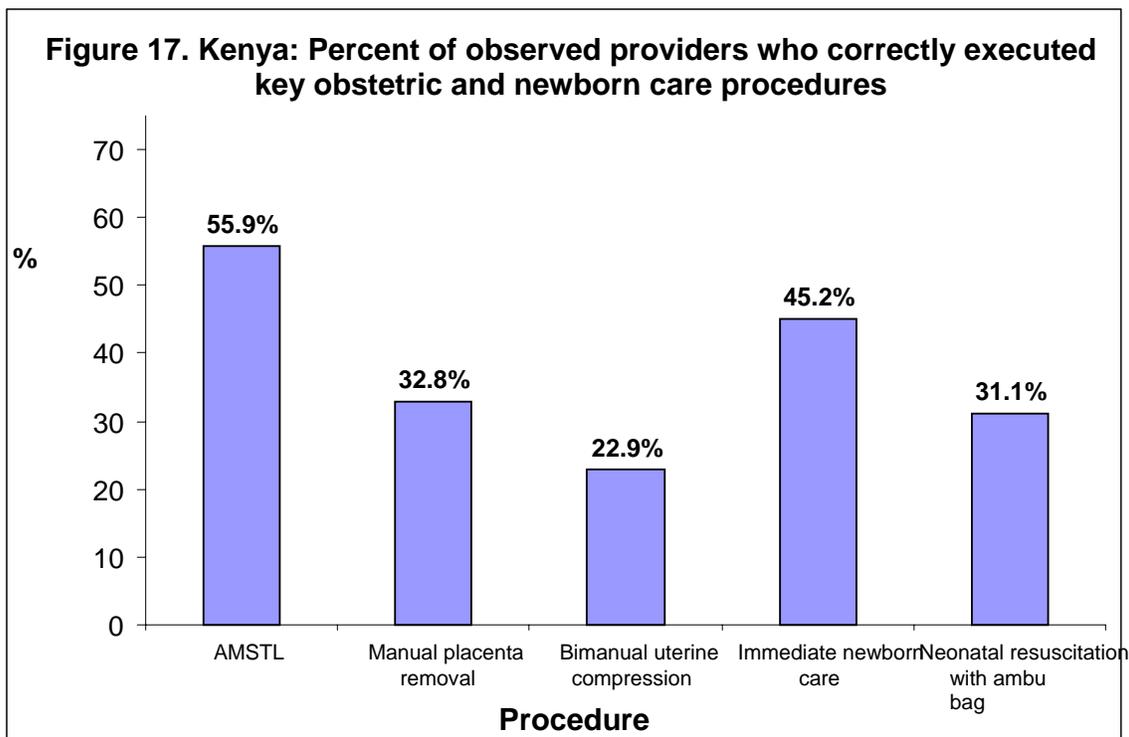
The instrument used to assess birth attendants' competence was a 50-question test of clinical knowledge related to the management of normal labor and delivery and common obstetric complications plus immediate postpartum care for the mother and newborn. Anatomical models were used to assess skills in five areas: active management of the third stage of labor, manual removal of the placenta, bimanual uterine compression, immediate newborn care, and neonatal resuscitation using an ambu bag. A 90-item checklist was used to assess health facilities, documenting human resources; infrastructure; processes of care; availability of essential drugs and equipment; hours and types of obstetric services; and neonatal and maternal complication, referral, and mortality statistics over the previous 12 months. Data analysis was completed in January 2007.

The study found that on average, the birth attendants answered 63% of the knowledge questions correctly. Average skills scores varied, but in every area *except* AMSTL (at 56%), attendants completed less than half the necessary steps correctly (Figure 17). Only 47% of providers correctly performed controlled cord traction, and only 45% correctly performed counter traction. Most (92%) checked to see if the placenta was whole and intact, and most (90%) carefully examined and repaired tears or the episiotomy.

Scores on immediate newborn care were the highest among all skills assessed, though observers documented some dangerous errors. Failure to check the newborn's respiration was relatively high (39%) as was failure to provide adequate thermal protection. Most providers (85%) failed to dry the newborn or did so incorrectly. Only 8% used a clean, dry towel to wrap the newborn after drying, and 41% failed to check the baby's temperature before leaving the labor/delivery room. In general, competency at performing basic life-saving skills was quite low.



A trained observer assesses a Kenyan birth attendant's compliance with obstetric care standards. *Photo by Steve Harvey.*



Many attendants expressed great satisfaction at receiving feedback and guidance from observers. The few minutes of feedback observers were able to provide each is far from sufficient to constitute “training,” but attendants’ response to this feedback does suggest that a minimal investment in training on specific strategies for preventing and managing life-threatening complications might significantly reduce maternal and neonatal mortality.

Dr. Harvey and Dr. Stephen Kinoti visited Kenya in March 2007 to present, with Dr. Mutungi, the results of the assessment to Kenya’s MOH, which received the presentation very positively and plans to use the data to develop interventions aimed at improving maternal and newborn services in the country. The team then traveled to Arusha, Tanzania, to present the study results to two important groups in the region: the Directors Joint Consultative Committee (DJCC) and the Conference of Health Ministers of the ECSA Health Community. The highest technical body that advises Ministers of Health in the community, DJCC comprises directors of medical services, deans of medical schools, directors of research, and other senior technical staff from these institutions. Meeting participants responded enthusiastically, and the Ministers adopted the study’s recommendations as part of the meeting resolutions. Other development partners at the meetings were USAID East Africa; WHO Geneva, WHO/AFRO, the East Central and Southern Africa Management Institute and senior Tanzanian Government officials.

### **Directions for FY08**

Uganda and Tanzania expressed interest in undertaking similar studies linked to actual interventions in collaboration with QAP. Recent discussions with the ECSA Health Community Executive Secretary, Dr. Stephen Shongwe, indicated the Secretariat’s interest in developing concept papers for the additional studies and proposals to implement interventions to improve the birth attendant capacities and capabilities to manage normal labor, obstetric complications, and essential newborn care. QAP will pursue these interests with ECSA and USAID/East Africa in FY08.

## **Asia**

### **2.10 Bangladesh**

#### **Background**

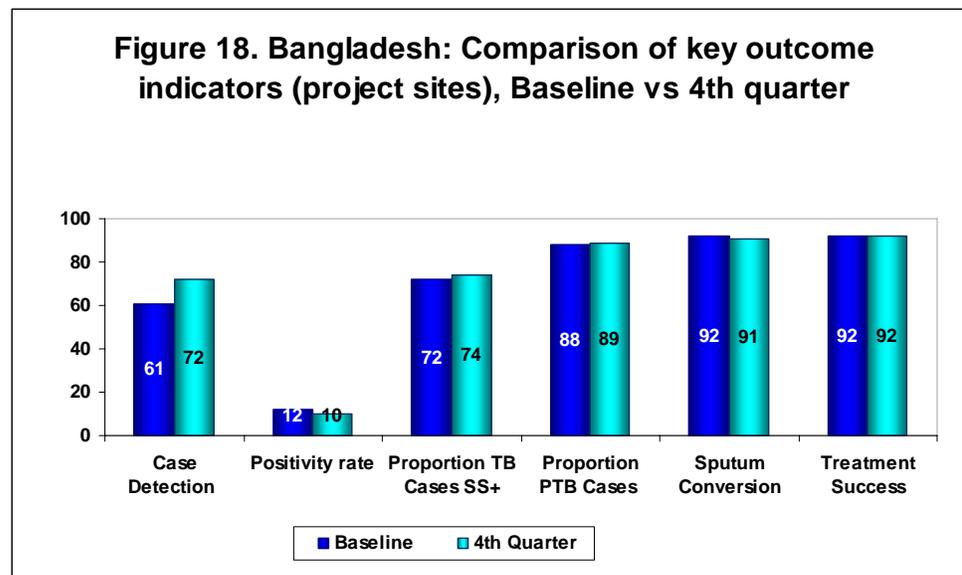
Based on findings from a 2004 QAP operations research study responding to a request from the National TB Program (NTP), QAP developed a Quality Supervision and Monitoring (QSM) strategy for expanding access to and improving the quality of directly observed treatment. Since June 2006, QAP has assisted the NTP to pilot-test the QSM strategy in four sub-districts (upazillas) in each of six districts (of Bangladesh’s 64), reaching 24 service delivery facilities. Supervisors conduct quarterly visits to facilities to review the status of key DOTS indicators, including case detection rate, proportion of TB cases that are smear-positive, sputum conversion rate, and treatment success rate.

#### **Activities and Results**

The QSM strategy is being piloted in 24 facilities, “Upazilla Health Complexes” (UHC). Facilities from another six sub-districts in each of the same districts are comparison facilities. Each UHC covers an average population of 250,000, with health and family welfare centers at the levels below. Altogether, the 24 pilot sites provide services to almost 7.2 million people.

At the sub-district level, the Upazilla Health and Family Planning Officer (UHFPO) oversees TB-related activities, and a medical officer is the primary contact for TB cases. Together the UHFPO and TB medical officer are the primary supervisors who monitor and ensure the quality of DOTS services at a facility. They meet monthly with teams from the other pilot sites to discuss results and how to address gaps and weaknesses.

The strategy was piloted from June 2006 to June 2007. The data are being analyzed for presentation to the NTP. Providers' DOTS knowledge, care skills, and record-keeping practices improved between the baseline and the fourth quarter, all of which is reflected in a higher case detection rate (see Figure 18).



### Directions for FY08

The NTP plans to scale up the TB supervision and quality assurance tools developed with QAP. The NTP would like to work with QAP on integrating quality improvement processes into the NTP's overall supervision and monitoring infrastructure. NTP has also requested QAP assistance in assessing the quality of the stores for anti-TB drugs and the logistics and supply systems and to identify quality improvement approaches to ensure compliance with drug management standards.

## 2.11 India

### Background

QAP has negotiated with India's NTP for some time to undertake TB-related quality improvement activities. It was agreed at the end of 2006 that QAP would conduct a rapid assessment in one district to provide an example of the type of assistance the Project could provide. The NTP selected as the assessment site one of the poor-performing districts in the State of Andhra Pradesh in southern India, the fifth largest state in the country with 23 districts and a population of nearly 80 million. QAP hired an independent consultant to conduct the study in March and April 2007.

### Activities and Results

The assessment was conducted in Warangal District with the objectives of assessing TB case detection, treatment compliance, and cure rates; identifying gaps in the system; and suggesting areas that could be addressed by a TB quality improvement collaborative. Interviews were held with private practitioners, staff of TB units and health centers, DOTS providers, and community health workers. TB patients and suspected cases were interviewed upon exit from a facility consultation. The questionnaires were designed to elicit information on knowledge of TB symptoms, spread, cure regimen, and attitudes toward detection and treatment in order to understand some of the barriers to achieving target rates. The assessment showed a high degree of variation in case detection rates as well as treatment outcomes in different sub-districts.

### Directions for FY08

QAP designed an improvement collaborative for the district that is based on the assessment results and that will focus on integration of TB screening at primary health care sites, referrals from those sites to TB clinics, and community mobilization to increase awareness and early case detection. The key

interventions will include training primary and other staff who can improve TB case detection; strengthening supervision and mentoring support of TB and primary clinics; and expanding community-based activities for support of TB patients as well as creating awareness about the disease. All the facilities in two or three subdivisions in the district will be part of the collaborative and will meet at least quarterly to identify quality gaps and work on improving implementation strategies. The facilities will be supported by QAP staff in carrying out monthly cohort analyses of case detection and treatment outcomes.

## **2.12 Vietnam**

### **Background**

HIV infections among TB patients are increasing in Vietnam,. Currently, U.S. Government-funded PEPFAR activities related to TB-HIV co-infection are being implemented by CDC, WHO, and other partners in six high prevalence provinces: Hanoi, Hai Phong, Quang Ninh, Can Tho, An Giang, and Ho Chi Minh City. The NTP wants to expand TB-HIV activities in the next tier of high prevalence provinces, including Thai Binh Province, where 6% of HIV-infected patients have TB. The Provincial Director of Health Services in Thai Binh has requested QAP support for TB-HIV integration activities in its eight districts (total population of 1.8 million) in part because TB-HIV co-infection rates there are thought to be higher than the figures reported by the sentinel surveillance. In December 2006 it was agreed that QAP would work with the NTP, the Vietnam Administration of HIV/AIDS Control, Ministry of Health, and other stakeholders to develop and implement specific operational strategies to integrate TB-HIV prevention, treatment, and care and follow-up services in Thai Binh Province using the improvement collaborative approach. In addition, QAP will work with the NTP and the Provincial Health Services to develop and implement operational strategies for public-private partnerships and TB infection control in Thai Binh Province.

### **Activities and Results**

In the first six months of 2007, QAP focused on capacity building at the provincial and district levels for the TB-HIV Collaborative. QAP provided assistance to the NTP for the development of national guidelines on TB-HIV integration and training modules that will be applied in the TB-HIV Collaborative. Baseline assessments were conducted in two districts representing those with high and low HIV prevalence, although all eight districts in Thai Binh Province will participate in the Collaborative. The TB-HIV Collaborative work plan was finalized with inputs from provincial staff. The Collaborative's main focus will be to improve quality of and access to HIV counseling and testing services and TB screening for HIV-positive patients and to increase cross-referrals at provincial and district health facilities.

QAP worked with the Thai Binh Department of Health to establish a collaborative mechanism for TB-HIV management. A provincial TB-HIV task force, chaired by the Department of Health and including representatives of the TB and HIV/AIDS programs, was created to oversee the Collaborative and will meet monthly. Terms of reference for Collaborative working groups were developed and issued by the DOH.

In April 2007, QAP conducted TB-HIV training for 22 provincial trainers from Thai Binh and other Global Fund provinces. QAP and Thai Binh provincial trainers explained the TB-HIV Collaborative's goals and methods to 40 staff representing all provincial and district HIV and TB facilities in the Province. An advocacy workshop was held with all provincial and district health authorities and local media to enhance awareness of the TB-HIV problem and explain the purpose of the TB-HIV Collaborative. In June 2007, 60 provincial and district staff of TB and HIV facilities were trained on HIV counseling and testing.

A cross-referral system was established between TB and HIV/AIDS programs. Referral forms were developed and implemented in the TB and HIV health facilities in all Thai Binh districts. The

Collaborative is promoting HIV counseling and testing for all TB patients and referral of HIV-positive persons for TB screening periodically or when they have TB symptoms. The second quarter evaluation in some districts showed an increase of HIV testing rate from 10–15% by the end of last year to around 30% among all TB patients. However, the referral of HIV-positive patients for TB screening is still limited due to both geographical and financial barriers (e.g., unavailability of district VCT services within the HIV/AIDS system, charging of patients for the laboratory test for TB screening). Although the number of patients receiving ARV is still limited in the Province, the number of TB-HIV patients receiving cotrimoxazole is increasing.

### **Directions for FY08**

QAP will continue working with Thai Binh Province this year to improve the quality of TB-HIV services at provincial and district levels through the Collaborative. Improving TB infection control in clinical settings will be introduced as a Collaborative content area. TB infection control guidelines will be developed, and training on infection control for health staff working with TB patients will be conducted. QAP will also work with two or three districts in Thai Binh to extend activities to the community level by training commune health workers and raising community awareness of the TB-HIV co-infection threat. QAP will also promote public-private partnerships for TB control by training public and private doctors in Thai Binh and developing referral, recording, and reporting systems for TB diagnosis and treatment in private health facilities.

## **Eastern Europe**

### **2.13 Russia**

#### **Background**

QAP has worked in Russia since 1998, initially supporting pilot and scale-up of improved systems of care for maternal and child and primary healthcare. In 2003, USAID asked QAP to work with the American International Health Alliance (AIHA) to apply QI methods to improve treatment, care, and support for HIV-infected and AIDS patients. AIHA's work complements QAP's improvement collaboratives by providing clinical trainings on ART provision, palliative care, and TB-HIV co-infection. From 2003-2006, QAP supported a demonstration HIV/AIDS Treatment, Care and Support Collaborative in sites in the oblasts of Samara, Saratov, and Orenburg, and in one district of St. Petersburg City. In 2006, QAP began planning, together with local authorities, for spread activities to extend the improvements and innovations developed in the demonstration sites. New spread collaboratives were developed to scale up improved systems for detection, referral, and follow-up of HIV-positive persons to increase access to ART and for the management of TB-HIV co-infection throughout St. Petersburg City and Orenburg Oblast. During Year Five, QAP also continued to support three sites in Saratov Oblast, Togliatti in Samara Oblast, and St. Petersburg to implement an improvement collaborative addressing family planning information and services for PLWHA. Two new activities were started in Year Five in St. Petersburg. One seeks to improve social support services for HIV-positive pregnant women and mothers. The other seeks to improve linkages with drug rehabilitation services for persons with HIV/AIDS to improve adherence to ART. QAP coordinates its work closely with the Federal AIDS Center and Federal Center for TB and HIV Co-infection, which have provided technical support to the teams and participated actively in learning sessions and round tables.

#### **Activities and Results by Major Program Area**

##### **Planning Scale-up of HIV/AIDS Treatment, Care, and Support Innovations**

Activities in 2006 focused on planning and launching the scale-up in St. Petersburg and Orenburg of the innovations developed in the HIV/AIDS Treatment, Care, and Support (TCS) Collaborative. In St. Petersburg, the scale-up expands from the demonstration site in Krasnogvardeiskiy District to the other 17

districts of St. Petersburg plus three districts of Leningrad Oblast. In Orenburg, the improvement work expands from selected sites in Orenburg City to the whole city, and to three additional “Eastern Zone” cities in Orenburg Oblast: Gai, Orsk, and Novotroitsk.

Before launching the scale-up activities, QAP took care to gain political support and carefully organize the management structure of the scale-up activities. Given that the nature of scale-up is different in St. Petersburg and Orenburg, the management structure and activity schedule were modified to accommodate the needs of each territory. Both St. Petersburg and Orenburg have organized around two collaboratives: one on “Improving the system of detection, referrals, and follow-up for HIV-positives for increasing access to ART” and the other on “Improving coordination for the detection, prevention, and treatment of TB in HIV-positive patients.”

In October 2006, QAP made a presentation on the TCS accomplishments in Krasnogvardeiskiy District to all district health administrators of St. Petersburg and invited them to participate in the scale-up. All 18 districts of St. Petersburg and three districts of Leningrad Oblast decided to participate. District health administrators requested that a separate working meeting on project roll-out be held for each district for deputy heads of district administrations, heads of health departments, head physicians of key facilities, and other departments, including social services, education and youth policy departments, in order to outline the project approach and determine expectations for project participants. The result of these meetings was that teams of 10-15 people were set up for each district including representatives of the City AIDS Center, City TB dispensary, district polyclinics, women’s consultations, TB and infectious disease inpatient wards, STI clinics, district TB dispensaries and hospitals, as well as district social services. Additionally, every district assigned a “coach” from the district health administration to coordinate the work of the QI team in their district. QAP held a training on QI and facilitation skills for coaches in February 2007.

Discussions with the Orenburg Oblast Health Administration led to the official launch of the scale-up phase of the TCS Collaborative in Orenburg on World AIDS Day, December 1, 2006. Subsequent meetings with health and social services administrators and facility heads from the four cities were held in December to introduce the scale-up plans and the improvement collaborative model. In January and February 2007, QAP conducted one-day QA trainings for mid-level health administrators in the four cities, followed by two-day QA trainings in each city for project team members. A project coordinator was selected in each city from the city health administration who will be responsible for coordinating project implementation. In March 2007, QAP staff held a training for 25 project coaches from Orenburg, Orsk, Novotroitsk, and Gai. Coaches were selected from active participants and informal team leaders during the one- and two-day QA trainings. Coaches are expected to lead all team meetings, coordinate the process of adapting the best practices developed in pilots to their local environment, as well as to assist in data collection and prepare reports on team progress.

### **Support for Dissemination of Best Practices in the Management of TB-HIV Co-infection**

In addition to the work of the improvement collaboratives, QAP also continued to support broader activities to disseminate best practices in the management of TB-HIV co-infection services in Russia. In October 2006, QAP sponsored a round table with participation of national level experts and TB and HIV specialists to review the status of Isoniazid Preventive Therapy (IPT) and TB-screening practices implemented by the TCS Collaborative sites, to further elaborate on regional plans of care delivery to patients with TB-HIV co-infection, and to agree on measures to track progress, as well as to share relevant national and international experiences. In total, the round table hosted 39 participants, including three to five representatives from each of the TCS regions and from GFATM Round III and IV recipient regions. Discussions focused on overcoming difficulties in providing IPT to HIV-positive patients, including the legislative basis for provision of treatment and the management of patients on TB and ARV treatment. Based on the discussions, the Federal TB-HIV Center agreed to provide the participants with a data collection tool on IPT, which will allow for monitoring of IPT practices and outcomes in the

participating regions. QAP-supported sites also had the opportunity to provide the Federal TB-HIV Center with feedback on the federal guidelines on TB care delivery to HIV patients.

Following the round table, QAP hosted a technical meeting for key representatives of the regional HIV-TB teams in January 2007. The main objective of the meeting was to finalize a patient chart to monitor HIV-positive patients on TB preventive therapy that was jointly developed by the Director of the Federal TB-HIV Center, MOHSD, and QAP. Participants in the meeting discussed how to fill out the chart and developed an algorithm for data collection to evaluate the effectiveness of TB screening among HIV-positive patients and TB preventive therapy. As a result of the meeting, participants agreed to begin collecting data retrospectively from November 2006.

Additionally, this past year, QAP staff developed a module on organizing improvements in the system of TB-HIV co-infection for a training that WHO implemented for regional TB-HIV coordinators.

## **Spread Collaboratives to Improve Detection, Referrals, and Follow-up for HIV-positive Persons and Increase Access to ART**

### ***St. Petersburg***

The first learning session for the St. Petersburg ART spread collaborative was held in March 2007. The main focus of the meeting was on planning for ART scale-up. Given that a total of 21 districts (18 from St. Petersburg and three from Leningrad Oblast) are involved in the scale-up, QAP split the group and held identical one-day learning sessions for each group, so that each learning session was a manageable size. In total, 133 representatives of district health departments, city and oblast AIDS centers, city polyclinics, women's consultation clinics, youth consultations, STI clinics, drug rehabilitation services, mental dispensaries, and district social services participated in the learning sessions, which were kept to one day duration at the request of St. Petersburg health authorities. During the learning session presentations were given on the project change package based on improvements in Krasnogvardeiskiy District and preliminary results from the operations research on the lack of demand for ART. Participants worked in teams to discuss district workplans, data collection, and monitoring. Working in groups by problem area, teams analyzed the system of care provided to HIV clients at city and district polyclinics and the coordination of care between medical facilities and social services.

The second one-day learning session for the ART spread collaborative was held in June 2007 but this time included all districts in a single meeting. At this session, the six teams that had demonstrated the most progress presented their work to the other teams. Guests were also invited from Orenburg Oblast to present an update on their progress to date. Examples of improvements presented by various districts include:

- Identifying the HIV-positive patients that each polyclinic has in its catchment area has enabled clinics to send reminders to those HIV-positive patients who have fallen out of care.
- Actively inviting patients for medical follow-up and for social support services, resulted in 55% of newly detected patients coming in for care in Krasnoselskiy District. Through March 2007, this district had put a total of 49 patients on ART. In April and May alone, 19 new patients were put on ART.
- Tosnenskiy District in Leningrad Oblast began to allow patients to choose whether their regular follow-up would be at the AIDS Center or at their local polyclinic. Additionally, infectious disease specialists at the polyclinic were allowed to prescribe and distribute ART, bringing care and treatment closer to patients. In the past four months, 50% of newly detected HIV-positive patients have presented for follow-up exams. Of these, 75% percent have gone through the entire battery of tests and appointments required for new patients: seven in the polyclinic alone, five in the AIDS center only, and five jointly in the polyclinic and AIDS Center. Five were found in need of ART, and all five received treatment immediately. As of January 2007, only six people

in the district had been receiving ART; now the total is 25, with an additional eight people to begin ART shortly.

- Krasnogvardeiskiy District (which continues to test and implement new changes) created two case manager positions (one social worker and one psychologist) who began receiving patients in July 2006 at the Youth Drug Rehabilitation Center. They work shifts, including Saturdays, to make their services more available to clients. The number of HIV-positive clients receiving ART in the district has continued to increase, especially among intravenous drug users (IDUs), as seen in Figure 19.

Another presentation at the second learning session addressed comprehensive treatment of HIV by primary care physicians. The learning session discussions pointed to the need to significantly reorganize the work of infectious disease specialists at the primary care level. The project Coordinating Committee will present this topic and suggestions for improvements to the Health Committee of St. Petersburg.

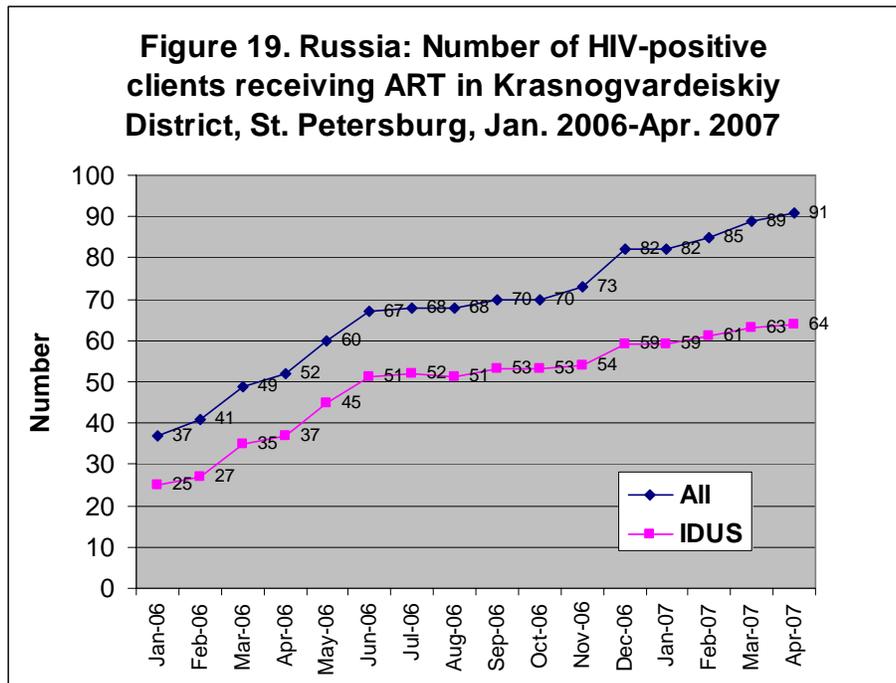
### **Orenburg**

The first learning sessions for the Orenburg ART Spread Collaborative and TB-HIV

Co-infection Collaborative were jointly held in May and June 2007. QAP staff adapted the approach to learning sessions used in St. Petersburg to account for the different organization of municipal and oblast facilities in Orenburg. Additionally, because the cities in Orenburg Oblast are much smaller, teams working on ART and TB-HIV co-infection often have overlapping members. Therefore, QAP decided to hold two learning sessions: one in Orenburg City and one for the three Eastern Zone cities. Each two-day learning session for the combined ART and TB-HIV collaborative teams included both plenary sessions to cover topics common to both collaboratives and topical breakout sessions. In total, the two sessions were attended by 68 people from Orenburg City and 64 from the Eastern Zone cities, including representatives of polyclinics, hospitals, TB dispensaries (adult and pediatric departments), Women’s consultation clinics, Ministry of Health, AIDS Centers, and social services.

### **Voluntary Counseling and Testing (VCT)**

QAP continued to support VCT trainings based on plans that were developed by teams and approved by city health authorities in the four demonstration sites (Krasnogvardeiskiy District in St. Petersburg and sites in Samara, Saratov, and Orenburg Oblasts). Following the VCT trainings, the number of patients receiving voluntary counseling and testing for HIV at the Orenburg Oblast Drug Rehabilitation Hospital has steadily increased, with an average of 450-470 patients now receiving voluntary testing for HIV per month. The main training materials and manuals used in these trainings were developed by the Healthy Russia 2020 Project. In addition to the ART Spread Collaborative, QAP is supporting other activities to extend VCT training throughout the scale-up sites. QAP has worked closely with the Russian Association for the Prevention of Sexually Transmitted Diseases (SANAM) to implement VCT training of trainers and follow-up VCT trainings. SANAM provided master trainers and developed additional



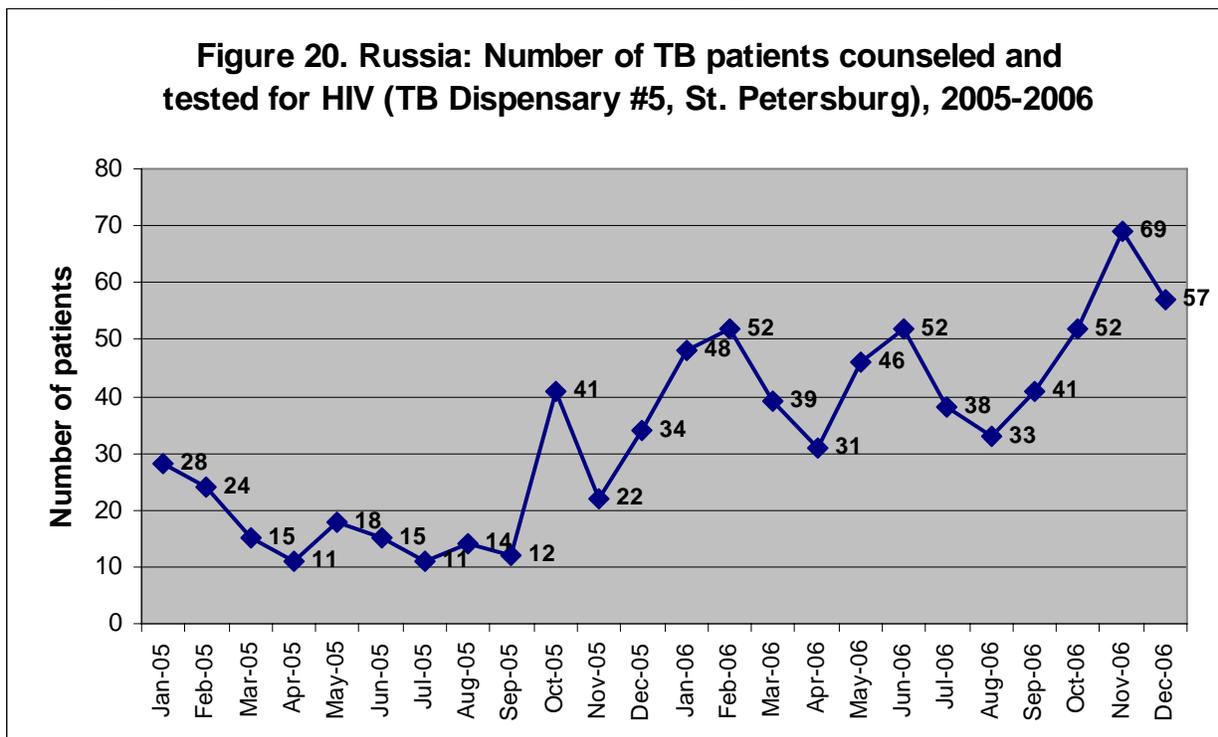
materials, while QAP determined who needed to be trained in each city, developed a schedule, and covered training costs. In St. Petersburg, 23 new VCT trainers were trained in March, and VCT trainings held in Orenburg Oblast in May created 40 new trainers. The new trainers then began conducting VCT trainings for providers in May and June, training 275 providers.

## Spread Collaboratives to Improve Detection, Prevention and Treatment of TB in HIV-positive Patients

### St. Petersburg

The first learning session for the TB-HIV Collaborative was held in March 2007, again as two identical one-day learning sessions on improving treatment for TB-HIV co-infection. Presentations focused on acquainting participants with the clinical and epidemiological aspects of TB-HIV co-infection and the change package based on the prior work in Krasnogvardeiskiy District. In total, 83 people attended the first learning session, including representatives of polyclinics, districts health department, the Research Institute for Tuberculosis, women’s consultation clinics, a school, and TB dispensaries. Teams have begun implementing improvements in their respective districts.

Figure 20 below shows results from Krasnogvardeiskiy District, the original TCS Collaborative site in St. Petersburg, which has continued to increase the number of TB patients counseled and tested for HIV.

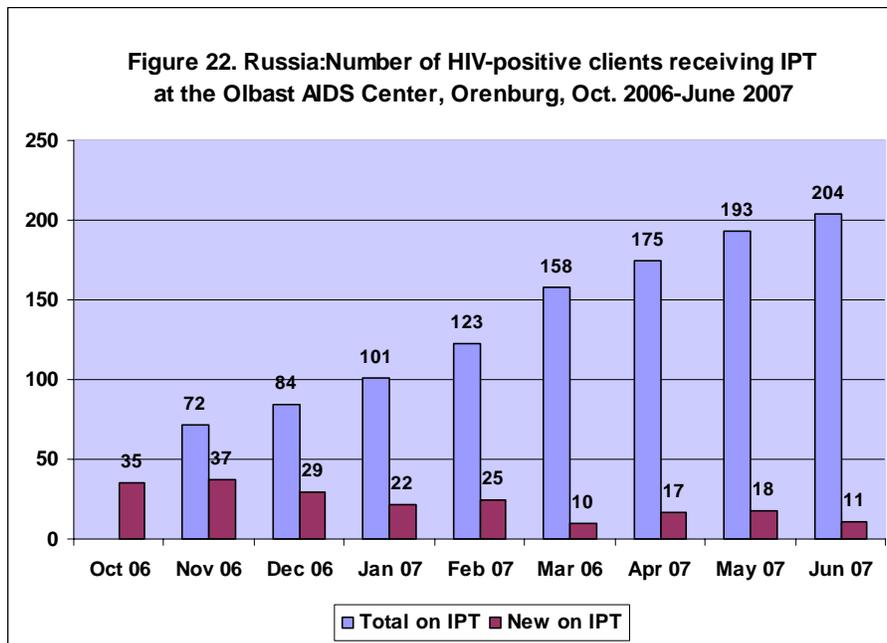
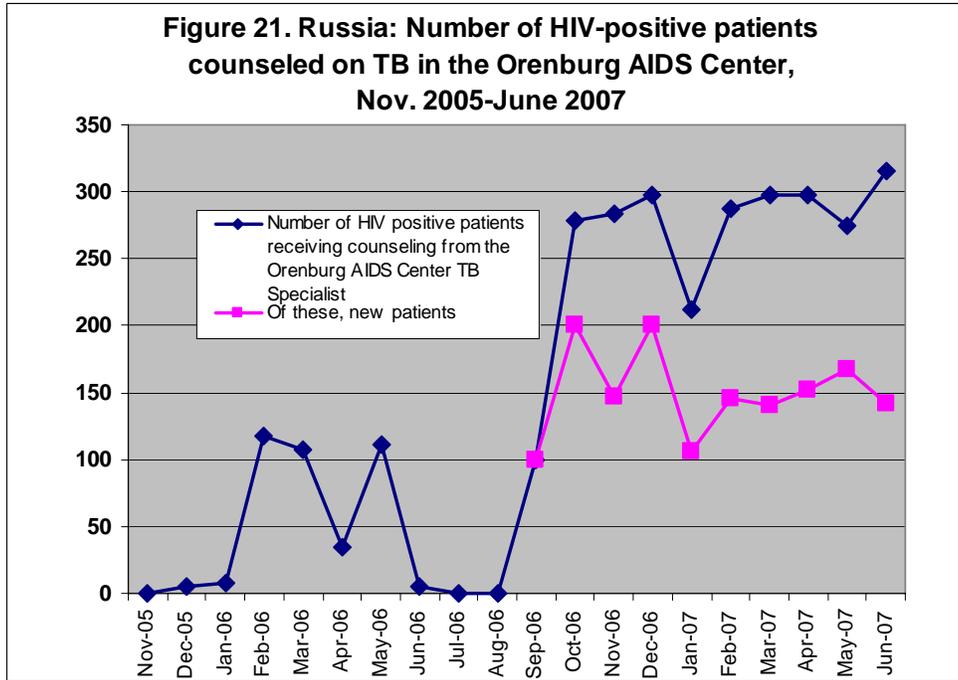


As part of the March 2007 TB-HIV Co-infection learning session in St. Petersburg, QAP staff, the Head Physician of the AIDS Center, the Head Physician of the City TB Dispensary, and the Director of the Federal TB-HIV Center met to agree on an approach to improve TB services for HIV-positives. They agreed that the City TB Hospital will delegate a senior TB Specialist to the AIDS Center to educate and counsel AIDS Center staff, district TB dispensaries, and primary care providers on the organization of TB screening in primary care settings, selection of eligible patients for TB preventive therapy, and follow-up of patients discharged from the TB in-patient wards.

**Orenburg**

The Orenburg Oblast TB Hospital and AIDS Center have initiated regular monitoring of the work of the AIDS Center TB Specialist. The cumulative number of patients on TB prevention therapy is more than 100 patients with only a handful of drop-out cases. Following the technical meeting on TB-HIV in Moscow in January 2007, data on all patients on TB prevention has been incorporated into a unified chart to ensure further comparison of the regiments across the project regions.

Figures 21 and 22 show the continued progress in Orenburg City in counseling HIV-positive patients on TB and starting HIV-positive patients on Isoniazid Preventive Therapy (IPT) for TB.



## **Improving Family Planning Information, Services, and Methods for PLWHA**

Launched in January 2006, this Collaborative involves maternity houses and women's consultation clinics in Krasnogvardeiskiy District, St. Petersburg; Saratov City and Balakovo City, Saratov Oblast; and Togliatti City, Samara Oblast. In September and October 2006, content trainings were held for nurses, midwives, and physicians as well as social workers and psychologists from women's consultation clinics, family planning centers, youth consultation clinics, maternity homes, polyclinics, and a psycho-neurological dispensary. The trainings covered effective counseling and communication on family planning for various clients, evidence-based medical information on family planning methods for HIV-positive women, involvement of men, and STI and HIV prevention measures. QAP uses manuals, training materials, and trainers developed under the USAID-funded Maternal and Child Health Initiative, implemented by the Institute for Family Health.

The first joint learning session was held in February 2007 with 44 participants from all four sites. They shared achievements, discussed data collection, received information on post-delivery and post-abortion contraception, and planned next steps for testing improvements in their sites. One change tested in Balakovo City was to offer all HIV-infected women who had come for an abortion an IUD free of charge. This helped to decrease the number of abortions and increase contraceptive use among HIV-infected women: between March 2006 and March 2007, the rate of abortions decreased from 4% to 1% and IUD use increased from 14% to 18% among a cohort of roughly 400 HIV-infected women. Beginning in February 2007, all HIV-infected women are being offered free hormonal pills in addition to free IUDs during consultations on family planning. To increase referrals, an information session was conducted for registration desk workers of all polyclinics on referral of the patients without documents and referral of women to family planning rooms. Infection disease specialists were instructed on how to refer HIV-positive women for family planning, and social workers from the social protection organization "Semya" will begin referrals for women from amongst the 3,000 families that the organization serves.

## **Social Support to HIV-positive Women in St. Petersburg**

This Collaborative started in February 2007 with a meeting to introduce the project to health and social support authorities from nine districts selected to participate by the Social Support Committee of St. Petersburg. Each district team includes gynecologists, pediatricians, narcologists, obstetricians, psychologists, and social workers. QAP has engaged three NGOs experienced in providing social support to HIV-infected mothers to provide technical support for the Collaborative, to help government agencies develop appropriate social services for HIV-infected mothers: Doctors of the World (DOW), Center for Innovation, and the Korchakovskiy Center. With USAID funding, DOW developed an approach to providing social services to HIV-positive mothers that will serve as the change package for this Collaborative. In March, a one-day training introduced the QI methodology to 68 specialists representing health and social support organizations. In May, a one-day training was held for 34 social workers to increase awareness of HIV-related issues, including tolerance, stigma, and discrimination; confidentiality; psychosocial needs of people with HIV; and the role of the social worker in working with HIV-positive clients. Teams have thus far sought to increase awareness of general medical providers of available services for HIV-positive women with children through informational leaflets and job aids. An informed consent form and forms for reporting and registering HIV-positive clients for follow-up were developed. Social services departments in some districts have assigned specific staff to work with HIV-infected mothers.

## **Improving Narcological Rehabilitation Services for HIV-positive Intravenous Drug Users**

The goal of this new collaborative is to develop a model system of integrated HIV and narcological services that supports ART scale-up, better adherence to ART, improved substance abuse treatment and rehabilitation, and HIV prevention. Following revision of the scope of work with USAID/Russia and meetings to receive buy-in from narcological experts at the city and federal levels, QAP launched the

activity in three districts of St. Petersburg. The National Narcological Scientific Center of the MOHSD and Bekhterev Research Center in St. Petersburg provide clinical content expertise for the project. The first learning session was held in May 2007 in St. Petersburg. As part of the learning session, teams analyzed the current system of narcological services in their districts. Some of the problems identified included low level of VCT and communication skills among providers, lack of coordination with other services, long waiting times for entering rehabilitation services, no coordination with families of patients, and lack of prevention materials. Priorities for improvement include organizing VCT trainings, developing information materials on drug rehabilitation services in St. Petersburg for other providers and patients, designing a referral system between service providers, and developing a common strategy with other services for providing care to HIV-positive drug users.

### **Adaptation of CAREWare Software**

QAP continued to work with the U.S. Health Resources and Services Administration (HRSA) to implement the Russian version of its CAREWare software program in AIDS Centers in St. Petersburg and Orenburg. In October, a HRSA staff member and CAREWare programmer came to Russia to hold a workshop to present the software and provide guidance on installation and utilization. The training was attended by representatives of the AIDS Centers of St. Petersburg and Orenburg Oblast. QAP hired two consultants to enter AIDS Center data into CAREWare to demonstrate its applications using local data. In June 2007, a follow-up workshop was conducted by a consultant to help work out data entry problems, refine the translation of fields, and train Orenburg and St. Petersburg AIDS Center staff to run customized reports. On the final day of the workshop, the participants made a presentation to leaders from the St. Petersburg Health Committee and AIDS Center displaying CAREWare-generated reports. The presentation convinced the AIDS Center Head Physician to support installing and using CAREWare throughout the facility.

### **Operations Research**

QAP subcontracted with the Russian NGO “Stellit” to explore barriers to ART access and causes of low demand for ART among HIV-positive individuals in St. Petersburg and Orenburg. A total of three focus groups involving 26 persons living with HIV/AIDS and 32 interviews with providers were conducted. The target group for this research consists of confirmed HIV-positive patients from high-risk groups reached through snowball sampling. In total, 551 interviews were conducted. Standard interview question topics covered general health seeking behavior and information sources; awareness, perception and understanding of HIV/AIDS and ART; perceived barriers to and reasons for not seeking ART; and experience in various facilities. Data collection was completed in February 2007, and preliminary results were reported at the first learning session of the ART spread collaborative in March. The study found low levels of knowledge and awareness about ART. In St. Petersburg, only 64%, and in Orenburg, 70% of HIV-positives reported being aware of the availability of ART. On average, respondents answered only 3 out of 10 ART questions correctly.

### **Directions for FY08**

QAP will continue to support the two spread Collaboratives in St. Petersburg and in Orenburg next year as teams continue to test and implement changes in ART and TB-HIV care. Three to five learning sessions will be held in St. Petersburg, and two to four learning sessions in Orenburg. As pilot teams in Orenburg and Krasnogvardeiskiy District test and implement new improvements, they will be introduced to the scale-up collaborative teams. QAP will also expand VCT training in St. Petersburg and Orenburg by holding a second master class to improve trainers’ skills, working with teams and trainers to develop training plans, and holding at least two more rounds of training in each region. The Collaborative on improving rehabilitation care will be expanded. Prior to closing out family planning activities in December 2007, a final learning session and several small family planning content trainings will be held in each site.

## Latin America and the Caribbean

### 2.14 Bolivia

#### Background

Under QAP II, the Tuberculosis Case Management computer-based training program (the product is referred to as the “TB CD-ROM”) was translated to Spanish and adapted to the norms of the National TB Control Program in Bolivia. In 2002, 1,000 copies of the Bolivian version of the TB CD-ROM were delivered to the Ministry of Health (MOH), but the Mission funded no further technical assistance. In 2006, QAP learned that the MOH was continuing to use the CD-ROM and was interested in further work with QAP to improve the quality of DOTS services. After consultation with USAID/Bolivia, it was agreed that QAP would work with the bilateral project *Gestión y Calidad en Salud*, managed by John Snow, Inc. (JSI), to implement a TB improvement collaborative with municipal provider networks. As part of the collaborative, the Spanish version of the TB CD-ROM would be used to build staff competency of local non-governmental organizations (NGOs) in TB DOTS, and QAP would conduct an evaluation of the use and effectiveness of the computer-based training (CBT) in this application.

#### Activities and Results

Dr. Jorge Hermida visited Bolivia in October 2006 to develop the work plan for the TB Collaborative. The Collaborative will involve hospitals and health centers providing DOTS services within municipal health services networks being supported through the *Gestión y Calidad en Salud* (GCS) project. Municipal health networks in three areas were selected to participate in the Collaborative: Los Yungas in La Paz Department (six municipalities), El Chapare (two municipalities) in Cochabamba Department, and Santa Cruz (eight municipalities) in Santa Cruz Department. Each municipal network comprises a municipal hospital plus several satellite health centers.

Together with JSI/GCS staff, QAP conducted a rapid assessment of current TB program in Los Yungas, a rural area about five hours drive from La Paz. Thirty-eight public health care facilities operate in the Los Yungas region: two second-level hospitals, 10 ambulatory care health centers, and 26 health posts. A similar number of facilities in the Santa Cruz region will participate in the Collaborative. The MOH has made progress in the implementation of the TB program, but problems have recently become evident in many programmatic areas, such as patient adherence support, drug logistics, staff clinical training, detection of TB suspects, lab quality control, surveillance of multi-drug resistant TB, and management information systems. Of particular concern is the lack of directly observed treatment, since most patients receive drugs for periods ranging from a week to a month.

The objectives of the collaborative are to increase cure rates (currently at 70% in Los Yungas); reduce treatment default rates; increase detection of respiratory suspects (currently at 68%); increase the proportion of cases with directly observed treatment; decrease the rate of discrepancies in laboratory quality control of sputum tests; assess the current status of drug resistance; establish an approach to prevent new multi-drug resistant cases; reduce drug stock-outs; and improve the operation of the management information system.

To attain these objectives, the Collaborative will implement the following strategies:

- Develop and implement evidence-based TB DOTS standards of care and indicators
- Support participating facilities in monitoring, reporting, and analyzing the quality and coverage of TB DOTS components in each municipality in the three intervention regions
- Support quality improvement teams in addressing the main problem areas and developing innovative interventions to overcome operational obstacles to implementing DOTS
- Introduce incentive mechanisms to foster innovative process improvement initiatives
- Strengthen the technical competence of personnel who manage DOTS program components through use of the TB CD-ROM and other tools

- Assess the effectiveness of the CD-ROM in increasing the technical competence of personnel
- Strengthen TB testing capacity in at least one laboratory in each region, including quality control
- Promote community participation and support for TB DOTS through behavior change communication activities.

The Collaborative is a joint effort between QAP and JSI/GCS. GCS will cover all local operational expenses, including local technical assistance for on-site coaching of facility-based QI teams, while QAP will provide overall technical assistance in planning, implementing, and managing the Collaborative. The Collaborative's eventual goal is to demonstrate a set of improvements and innovations that can then be scaled up to more regions and departments in Bolivia.

QAP supported the Collaborative's first learning session in February 2007 in the Department of Santa Cruz. Fifty-six professionals participated, representing six hospitals and 18 health centers, plus eight laboratories, organized in four health care networks that serve eight municipalities: Guarayos, El Puente, El Torno, Saavedra, Mineros, Pailon, Porong, and Urubicha. The following week, 37 professionals participated in the first learning session in Cochabamba; they represented three hospitals, 21 health centers, and three laboratories in the municipal health network of Villa Tunari in El Chapare. During the first week in March, the first learning session was conducted in Los Yungas in the Department of La Paz. This time the facilitators comprised only Bolivian TB experts and GCS staff who learned the methods and tools in the previous two learning sessions. The facilities represented in the three regions reported 420 tuberculosis cases in 2005 and served a population of 330,242 inhabitants.

During the first learning session, participants discussed the tuberculosis control program in their networks, learned how to use standards and indicators to measure TB program performance, learned how to use flowchart diagrams to analyze deficient TB program processes, and improved their knowledge using the TB CD-ROM. Seventeen standards and indicators for measuring the performance of the TB program were discussed and adjusted. Working in groups by municipal health network, participants then practiced with hypothetical data from a case study QAP and GCS/JSI had prepared. Using these indicators, quality improvement teams in the Collaborative will analyze the performance of key processes of their own TB program activities, such as detection of respiratory suspects, identification of TB-positives among them, DOTS treatment, laboratory processes, and others.

The second learning session was held in each region in May 2007. Due to weather-related flight cancellations, Dr. Hermida was unable to participate in person, but delivered his presentations by telephone while his PowerPoint slides were shown to participants. This session was conducted in La Paz on May 16–18 for 13 continuous quality improvement (CQI) teams from Los Yungas region; in Santa Cruz on May 19–21 for 16 CQI teams from this region, and in Cochabamba on May 24–25 for 10 CQI teams from the Villa Tunari region. During the meeting, the CQI teams presented and discussed their indicators of the performance of the TB program at the municipal level, identified deficiencies, and drafted initial rapid improvement interventions. This is the first time ever that the health services and the municipal networks have measured TB indicators locally in order to analyze specific local problems and improve their performance. They also discussed how best to use technical assistance from the USAID-funded GCS and QAP projects. The main areas selected for improvement across CQI teams were how to strengthen DOTS with community support, how to increase detection and exams of respiratory suspects, and how to improve local laboratory support to the TB program.

### **Directions for FY08**

The third learning session in each of the three regions is scheduled for September 3–15, 2007. CQI teams will share run charts showing performance of the TB program through quantitative indicators, as well as the initial results of their rapid improvement activities. QAP and JSI/GCS will publish a report of results of the rapid assessment of TB program activities conducted locally in the three regions and facilities. Local coaches from JSI/GCS, trained by QAP in coaching and CQI, will provide technical assistance to

each CQI team and help share and disseminate their experiences, through visits and email. A fourth learning session is planned for early in 2008, when lessons learned in terms of successful interventions to address operational problems common to many facilities and regions will be discussed among all CQI teams and regional managers in order to identify those that can be spread to other regions or municipalities in Bolivia.

## **2.15 Ecuador**

### **Background**

QAP has supported the Ministry of Health of Ecuador in implementing the Essential Obstetric Care improvement collaborative since August 2003, working in partnership with other technical cooperation agencies, including the United Nations Fund for Population Activities (UNFPA), Family Care International (FCI), Pan American Health Organization (PAHO), and the United Nations Development Program (UNDP). The Collaborative, which began as a demonstration in Tungurahua Province, has since spread its clinical quality improvement training and interventions to 11 of the country's 22 provinces, linking the Collaborative's activities to the CQI program initiated in collaboration with the national Free Maternity Program. (Essential obstetric care training and orientation activities have been conducted in another two provinces, but these have not fully implemented CQI processes yet.) In April 2006, the Ecuador MOH convened a national meeting to officially launch its Maternal Mortality Reduction Plan and policy documents for implementing specific strategies in the entire country, such as active management of the third stage of labor and continuous quality improvement of EOC. A primary operational strategy for the maternal mortality reduction plan is the strengthening of provincial EOC systems, including continuous quality improvement of EOC services, local clinical EOC training mechanisms, and cultural adaptation of delivery care. The MOH also published and distributed three additional official documents that drew heavily on the experiences of the QAP-supported EOC Collaborative: the Manual of Standards and Indicators to improve the Quality of EOC services, the Manual for Epidemiological Surveillance of Maternal Mortality, and the Addendum to the National Norms to include active management of the third stage of labor.

### **Activities and Results by Major Program Area**

#### **Expand Continuous Quality Improvement of Obstetric and Newborn Care through the EOC Collaborative**

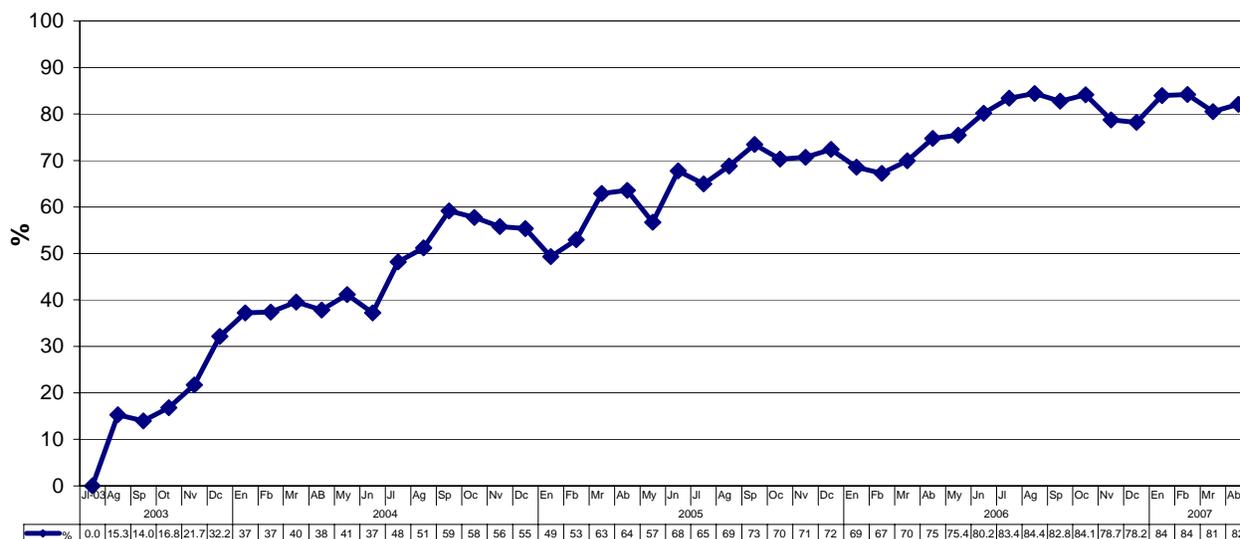
By June 2006, the EOC Collaborative covered 11 of Ecuador's 22 provinces. Some 80–90 CQI teams are now operating in 80 of the country's 168 districts. The last national meeting of teams participating in the Collaborative took place in August 2005. Technical support to facility CQI teams has been assumed by provincial EOC CQI coordinators within the provincial health directorates. These MOH staff are responsible for organizing clinical training mechanisms to provide in-service training in EOC and for monitoring quality indicators for all main facilities in the province. Provincial CQI coordinators now meet quarterly in Quito with two members of the MOH's Maternal Health Program to review quality indicators as well as improvement activities conducted by the CQI teams. QAP staff participate in the quarterly meetings to provide technical support. QAP staff also provide some technical support for learning sessions in provinces that are newer to CQI (such as Esmeraldas, Manabí, Chimborazo, Bolívar, and Morona Santiago). In early 2006 QAP trained a cadre of four Ob-Gyns to work as national trainers of provincial trainers; this cadre provided clinical EOC training to 134 providers (physicians, nurses, and midwives) in Bolivar province and to 281 providers in Chimborazo and Manabí provinces. The costs of these expanded trainings were funded by UNFPA.

QAP's technical team has also worked during the past year with the School of Professional Midwives of the Central University of Ecuador to train 12 faculty and help develop curriculum for training midwifery

students in essential obstetric clinical care. QAP provided support to these faculty when they began clinical EOC training for 72 undergraduate students in April.

Figure 23 presents the cumulative results from quality monitoring in 11 provinces for the practice of active management of the third stage of labor (AMTSL). While most of the other care processes tracked in the Collaborative have stabilized at high rates of performance (80–90% compliance), the practice of AMTSL has still shown room for improvement up to this year, when levels of compliance approximately equal those of other quality indicators. The reporting facilities accounted for almost 30,000 births in 2005.

**Figure 23. Ecuador: Oxytocin use as part of AMSTL in vaginal deliveries, in compliance with MOH quality standards, 89 facilities reporting, July 2003 - Apr 2007**



### Management of Obstetrical Complications in Six Provincial Hospitals

While the EOC Collaborative achieved important results with respect to raising the quality of routine delivery and immediate newborn care in Ecuador and to spreading the practice of AMTSL, improving the management of obstetrical complications remains a problem area for provincial hospitals. With the transition of the EOC Collaborative to an institutionalized CQI function within the provincial health system, QAP and the Ministry of Health decided that a new improvement collaborative was needed to address the difficult challenges posed by the management of obstetrical complications—principally postpartum hemorrhage, eclampsia, and sepsis. Because 69% of maternal deaths occur in hospitals, the new collaborative was designed to develop best practices for standardizing care for obstetrical and newborn complications, especially in large public hospitals where most births are routinely attended by medical interns. The MOH selected six provincial hospitals to participate in this demonstration<sup>1</sup> collaborative: Ambato, Riobamba, Latacunga, El Oro, Maternidad de Santa Rosa, and Esmeraldas. Together, these hospitals accounted for over 17,000 deliveries in 2005. The new Collaborative on Obstetrical Complications started in July 2006 with an orientation meeting for hospital directors and Ob-Gyn chiefs

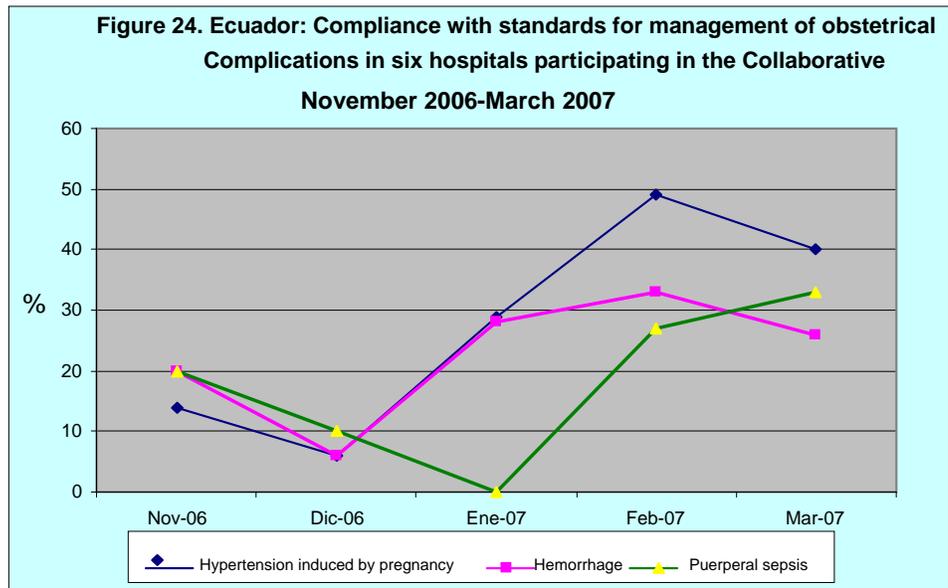
<sup>1</sup> A “demonstration” collaborative is a first iteration of an improvement collaborative that addresses a health care topic; a “spread” collaborative is the second iteration, enabling scale-up of health care practices proven successful during the demonstration phase.

from the six hospitals at which the indicators proposed for measurement of compliance with standards for hemorrhage, eclampsia, and sepsis were discussed.

The first learning session with teams from the six hospitals was held in November 2006. The teams learned how a collaborative functions and how to measure compliance with case management standards for the three targeted conditions. The teams began discussing changes they could implement in their respective hospitals to improve the quality of care for obstetric and newborn complications. Subsequent to the learning session, QAP and MOH staff made coaching visits to each hospital.

The second learning session was held in January 2007 with teams from all six hospitals presenting their results from monitoring of indicators, displaying flowcharts of care processes in their facilities, and discussing plans for improvement to be implemented in the next period. QAP and MOH staff then made coaching visits to each hospital. In March a new email forum was started among the six hospital teams, facilitating discussions of the changes each was introducing and the results. Figure 24 shows results from the Collaborative's first four months.

The Collaborative's third learning session was held in April. Each hospital presented its monitoring results, typical problems being experienced, and innovations being implemented. Process improvement methods and action plans for the next period were reviewed. QAP and MOH staff made coaching visits to each hospital in May and June.



Reductions in maternal deaths in hospitals are beginning to appear in several hospitals participating in this Collaborative. The MOH is clearly motivated and has expressed a strong interest to continue monitoring compliance with obstetrical complications standards and to eventually expand this Collaborative's interventions to the remaining provincial hospitals in the country.

### Spread Collaborative on Active Management of the Third Stage of Labor

After more than a year of planning, in May 2007, the MOH and QAP launched a new spread collaborative to extend the practice of AMTSL to the rest of the country (the other 11 provinces) where it had not been established through the EOC Collaborative. Based on the lessons learned during the EOC Collaborative, the MOH and QAP planned an accelerated scale-up of AMTSL to the rest of Ecuador: 58 additional hospitals in the 11 remaining provinces not yet engaged in CQI activities. These hospitals attended over 88,000 births in 2005. The MOH and QAP expect to introduce AMTSL in these provinces during the four months of May–August 2007.

During the past year, QAP and the MOH developed materials to support the spread, including a package of scientific evidence for AMTSL and a short document summarizing the lessons learned about introducing AMTSL by the CQI teams in the first phase of the EOC Collaborative. The Prevention of

Post-Partum Hemorrhage Initiative (POPPHI) has supplied some 400 copies of its AMTSL poster and CD-ROM with video instruction to QAP for dissemination in Ecuador.

The launch of the AMTSL Collaborative began with a one-day meeting in Quito in May for 36 participants; it brought together the two lead obstetricians from each of Ecuador's seven main regional hospitals and a representative from each MOH provincial directorate to discuss the recently approved national guideline for AMTSL, an AMTSL training module, and the proposed strategy for scaling up AMTSL to their neighboring provincial and county hospitals and for measuring compliance with AMTSL standards. During June, QAP and MOH staff began conducting a one-day workshop in each regional hospital; it was attended by selected doctors and professional midwives from nearby provincial and county hospitals, all of them staff who had been designated as the AMTSL leaders for their respective facilities. Workshops were held in Loja, Portoviejo, Guayaquil (2), Cuenca, and Quito (2) with 396 participants. The workshops covered the same topics as the previous national meeting, plus practical training on the three elements of AMTSL. In the upcoming months the participants from these earlier regional workshops will serve as the "AMSTL team." They will replicate the AMTSL package within their respective hospitals, thus covering every hospital in Ecuador and training an additional approximately 2000 providers. The lead obstetricians and provincial EOC coordinator will provide technical assistance to these hospitals on clinical aspects as well as on monitoring, reporting, and continuous improvement. QAP and the central MOH EOC team will oversee the process and provide special assistance as needed.

## **Operations Research**

### ***Validity of Self-measurement of Compliance with Standards***

Data collection and data entry and cleaning were completed for this study. Approximately 1900 clinical records from 12 hospitals were reviewed both by CQI teams and external evaluators. An SPSS database is now ready for analysis, and a first draft of the report is expected in September 2007.

### ***Impact of Cultural Adaptation of Delivery Care***

The baseline data collection for the four intervention and four control hospitals was completed. Approximately 345 women who delivered in these hospitals during December 2006–February 2007 were interviewed at their homes regarding their satisfaction with their delivery experience. QAP also obtained copies of 3170 birth certificates of every baby born within the eight counties from the National Statistics and Census Bureau (INEC) for January–June 2007. These data will enable us to establish a baseline frequency of institutional delivery and utilization of health services.

The first cultural adaptation workshop with CQI teams from the intervention hospitals was held in the city of Riobamba in Chimborazo Province in April 2007. Some 80 persons participated in the workshop, including local government representatives, clients, traditional midwives, and health providers. Through role-playing and discussion, participants from hospitals and communities depicted how delivery care was provided at the hospital and in the community, identifying the differences in how different participants viewed optimal delivery care. Hospital staff and traditional midwives came to understand and respect each other's practices. The participants defined the main gaps between delivery care provided at the hospital and that provided in the community. The final version of the HACAP Manual (Manual on the Humanization and Cultural Adaptation of Delivery Care), published in May 2007 by the MOH, QAP and FCI, is being used to guide the three subsequent cultural adaptation workshops, all being held in Chimborazo. The second workshop was held in June 2007, when more than 70 people linked to the four intervention hospitals participated in a discussion of ways to start rapid cycles to change the way hospitals provide delivery care and how to engage traditional midwives in helping to detect obstetric complications and refer women with such complications to the hospital. The main improvement areas on which the hospitals will concentrate, with support from the communities are: interpersonal relations between providers and clients, integrating traditional midwives into the local health care system, integrating the

family and traditional midwives into the hospital delivery care process, and improving the way information is provided to the families of women delivering at the hospital.

The MOH's Intercultural Health Division is fully participating in this process. UNFPA is interested and participating, and recently requested QAP's assistance in applying the HACAP methodology in the northern city of Otavalo, where UNFPA supports reproductive health care.

### **Management of the LAC EOC Collaborative Website**

QAP's team in Quito continued to manage the Mortalidad Materna website and technical discussion forums by email during the past year. In January 2007, the website went down after being attacked by hackers. The website is currently being re-designed and is expected to be operational again by September. The 9th email technical forum discussion, addressing teams' experience in assuring access to blood products, was concluded in November 2006. In March 2007, a new forum was launched among the teams participating in the demonstration collaborative on the management of obstetrical and newborn complications. Two forum rounds were conducted this year: one on management of obstetrical hemorrhage and another on the use of magnesium sulfate.

### **Directions for FY08**

The recently appointed authorities of the MOH, including the Minister and the two Vice-Ministers, have expressed an interest in expanding the EOC Collaborative and the process for institutionalizing its interventions to the other 11 provinces, covering the entire country. The Minister of Health recently launched a national campaign to reduce neonatal mortality, and QAP and UNFPA are coordinating the potential inclusion of an improvement collaborative approach to ensure compliance with evidence-based neonatal care interventions. MOH authorities have also expressed interest in expanding the collaborative on management of obstetric complications to every provincial hospital in Ecuador.

## **2.16 Honduras**

### **Background**

QAP began assistance to the Secretariat of Health of Honduras (SSH) in 1997, designing and implementing a QA system to improve the quality of maternal and child health services in a demonstration health region (Comayagua). QAP assistance expanded in 2003 to a second health region, Copán, which SSH had selected to participate in the regional EOC Improvement Collaborative. At the same time, QAP continued to support the Secretariat to develop continuous quality improvement policies and structures at the central and regional levels. In late 2004, SSH changed its organizational structure from eight health regions to 20 health departmental regions and requested that QAP support the scale-up of the CQI program in the five USAID-assisted departmental regions: Copán, Comayagua, La Paz, Intibucá, and Lempira. USAID and the SSH also requested that QAP organize and implement a CQI system within the municipal health networks that are being put in place in selected municipalities in Copán, Lempira, and Comayagua as part of a health sector reform decentralization project. In January 2006, USAID expanded QAP's scope of work to encompass technical support for health sector reform, family planning, and child health and to incorporate quality improvement activities in these components of USAID's health sector assistance. During the past year, the SSH National QA Program began its own expansion of CQI activities to six new regions, bringing to 11 the number of departmental regions where CQI activities are underway.

### **Activities and Results by Major Program Area**

#### **QA Institutionalization**

QAP works closely with the SSH National QA Department (NQAD) and with the Quality Units at the regional SSH offices in the five USAID-supported departmental regions, providing technical support for

activities to support CQI at the facility level, the development of standards and guidelines, and quality monitoring activities. In August 2006, NQAD, supported by USAID/QAP, PAHO, and the World Bank-financed Health Reform Project, held the first National QA Conference, with attendance of more than 100 delegates from QI teams, facilities, universities, and other health care institutions. Facility teams made presentations on their work in panels that addressed topics such as QA and health sector reform, client satisfaction, referral systems, reducing hospital-acquired infections, improving clinical care of the newborn, using incentives to improve the quality of care through management agreements, and increasing quality of care through NGO contracts.

This year, QAP provided technical support to NQAD to expand the CQI program to six new departmental regions: Colón, Atlántida, Yoro, Olancho, and Santa Bárbara with USAID funding, and El Paraíso with funding from the Swedish International Development Agency. CQI activities were launched in three of these regions in October and in the other three in 2007. CQI activities are now being implemented in over half of the country's departmental regions.



Regional quality units provide oversight and technical support to CQI teams working at hospitals, maternities, and health centers in each region. In all, 70 SSH institutional supervisors in the five QAP-supported departmental regions have been trained in CQI and provide technical assistance to CQI teams working to improve the quality of maternal and child health (MCH) services. QAP provides guidance and support for these personnel in institutionalizing CQI processes.

QAP also continued to support NQAD and regional QA units in monitoring the implementation of management agreements with the five USAID-assisted departmental hospitals. The regional SSH offices performed the third and fourth rounds of external monitoring of quality indicators of these hospitals' management agreements in January and April 2007. Table 5 shows the composite scores for compliance with standards monitored through these agreements. Based on the quality of care ratings earned in these assessments and according to the incentive scheme outlined in the management agreements (which set expectations for improving quality of maternal and child care), USAID has channeled US\$ 75,438 to support quality improvement activities in these hospitals. The funds were disbursed to the hospitals

**Table 5. Honduras: Results of external quality monitoring, June 2006-April 2007**

Departmental Hospital	Percentage of Compliance with Quality Indicators			
	1 <sup>st</sup> Monitoring (June 2006)	2 <sup>nd</sup> Monitoring (Oct. 2006)	3 <sup>rd</sup> Monitoring (Jan. 2007)	4 <sup>th</sup> Monitoring (Apr. 2007)
Comayagua	64	70	91	76
Lempira	68	74	68	66
Intibucá	76	95	96	99
Copán	79	60	70	75
La Paz	68	95	80	99

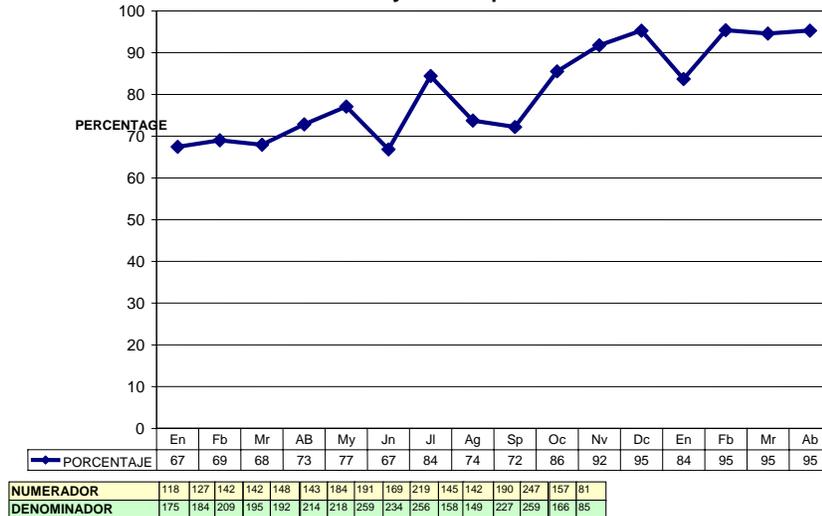
through QAP, and the hospitals spent most of these funds on implementing improvement plans approved by regional SSH offices. Investments included buying minor equipment, small infrastructure repairs, training expenses, supplies, small furniture, meetings with community personnel, etc. Based on the success of these agreements, the regional SSH offices developed new ones with the nine maternal clinics in the five departmental regions.

### Improve Quality of Care for Maternal and Child Health Services in Five Departmental Health Regions

The EOC Collaborative expanded its scope this year after the SSH requested QAP support in adding a stronger newborn care component. QAP consultants assisted in developing updated clinical standards and guidelines for essential newborn care and for the management of neonatal complications, as well as the development of a national essential obstetric and newborn care (EONC) strategy with additional newborn care quality monitoring indicators. QAP also supported clinical training of health workers in EONC in the five USAID-assisted departmental hospitals. In addition to the new focus on newborn care, work was begun on cultural adaptation of delivery care and the introduction of strategies for community mobilization to increase demand for and access to EONC.

Activities to strengthen obstetric care also continued, with renewed emphasis on improving the management of obstetric complications. The figures below show some progress in standardizing the use of the partograph and in improving the case management of sepsis in the five hospitals directly assisted by QAP. Correct use of oxytocin to prevent postpartum hemorrhage remained high throughout the year, averaging 97% of vaginal births. Postpartum monitoring in the first two hours and at discharge also averaged over 90% of deliveries during the period. The monthly monitoring of quality standards was affected during the last year by health worker strikes, one in the first half of the year and one in the last two months of the project year.

**Figure 25. Honduras: Percentage of women in labor who were monitored using the partograph and for whom the partograph was correctly completed January 2006 - April 2007**



**Figure 26. Honduras: Management of sepsis according to standards in pregnant women (pre- and postpartum), January 2006 - April 2007**



### Support for the Health Sector Reform Program

QAP’s health reform advisor provided support to the Minister and Vice Minister of Health for the development of the Health Sector Reform agenda and National Health Policies for the period 2006-10. The most important results were the creation of two key committees to support the reform process: a committee for political support to the reform and a technical committee for the development, discussion, and analysis of key reform plans and projects. Both committees are discussing the proposed national plan for decentralization and are designing operational plans and instruments to support its implementation. QAP reform consultants provided technical assistance to the departmental regions for the expansion of coverage through contracts between SSH and decentralized providers in eight newly added municipalities in the USAID focus regions and in 22 municipalities in other regions. The focus regions were also supported in fulfilling their oversight responsibilities for the monitoring of services provided through these contracts. QAP supported an assessment of the Unit for Extension of Coverage (UECF), which will soon assume responsibility for management of investment funds in all health regions, and developed a work plan for strengthening the Unit.

### Provide Technical Support for Family Planning

QAP’s local family planning advisor provided support to SSH in implementing and monitoring the Contraceptive Information System in the 20 departmental health regions and supported the meeting of the Contraceptive Security Committee (DAIA). Support was provided for redesigning the SSH family planning strategy to strengthen the orientation toward improving the quality of family planning services and strengthening monitoring processes. Ten training workshops on the planning and logistics component of the new strategy were held for 250 family planning facilitators in all 20 regions and for inter-municipal networks. Assistance was provided to the regions to redesign their family planning implementation plans and monitoring processes.

### Directions for FY08

QAP will support NQAD in FY08 in the continued development of national policies related to quality of care, in the implementation of national QA conferences, in the expansion of CQI activities to additional

departmental health regions, and in monitoring ongoing quality improvement efforts in 11 of the 20 regions. QAP will provide support to UECF in developing and monitoring management agreements with hospitals and maternity clinics. QAP will also support the implementation of quality systems in eight new decentralized providers in the USAID focus regions. Workshops to upgrade technical skills and share experiences in quality improvement in EONC will be held with teams from the five hospitals and nine maternity clinics in the USAID focus regions, including training in the management of obstetric and newborn complications and emergencies. Support will be provided to SSH for the design of a monitoring system for the family planning strategy in hospitals.

## **2.17 Nicaragua**

### **Background**

QAP has provided technical support to Nicaragua's Ministry of Health (MINSAs) since 1999 in the implementation of quality improvement programs focused on maternal and child health services. From initial work in four municipalities in two local integrated health systems (SILAIS), QAP is now supporting quality assurance activities in 15 of the country's 17 SILAIS: Río San Juan, Jinotega, Matagalpa, Granada, Boaco, Chontales, Chinandega, Estelí, South Atlantic Autonomous Region (RAAS), North Atlantic Autonomous Region (RAAN), Nueva Segovia, Madriz, Masaya, León, and most recently, Rivas. In 2005, MINSAs requested QAP assistance the new clinical area of HIV/AIDS: QAP is assisting MINSAs to define quality standards and integrate voluntary counseling and testing for HIV within the family planning program, emphasizing prevention of mother-to-child transmission of HIV. QAP assistance is closely coordinated with other external cooperation agencies active in the health sector in Nicaragua, including UNICEF, PAHO, CARE, Salud sin Límites, the Global Fund, and DELIVER.

In addition to support to MINSAs, QAP provided technical assistance in quality assurance to Profamilia, the leading private sector family planning provider, from 2000–2005, and since 2004 to private sector health care delivery organizations (*Empresas Médicas Previsionales*) that deliver Social Security-financed health services. In 2004, QAP expanded its technical assistance to serve the delegations of the Ministry of the Family (MIFAMILIA) in all Nicaraguan departments to improve client satisfaction and compliance with service standards. In May 2005, QAP began technical support in quality assurance to the nongovernmental organization, ProMujer, part of the Nicasalud Federation.

### **Activities and Results by Major Program Area**

#### **Pediatric Hospital Improvement Collaborative**

Since its inception in 2003, the Pediatric Hospital Improvement Collaborative has expanded from six SILAIS hospitals (Bluefields, Chinandega, Estelí, Jinotega, Madriz, and Matagalpa) to involve 17 national and SILAIS hospitals, 19 health centers, and one *Empresa Médica Previsional*, AMOCSA, which operates five clinics in Chinandega. The three latest hospitals to join the Collaborative include the national referral hospital, Bertha Calderón, and the Río San Juan and Rivas SILAIS hospitals. Health centers with beds have been incorporated into the Collaborative to extend care for severely ill children in remote areas where referral to hospitals is difficult.

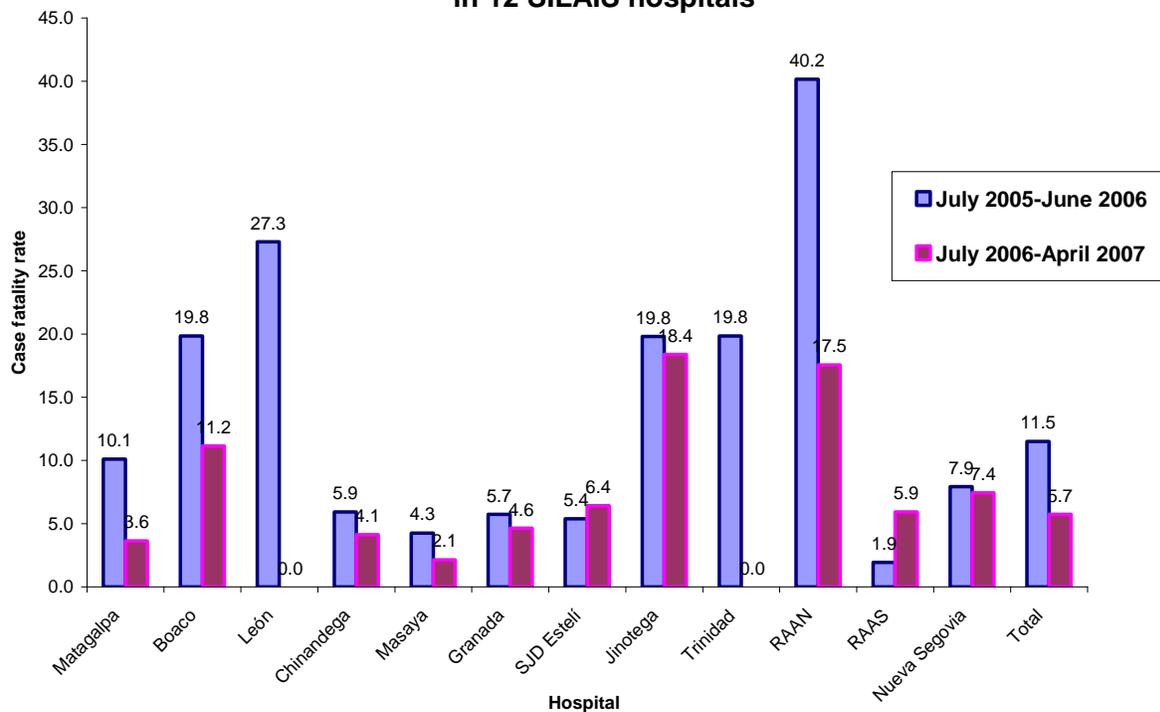
In the past year, QAP supported MINSAs in implementing several strategies for strengthening physician and nurse competency in pediatric care. Clinical training centers were established in hospitals in Estelí, Chinandega, and Bluefields to provide a structure for staff from surrounding health centers to undertake a 10–15 day rotation in the care of hospitalized children and emergency care: 70 physicians and nurses in the three SILAIS completed rotations this year. Clinical updates were provided to 406 staff in the use of low osmolarity ORS and zinc sulfate for diarrhea case management, neonatal resuscitation, management of the severely malnourished child, rationale use of antiseptics and disinfectants, integrated management of the hospitalized child, and breastfeeding. QAP also supported “Prize for Knowledge” contests with staff from Matagalpa, Masaya, Juigalpa, León, Rivas, La Trinidad in Estelí, Río San Juan, and the three

pediatric care hospitals in Managua. One learning session was held with teams from seven SILAIS to share experiences in improving pediatric care. Nursing staff from one Estelí hospital visited Chinandega Hospital to share their experiences in implementing clinical rotations for nursing personnel.

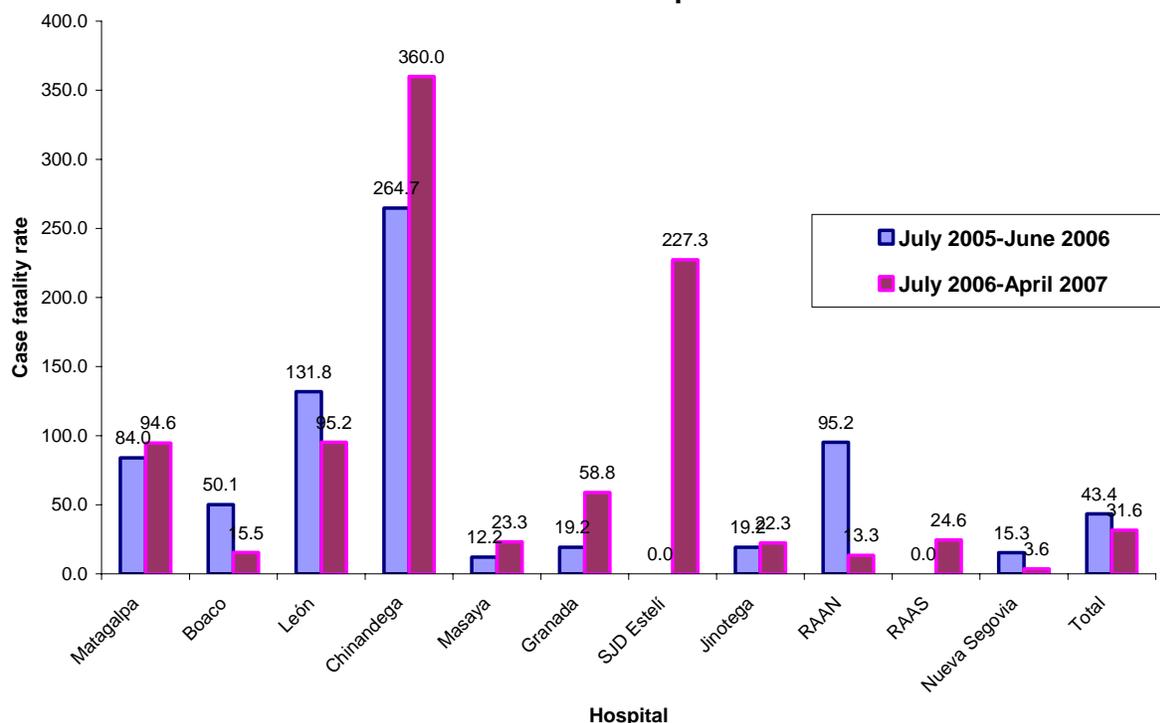
In cooperation with UNICEF and CARE, QAP also supported MINSA to design, field test, and implement in 15 Collaborative hospitals a software program to facilitate analysis of perinatal and child mortality. QAP is working with MINSA, UNICEF, PAHO, and CARE to update the guide for hospital IMCI (the Integrated Management of Childhood Illness algorithm) that QAP had helped develop in 2004, based on the WHO Referral Care Manual. The revised guide will incorporate HIV/AIDS and updated protocols for management of diarrhea and dengue. QAP is also providing technical support for the development of a new ETAT course to be rolled out in the SILAIS later in 2007.

Case fatality rates, monitored by hospitals participating in the Collaborative, showed mixed results this year. While the average case fatality rate for pneumonia in children under five was halved (see Figure 27), only a small decline was seen in case fatality for sepsis (Figure 28), where rates increased in some hospitals. Overall, no change was seen in average case fatality for asphyxia, which remained at 113 deaths per 1000 cases; a slight increase was seen in case fatality for neonatal respiratory distress, from 228 deaths per 1000 cases to 255 deaths. Disruptions in quality improvement and monitoring activities may help to explain the results.

**Figure 27. Nicaragua: Trends in case fatality for pneumonia in 12 SILAIS hospitals**



**Figure 28. Nicaragua: Trends in case fatality rates for sepsis in 11 SILAIS hospitales**



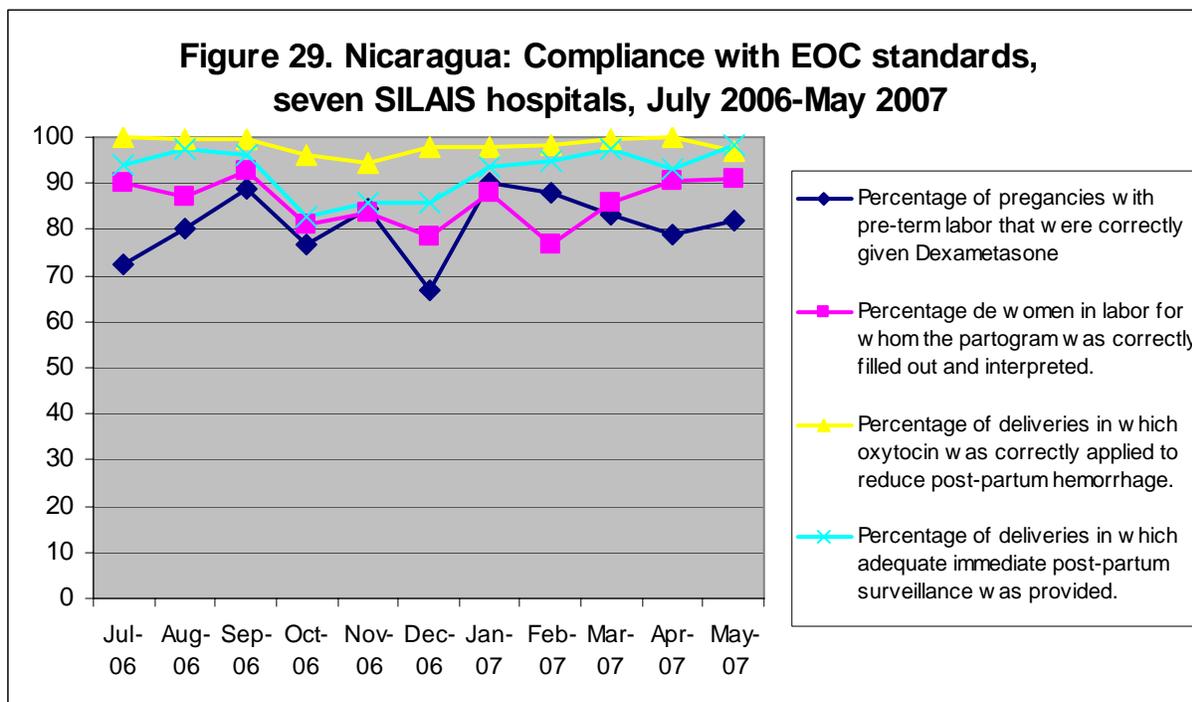
### Quality Improvement in Essential Obstetric and Newborn Care

QAP staff worked closely with the MINSAs *Programa de Atención Integral de la Mujer y Adolescencia* (AIMA) in 2006 to revise and update clinical guidelines related to management of obstetric complications. These guidelines were reviewed by teams from every SILAIS in regional workshops and formally published by the MINSAs Directorate of Regulation in December 2006. QAP also developed and field-tested a pocket job aid, “Protocols for the Care of Obstetrical Complications,” based on the new national guidelines. In the first half of 2007, QAP provided support to MINSAs to develop monitoring checklists, job aids, and dissemination strategies to support the roll-out of the updated guidelines for the management of obstetric complications. QAP provided technical support to the MINSAs Training Department to design a workshop using the problem-based learning methodology to disseminate the new guidelines: 27 national facilitators from MINSAs and the Nicaraguan Society for Obstetrics and Gynecology were trained on how to use the problem-based learning approach to orient providers to new clinical guidelines and to use checklists to measure compliance with the standards through a medical record review of patients who experienced obstetrical complications. QAP directly supported the training of 379 staff from hospitals and health centers in eight SILAIS (León, RAAN, Chinandega, Chontales, Nueva Segovia, Boaco, Estelí, and Madriz).

The change of national authorities within MINSAs in late 2006 and the demotion of all of former SILAIS and hospital directors disrupted the SILAIS-level quality monitoring activities for maternal and newborn care and the work of CQI teams. While many hospitals and health centers stopped monitoring quality indicators, seven SILAIS hospitals continued to report indicators and demonstrate a continued high level of EOC performance (Figure 29). Anecdotal evidence that the break in CQI activities was associated with an increase in maternal and newborn deaths prompted the new MINSAs authorities to order the resumption of monitoring of quality indicators in the second quarter of 2007. Despite the change in administration,

Rivas SILAIS has requested QAP assistance in improving EOC services, bringing to 15 the number of SILAIS (out of 17 countrywide) participating in the EOC Collaborative.

QAP also worked with providers in 12 municipalities of six SILAIS (Siuna and Waspan in RAAN; Kukrahill and Laguna de Perlas in RAAS; San Lorenzo and Camoapa in Boaco; La Dalia and Waslala in Matagalpa; Villa Nueva and Corinto in Chinandega; and Quilalí and Wiwili in Nueva Segovía) to develop an approach for making institutional delivery care more culturally acceptable: The process involves discussing cultural differences and expectations in a series of encounters with community members and traditional birth attendants. QAP is working with UNICEF, CARE, and the NGO Salud Sin Límites to support MINSA in adapting to Nicaragua the approach that QAP, the MOH, and Family Care International developed in Ecuador.



### Quality Monitoring and Improvement in the 24 Delegations of MIFAMILIA

QAP assistance to MIFAMILIA for the development of its quality assurance program concluded in October 2006. During the first quarter of Year Five, QAP worked with MIFAMILIA staff at the central level to finalize tools for its System for Quality Control and Assurance and to conduct a workshop with staff from all of MIFAMILIA’s 24 territorial delegations to review the technical guidelines and tools for quality monitoring and improvement.

### Organization of High-quality HIV/AIDS Services and Prevention of Mother-to-Child Transmission of HIV

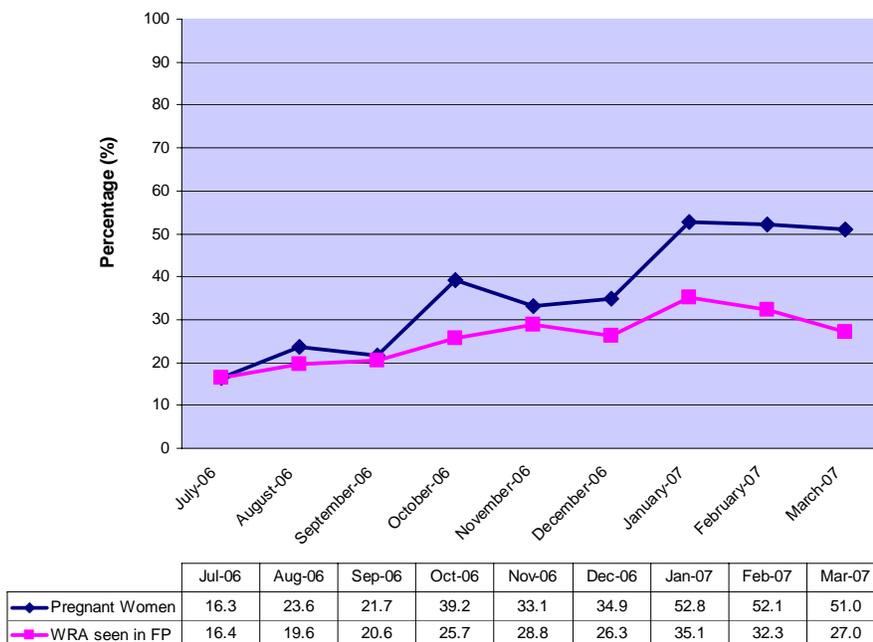
QAP supported MINSA this year in expanding HIV/AIDS services with a quality focus in 10 SILAIS: Rivas, Chinandega, Madriz, Masaya, Estelí (two hospitals), RAAN, RAAS, Nueva Segovia, León, and Río San Juan. QAP provided assistance in the organization of care and treatment for persons with sexually transmitted infections (STIs) and HIV/AIDS, implementation of services for the prevention of mother-to-child transmission of HIV (PMTCT), integration of family planning and STI-HIV/AIDS counseling, the creation of a laboratory network for HIV testing, workshops with providers to reduce stigma and discrimination, and decentralization of antiretroviral therapy (ART).

QAP supported the definition of functions and responsibilities for HIV/AIDS services at each level of care as well as corresponding standards and quality indicators. At the SILAIS hospital level, QAP helped to create multi-disciplinary teams that are responsible for organizing in-service training, for counseling and testing services and care of persons with HIV, and for monitoring quality indicators. QAP supported MINSA and SILAIS staff in presenting regional training workshops on integration of family planning and STI-HIV counseling for 290 personnel from the 10 SILAIS. It also worked with the local association of persons living with HIV/AIDS, ASONVHISIDA, to design and implement workshops on reducing stigma and discrimination towards persons with HIV/AIDS in 11 hospitals for 225 staff, including physicians, nurses, psychologists, social workers, and support personnel.

Together with PAHO, UNICEF, the Global Fund, and DELIVER, QAP assisted MINSA in developing a methodology for programming supply and medicine needs for ART and treatment of opportunistic infections. The algorithm for HIV testing developed last year was rolled out in 12 hospitals (including the national referral hospital, Bertha Calderón) and 77 health centers through training of 133 laboratory technicians and managers. QAP also trained staff at Profamilia in the use of the HIV testing algorithm and processing of rapid HIV tests in the fall of 2006 (before cessation of USAID assistance to Profamilia). A bar coding system for HIV test samples, designed and tested last year, was implemented with QAP support in five SILAIS this year.

Due to the changeover in national MINSA and SILAIS hospital directors, quality monitoring activities were suspended for several months in many facilities. Data are available from only eight SILAIS for the period July 2006–March 2007 and for RAAS and RAAN from January–March 2007. Figure 30 shows the increasing trend in HIV testing among women counseled. Table 6 presents the average performance achieved on each quality indicator during the period.

Figure 30. Nicaragua: Percentage of pregnant women and women of reproductive age seen who agreed to be tested for HIV  
Pooled data from eight SILAIS. July 2006 - March 2007



**Table 6. Nicaragua: Integration of family planning and HIV/AIDS counseling and testing. Average performance for the period July 2006-March 2007**

Indicator	Num/Denom	%
Pregnant women attended in prenatal care who were counseled on HIV/AIDS	6027 / 8574	72.4
Pregnant women counseled on HIV/AIDS who agreed to an HIV test	3101 / 8563	36.2
Pregnant women tested for HIV who received the test result in the established timeframe	2621 / 3101	84.5
Women of reproductive age (not pregnant) who attended FP counseling and received counseling both on FP and HIV/AIDS	6064 / 8511	71.2
Women of reproductive age (not pregnant) who received FP and HIV/AIDS counseling and who agreed to an HIV test	2139 / 8326	25.7
Women of reproductive age (not pregnant) tested for HIV who received the test result in the established timeframe	1563 / 2139	73.1
Women of reproductive age (not pregnant) who attended FP counseling and received an FP method in compliance with standards	7615 / 8585	88.7
Women of reproductive age (not pregnant) who use FP methods and who received information on dual protection	3548 / 8459	41.9
Women of reproductive age (not pregnant) who use FP methods and who regularly attend FP appointments	7197 / 8381	85.9

### **Support to MINSA in Implementing Quality Management Processes**

MINSA had begun a process of redesigning its human resource management and organizational systems and processes prior to the November 2006 elections. Two management improvement areas MINSA identified were the institutionalization of quality management oriented to client satisfaction and the improvement of health indicators, a strategy ratified by the new government. During the transition between administrations, QAP assisted MINSA in developing a methodology for assessing the management agreements that had been introduced between the central level and the SILAIS, between the SILAIS authorities and the hospital, and between the SILAIS and the municipalities. An internal assessment was carried out beginning in December 2006 and continuing into 2007 of the status of key indicators of SILAIS performance, including quality, volume of services, morbidity and mortality trends, and other quantitative and qualitative indicators related to management at the SILAIS and hospital levels. QAP assisted 16 SILAIS and 20 hospitals in preparing this assessment and worked with MINSA central level authorities to analyze the dynamics of these indicators across SILAIS and hospitals. Since January 2007, QAP has assisted the new management teams in 14 SILAIS and their hospitals in analyzing data on production of services and quality indicators and performance against management agreements. QAP has also provided training to new municipal health teams in planning and program management.

### **Support to ProMujer**

In the past year, QAP worked with the NGO ProMujer to advance its quality assurance program and institutionalize quality improvement activities within its health services delivery program, which serves some 21,500 women. QAP supported capacity-building activities for staff in ProMujer's four health clinics. These staff continue to conduct quality monitoring and improvement activities, although QAP assistance to ProMujer concluded in June 2007.



US Ambassador Paul Tribelli addresses staff of ProMujer at the ceremony marking the official launch of ProMujer's quality assurance program in June 2007.

## **Improve Maternal and Child Care in *Empresas Médicas Previsionales***

The process of working with *Empresas Médicas Previsionales* (EMPs) together with SILAIS authorities was suspended with the change in government. QAP expects to resume working with SILAIS authorities and EMPs in August 2007 in those SILAIS where local authorities are interested.

## **Operations Research**

*Mother-Baby Friendly Program assessment:* Final data collection and completion of this study was delayed in Year Four (due to the five-month physician strike) but was completed in August 2006. The study found that the promotion of breastfeeding had been fully integrated into the structure and operations of Nicaragua's health care systems, fostering a model based on respecting people's rights. The study's final report was presented in October 2006 at a UNICEF-sponsored regional meeting in Managua to discuss strategies for increasing the sustainability of UNICEF's Mother-Baby Friendly certification programs.

## **Directions for FY08**

QAP will work with 14 SILAIS to strengthen their planning, monitoring, and evaluation capacity and to support their application of MINSAs management review processes and in monitoring management agreements. The PHI Collaborative will continue strengthening linkages between improved pediatric care at the hospital level and IMCI at the primary health care level by incorporating new health centers (six in Boaco and Matagalpa) into the Collaborative. Updating the Hospital IMCI manual will be completed, and QAP will support its dissemination and the roll-out of emergency triage, assessment, and treatment (ETAT) training. QAP will support implementation of the new guidelines for the management of obstetric and newborn complications in Río San Juan, Matagalpa, RAAN, Chontales, Estelí, and León and will support 15 SILAIS in monitoring compliance with EONC standards at the first and second levels of care. New clinical training centers will be supported in Río San Juan and Jinotega SILAIS. QAP will also continue to support the process of cultural adaptation of delivery care through workshops with providers and community representatives in Jinotega, Chontales, and Chinandega. Also, QAP will begin working with facilities to measure case fatality rates for obstetrical complications and support MINSAs in updating national guidelines on contraception post-obstetric event and in strengthening the capacity of hospitals and health centers with beds to provide long-term methods. QAP will continue to support MINSAs in decentralizing integrated care for persons with HIV/AIDS, including direct access to ART for patients living in more remote SILAIS. Workshops on reducing stigma and discrimination towards persons with HIV/AIDS will be conducted for staff of three new SILAIS hospitals (Jinotega, Matagalpa, and Granada), and QAP will support regional workshops to bring together hospital and health center teams in the 10 SILAIS to share experiences with improving quality of HIV counseling and testing, PMTCT, and integrating care to persons with HIV/AIDS.

# **3 Core Technical Activities**

## **3.1 Collaboratives Documentation and Evaluation**

### **Background**

The improvement collaborative approach has been the major implementation strategy for large-scale quality improvement supported by QAP during the past five years. Since 2002, QAP has managed 29 collaboratives in 13 countries: Four (Eritrea EOC, Eritrea PHI, Guatemala PHI, and Jamaica adolescent health) were initiated but ended after less than 12 months without completion; the other 25 are either ongoing or were successfully completed. Table 7 lists these 29.

**Table 7. QAP-supported improvement collaboratives, 2002–2007**

<b>Countries (Subtopic)</b>	<b>Time Period</b>	<b>Type of Collaborative/Number of Sites</b>
<b><i>HIV/AIDS</i></b>		
Rwanda (PMTCT/VCT)	7/03–8/06	Demonstration involving 37 sites in all 12 provinces
Rwanda (ART)	7/04–8/06	Demonstration involving 15 sites
Russia (treatment, care & support)	11/04–12/06	Demonstration in 4 of Russia’s 89 territories (St. Petersburg, Samara, Saratov, and Orenburg)
Uganda (ART, FP integration)	1/06–present	National spread collaborative involving 89 sites that cover 70% of Uganda’s 80 districts
Russia (social services for HIV+ women)	3/07–present	Demonstration collaborative involving 8 teams from 8 of St. Petersburg’s 18 districts
Russia (ART)	3/07–present	Spread collaborative covering all 18 districts in St. Petersburg City
Russia (ART)	5/07–present	Spread collaborative of 11 teams covering the 4 main cities in Orenburg Oblast
Russia (IDU-ART)	5/07–present	Demonstration collaborative in 3 districts of St. Petersburg
<b><i>Essential Obstetric Care/Essential Newborn Care</i></b>		
Eritrea	7/04–10/05	Demonstration involving 8 facilities in 1 zone
LAC EOC (Ecuador, Honduras, Nicaragua)	8/03–present	Demonstration originally in 5 regions; now spread to 31 regions in the 3 countries
Benin	2/05–present	Demonstration in 15 facilities in 2 districts; currently working in 10 sites in 1 district
Niger	1/06–present	National spread collaborative, originally in 28 hospitals and now expanded to include 11 primary care sites as well
Ecuador (obst. compl.)	10/06–present	Demonstration in 6 provincial hospitals
Ecuador (AMTSL)	5/07–present	National spread collaborative involving 11 provinces
<b><i>Family Planning</i></b>		
Tanzania	10/04–7/06	Demonstration with 15 sites in 1 region
Russia (PLWHA)	3/06–present	Demonstration with 4 teams in 3 oblasts
<b><i>Child Health</i></b>		
Eritrea (PHI)	7/03–9/05	Demonstration in 10 hospitals covering 4 of 6 zones
Niger (PHI)	10/03–present	National collaborative involving 32 out of 46 pediatric hospitals
Nicaragua (PHI)	10/03–present	National collaborative involving 14 out of 22 pediatric hospitals
Malawi (PHI)	6/04–12/05	Demonstration involving 8 out of 27 district hospitals
Guatemala (PHI)	6/04–12/04	Demonstration involving 13 district and departmental hospitals
Tanzania (PHI and pediatric AIDS)	10/04–present	Demonstration involving 20 hospitals in 6 out of 25 regions
<b><i>Tuberculosis</i></b>		
Russia (TB-HIV)	3/07–present	Spread collaborative covering all 18 districts in St. Petersburg City and 3 districts in Leningrad oblast
Russia (TB-HIV)	5/07–present	Spread collaborative covering 4 main cities in Orenburg Oblast
Bolivia (DOTS)	1/07–present	Demonstration involving 40 sites in 4 regions
Vietnam (TB-HIV)	4/07–present	Demonstration involving 13 hospitals in 1 province

<b><i>Malaria</i></b>		
Rwanda	6/03–8/06	Demonstration involving 54 sites in 4 districts
<b><i>Other</i></b>		
Russia (“Phase III” national collaboratives)	6/02–12/04	Teams from 23 oblasts participated in 5 national collaboratives related to maternal and child health and chronic diseases
Tanzania (infection prevention)	4/03–6/04	Demonstration involving 3 district hospitals and 1 private Mission hospital in 1 region

In 2004, QAP began a program of documentation related to these collaboratives for the purpose of learning how effective they are and under what conditions. A “Collaborative Lessons Learned” meeting in June 2006 brought together QAP headquarters staff and field staff from nine countries to share the variations and similarities in the implementation of collaboratives at the country level. These discussions helped guide planning for a series of Year Five field evaluations of selected collaboratives, discussed in this section.

## **Activities and Results**

### **Collaboratives Documentation**

In the past year, QAP, in collaboration with subcontractor EnCompass LLC, has continued and intensified its efforts to document and learn from the experiences of adapting the collaborative approach from its U.S.-based conception to the reality of developing countries. Activities in this effort include compilation of standard information on each collaborative, on-site evaluations in six countries, and synthesis and analysis of data from the evaluations and other documentation. This process has provided a deeper understanding of the processes, successes, and challenges experienced in each country, as well as an opportunity to reflect on the essential elements of an improvement collaborative and the areas of convergence and divergence as each country applies the collaborative approach to its own environment. How best to implement collaboratives in developing countries is a unique area of knowledge, and familiarity with it will allow USAID and other international agencies to increase the effectiveness of their support to improving health care programs.

While analysis is ongoing, preliminary findings suggest more similarities than differences in how QAP-supported improvement collaboratives are being implemented, especially with respect to aspects defined in the original collaborative approach model developed by the Institute for Healthcare Improvement (IHI). All collaboratives have gone through a similar start-up process in identifying critical gaps in health care, defining the topic/subtopic area for improvement, developing a consensus on standards of care, and establishing an organizational structure to ensure buy-in and shared responsibility with key stakeholders. Additionally, they have all developed implementation and management plans that include a process for site selection, a series of learning sessions with intervening action periods, use of coaching or mentoring to support quality improvement teams, and ongoing instruction and capacity building in the use of indicators and measurement to track progress. Learning sessions serve as fora for sharing site-level experiences and collaborative learning, although some countries also use other methods of communicating best practices and lessons learned: national workshops, site visits by experts, and separate clinical training activities.

Across collaboratives, there have also been similarities in adaptation away from the original model. One trend is the tendency toward decentralization of two key collaborative elements: learning sessions and coaching. In the case of the former, five collaboratives (Niger EONC and PHI, Rwanda PMTCT, Latin American EOC, and Russia AIDS TCS) have held regional learning sessions for sites to share and exchange experiences, instead of, or in addition to, national level learning sessions. Similarly, the original model does not provide explicit recommendations on coaching, beyond a coach’s requisite qualifications.

In the field, collaboratives have either gravitated toward or applied at the onset a strategy of regional coaches (e.g., Niger PHI/EONC, Rwanda Malaria, Nicaragua PHI, and LAC EOC). This approach has proven both practical and sustainable thus far. Another innovation across collaboratives has been the development of the role of internal coach<sup>2</sup> which has occurred in Niger, Ecuador, and Rwanda. Clinical training has also been implemented differently across collaboratives and warrants closer documentation.

The evaluative process also identified a number of important issues related to the impact, institutionalization, and sustainability of improvement collaboratives in developing countries. One challenge in evaluating impact is the lack of uniformity in the definition, measurement, and reporting of indicators across collaboratives and topic areas. While these variations provide contextually rich data, they make cross-collaborative comparisons challenging. Nevertheless, the evidence of impact from Niger, Rwanda, Tanzania, Russia, Ecuador, Honduras, and Nicaragua shows that the improvement collaborative approach is effective in improving quality of care. Moreover, the experience in Niger, Russia, Ecuador, and Nicaragua demonstrates that collaboratives can be effective in spreading improvements to large areas of a country or health system.

The early and increasing involvement of the Ministry of Health, both at the central and regional levels, has been critical to the success of collaboratives and, ultimately, a collaborative's sustainability. The timing, pace, and method of scale-up varied considerably depending on a variety of factors, including availability of resources, perceived need and readiness for spread, and national MOH priorities.

The evaluation process has reaffirmed the complexity of factors that influence the implementation of collaboratives and the challenges inherent in documenting and evaluating their contributions to improving the quality of care in developing and transitional countries. The adaptability of the collaborative model may be its most important asset and contribution to quality improvement in challenging and changing health care environments.

## **Field Evaluations of Collaboratives**

QAP staff and consultants from URC's partner EnCompass LLC conducted field evaluations of nine QAP-supported collaboratives in six countries between July 2006 and June 2007. Field visits by teams of URC and EnCompass staff collected data through review of collaborative records, direct observation, interviews, and other data collection methods involving team leaders, team members, national and district MOH staff, donors, NGOs, health care providers, community members, coaches, country managers, and QAP staff. EnCompass, developed the methodology for the evaluation site visits in collaboration with QAP staff and piloted it in the first two site visits, to Tanzania and Uganda. Based on the experiences in these countries, revisions were made in the procedures and interview protocols to improve the efficiency and relevancy of data-gathering from different informants. Key evaluation questions were identified with suggested lines of inquiry that evaluators could use with key informants, depending on their specific areas of expertise and knowledge. Focus group discussions with stakeholders and document review were also central to the data collection process. The field data collection teams consisted of an EnCompass evaluator (external) and a QAP staff member who was not part of the management team for the country being evaluated. This approach ensured that the field team had thorough knowledge of collaboratives yet was balanced with independence from the particular collaborative under review.

The evaluation findings are now being consolidated into a synthesis report to be completed by September 2007.

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<sup>2</sup> An internal coach is a facility staff member who has prior experience in quality improvement and/or received additional QI training and who can serve as an on-site resource for health care providers at that facility in how to implement quality improvement. In Niger, for example, providers who had been participating on PHI Collaborative teams in district hospitals were tapped in many cases to serve as internal coaches for EONC Collaborative teams when they formed in the same hospitals.

**Tanzania evaluation:** Dr. Jorge Hermida, QAP Deputy Director, and Dr. Mary Gutmann, EnCompass Evaluation Specialist, conducted the first evaluation, in Tanzania from July 24–August 4, 2006. They focused on two collaboratives: Pediatric Hospital Improvement/Pediatric AIDS and Family Planning. They visited three of the 21 hospitals participating in the PHI/Pediatric AIDS Collaborative and two of the 15 sites in the FP Collaborative, conducting interviews with site teams, MOH representatives, and QAP staff. The PHI Collaborative had completed five learning sessions and four action periods to implement quality improvement methods for addressing gaps in care using Plan, Do, Study and Act (PDSA) cycles. Major accomplishments include the adaptation for Tanzania and introduction of the WHO Referral Care Manual at participating hospitals, improved patient flow and an increased percentage of children appropriately triaged for urgent care, establishment of dedicated areas for ETAT, use of the critical care pathway to improve patient management, and introduction of an algorithm for screening and referring HIV-positive children. Based on these achievements, the MOH funded the expansion of the PHI Collaborative to three northern regions. The FP Collaborative started in Dar es Salaam Region in October 2004 and documented a number of accomplishments, including the training of trainers and 91 service providers in establishing standards of care, assessment of medical eligibility, reduced stock-out, and improved maintenance of patient records. This Collaborative also developed an “All Methods FP Brochure,” published in both English and Swahili. The FP Collaborative ended in July 2006 due to cessation of funding. Its final learning session reviewed the improvements the Collaborative had identified and transferred the tools it had developed to the MOH and Regional Medical Office.

**Uganda evaluation:** Drs. Hermida and Gutmann visited Uganda September 25–October 6, 2006 to evaluate the HIV/AIDS Quality of Care (QoC) Collaborative established in November 2005 as a joint effort among QAP, USAID, and the Ugandan MOH. One major accomplishment from the first year of this Collaborative was the establishment of a National Steering Committee and a Core Technical Team to provide strategic and technical guidance to the regional and site teams in 57 sites. The Core Technical Team identified 27 improvement objectives within five priority areas, including patient assessment and screening, treatment with highly active antiretroviral therapy, prevention of opportunistic infections, referral and follow-up of patients, and health facility preparedness. The number of improvement objectives was increased to 30 in September 2006, and TB assessment was integrated into the care of HIV-positive patients. The evaluators visited four ART treatment facilities and attended the third learning session for the Northern Region. As of July 2006, data reported by participating sites reflected improvements in a number of key indicators, including the number of patients who have been assessed for ART eligibility and were on ART and the percentage of patients on ART who were 95% adherent. Data from 26 sites indicated an improvement in the percentage of patients in general care who were receiving daily cotrimoxazole therapy. Based on the positive experience from the first year of the Collaborative’s implementation, additional PEPFAR funding was received to expand to 30 new sites in 2007.

**Nicaragua evaluation:** Ms. Lori DiPrete Brown of EnCompass and Ms. Ya-Shin Lin of QAP evaluated the Nicaragua PHI and EOC Collaboratives October 22–November 3, 2006, visiting five hospitals and three health centers in four SILAIS: Chinandega, Esteli, Madriz, and Nueva Segovia. They interviewed QAP staff, MOH officials at the central and SILAIS levels, and representatives of UNICEF, CARE, PAHO, UNFPA, ProMujer, USAID, and AMOCSA, a private medical care provider. Both Collaboratives began in 2003: the PHI Collaborative in six hospitals, and the EOC Collaborative in three SILAIS. Three years later, the former had expanded to an additional 10 hospitals and the latter to 11 more SILAIS. Both stand out in their success in coalition building at the national level with the MOH, UNICEF, and other partners to achieve consensus on norms, implement clinical training, and apply quality improvement methods. In both, a highly participatory process of reviewing the evidence for proposed standards was cited numerous times as key to Ministry approval of norms and their adoption in practice. In fact, lack of agreement on standards of care was specifically cited as a barrier to care before the collaborative work. In both Collaboratives, coaching was decentralized to the SILAIS level, with QAP providing additional coaching support and mentoring of SILAIS staff. Coaching visits were conducted according to needs identified by the sites themselves or from data reported, rather than following a fixed schedule. As of

November 2006, both Collaboratives had conducted five learning sessions, despite a six-month physicians strike starting in November 2005. Learning sessions were decentralized starting with the fourth learning session for the EOC Collaborative in September 2004; they were not decentralized for the PHI Collaborative. The EOC Collaborative has shown impressive improvements in EOC process indicators: from 2003 to 2005, average use of the partograph for labor monitoring rose from 40% to 87%, and administration of oxytocin as part of AMTSL increased from 69% of laboring women to 100%. The Collaborative was less successful in demonstrating improvements in the quality of case management of obstetric complications, access to care, client satisfaction, and referral processes.

***Niger evaluation:*** The Niger field evaluation covered both of that country's QAP-funded Collaboratives: Pediatric Hospital Improvement and Essential Obstetric and Newborn Care. It was conducted by Dr. Lynne Miller Franco of QAP and Ms. Laverne Webb of EnCompass from November 27–December 8, 2006. They reviewed extensive documentation of the collaborative process, visited five collaborative teams, observed two coaching sessions, attended a national EONC learning session, held focus group discussions with Collaborative coaches and experts, and interviewed key stakeholders from the MOH and other partners. The PHI Collaborative began in 2003 with 14 sites (district, regional, and national hospitals), expanded to 32 hospitals by 2005. In 2006, the EONC Collaborative grafted itself onto the 28 PHI sites with active maternities. By December 2006, the two Collaboratives covered about 70% of all Nigerien public hospitals. Niger's approach to collaboratives has evolved over time, as the QAP team sought to find the most effective and efficient way to build clinical and QI capacity, sustain motivation, and integrate collaborative activities into routine functions of the hospitals and regional health offices. They have decentralized learning sessions; trained national, regional, and internal coaches to support teams; developed on-site training that integrates clinical and QA skills within the staff's own work environment; and simplified monitoring and evaluation tools. There is substantial enthusiasm for the collaborative approach among providers, MOH technicians, and partners such as WHO. Team interviews indicated a significant transformation of both the individuals and the teams working in it. The collaborative experience has fostered self-evaluation and a reconciliation of professional categories of staff, such that physicians, nurses, and midwives now work effectively together for the improvement of quality for the clients. The collaborative approach has also strengthened skills and demand for monitoring. It has demonstrated the value of medical records, not only for monitoring quality improvements but also for actual case management. With a focus on improving communication between management and providers, regional coaches have cultivated improved team dynamics and results in several districts. At the time of the evaluation, the PHI Collaborative had held four national learning sessions and three regional learning sessions. For EONC, only one learning session had been held. Data from these two Collaboratives indicate improvement of compliance with standards. For PHI indicators, compliance was stable at 70% or higher for 33 months for ETAT and for 24 months for case management of common conditions (malaria, dehydration, pneumonia) in old sites and for about 12–15 months in new sites. For EONC indicators, compliance of near 80% for AMTSL and essential newborn care had been sustained for three–five months at the time of the evaluation.

***Ecuador evaluation:*** From January 29–February 9, 2007, Ms. Ya-Shin Lin and Ms. Carolina Gonzalez-Schlenker of EnCompass evaluated the Ecuador EOC Collaborative. Site visits entailed group discussions with 45 QI team members from five sites in three provinces. In addition, the team conducted structured and unstructured group interviews with QAP staff and individual and group interviews with key MOH staff at national and provincial levels and with partner organizations. Groundwork for the EOC Collaborative had been laid with enactment of the Law for the Provision of Free Maternity and Child Care. The synergy of the objectives of the Law and the EOC Collaborative led to a fruitful partnership with the MOH, which in turn led to what is today one of QAP's most institutionalized collaboratives. The EOC Collaborative was launched in all seven health areas of one province in August 2003. New provinces joined over the next three years, such that by June 2006, the Collaborative covered 80 health areas in 11 provinces. Provincial MOH staff trained by QAP ("CQI facilitators," the equivalent to coaches in other collaboratives) lead the incorporation of new teams into the Collaborative. The coaching strategy

is unusual in that these provincial level MOH staff meet periodically in national level workshops, covering such topics as how to conduct learning sessions and technical areas and exchanging provincial level experiences. To date, nine such workshops have taken place, at four- to nine-month intervals. The coaching strategy also uses local facilitators, selected from each health area, to help support the quality improvement work of facility-based teams. Learning sessions are decentralized to the provincial level, with a fixed agenda for the first three learning sessions at each site. Clinical training centers have been established at provincial hospitals where staff providing EOC services in the respective province come for competency-based training. The Collaborative has also made progress in the cultural adaptation of delivery by holding cultural adaptation workshops with midwives, local government officials, health facility user's committees, and doctors and nurses to develop ideas to make facility-based deliveries more attractive to indigenous women and their families. This Collaborative has exhibited a high level of MOH appropriation of the quality improvement work (i.e., standards and indicators, measurement tools), and the MOH National Directorate of Norms is the direct supervising body for provincial facilitators. Collaborative indicators that show improvement include those related to use of partograph and perinatal clinical history form, adherence to clinical standards (for prenatal and post partum care), client satisfaction, and auditing of maternal deaths.

***Russia evaluation:*** The evaluation of the Russia HIV/AIDS Treatment, Care, and Support (TCS) Collaborative was conducted in two stages between March 11 and June 25, 2007 by Dr. Stephen McLaughlin and Dr. Mary Gutmann of EnCompass. Although QAP had supported other collaborative work in Russia since 1998, the TCS Collaborative is conducted as a demonstration collaborative; it entails four sites in four territories. Sixteen teams from those territories addressed four priority areas: access to care by and retention of patients, coordination of care, clinical management, and TB-HIV co-infection. Team structure was unique in that it was systems-oriented rather than facility-based. Teams were managed by a steering committee of the heads of participating facilities and local authorities and included representatives from different facilities across a system of care, such as polyclinics, AIDS centers, social services, narcology, TB clinics, and other related services. As of June 2006, five learning sessions had been held plus regional and national events to disseminate evidence and best practices related to HIV/AIDS. Key improvements in care included a reduction in turn-around time for HIV test results, an increase in numbers of targeted groups counseled and tested for HIV, the creation of case management positions, the reorganization of referral systems and communications between facilities, and directives, budgets, and job descriptions changed to better support team work in improving treatment and care of HIV-positive patients. At the time of the evaluation, the HIV/AIDS Collaborative was scaling up to all 19 districts of St. Petersburg City and throughout Orenburg City (from pilot facilities there) plus three new cities: Orsk, Novotroitsk, and Gai in Orenburg Oblast.

### **Operations Research on Collaboratives Implementation**

In Year Three, an operations research study was begun to evaluate the effectiveness of the PHI Collaborative in Niger in improving care and treatment outcomes for children with malaria symptoms. Performance of collaborative sites is being compared with that of sites that received only traditional staff training and with those that received no additional support. In Year Four, protocols were developed for OR studies of the validity of self-generated data on compliance with standards in collaboratives, and in Year Five the studies were implemented in Ecuador and Tanzania.

In Niger, data collection on compliance with case management standards for malaria and pneumonia for children under five in six district hospitals was completed in April 2007; data analysis is underway with a final report expected by November 2007. The Ecuador study is comparing the validity of self-assessment of compliance with standards by CQI teams comprising facility staff versus assessment of the same medical records by external experts. The data have been collected and are being analyzed. Another study assessing the validity of self-assessment in the PHI Collaborative in Tanzania began in February 2007 with a feasibility study in three hospitals. The study protocol is being revised in light of data collected.

## **Directions for FY08**

EnCompass will prepare a report synthesizing the findings of the six country evaluation reports and previous documentation activities by September 2007. QAP expects to publish by the end of 2007 a summary evaluation report on the Project's experience with collaboratives, drawing on the country evaluation reports, notes from the June 2006 "Collaboratives Lessons Learned" meeting," and other documentation. Key findings from the evaluations will be presented at the International Society for Quality in Health Care conference in Boston in October 2007. Two or three articles will be developed on QAP's experience in adapting the collaborative approach to developing countries. Individual country collaborative evaluation reports will also be published by the end of 2007.

## **3.2 Computer-based Training**

### **Background**

Under the previous project, QAP collaborated with the WHO Department of Child and Adolescent Health to develop a "generic" (i.e., not adapted for use by a particular country) computer-based version of the IMCI course. It reduces the training time from 11 days to six and requires four facilitators rather than six. Intended to be used in combination with clinical practice with a qualified instructor, the IMCI computer-based training (CBT) program can be used as a core learning tool as part of in-service or continuing education (or refresher) training courses or as part of pre-service academic programs for doctors, nurses, and other health professionals. Responding to concerns raised over earlier versions in test applications, QAP completed an improved version in Year Three. This version addresses the case management of very young sick children (between one week and one year of age) and gives greater emphasis to disease prevention, promotion of appropriate feeding practices, and counseling of caretakers. It served as the basis for a Spanish version, tailored to Bolivia's IMCI program.

### **Activities and Results**

#### **Dissemination of the Generic IMCI CBT CD-ROM**

The IMCI CBT CD-ROM has an accompanying user's guide and research report on the results of its field test in Kenya. Dr. Stephen Kinoti distributed 100 sets of these materials to all participants at the East Central and Southern Africa (ECSA) Regional Health Ministers Conference of 14 countries in March 2007. The participants included regional health ministers, deans of medical schools, directors of research and senior officers of the Ministries of Health. Immediate feedback from participants who had laptops and could review the CD-ROM was that they found it very useful and planned to use it upon returning home.

QAP sent 200 copies of the CBT materials to Tanzania in May for dissemination as follows: 48 sets were given the original Pediatric Hospital Improvement (PHI) Collaborative participants at their final learning session; 36 were given to the Regional and Council Health Management Teams; 50 were distributed at the IMCI training material-updating workshop facilitated by QAP Tanzania Director Festus Kalokola and MOHSW staff, and 40 at the third learning session of the PHI/Pediatric AIDS Collaborative in the Arusha and Manyara regions.

At the May Global Health Council conference, Dr. Kinoti moderated the skill-building workshop, "Using, Not Re-inventing the Wheel: Harnessing Available Computer and Web-based Learning Resources" and presented on the CBT. The workshop was a collaboration between QAP, MSH, and JHPIEGO and attracted 46 participants, all of whom received the IMCI CBT package.

#### **Completion of the Spanish IMCI CBT**

While revisions for the Spanish IMCI CBT were received from Bolivia's Ministry of Health in April 2006, its finalization was delayed by dissolution of Dragonfly Communications, QAP's small business subcontractor for CBT products. It took almost a year to obtain the master programming files; QAP

identified a consultant to make the changes, but then he became unavailable. Another consultant was identified and hired; he delivered the revised product in late May. QAP is reviewing the product and will submit it to Bolivia's Ministry of Health as soon as possible.

The Ministry plans to use the CD-ROM in training centers in the approximately 21 departmental hospitals in Bolivia. These centers have IMCI training facilitators who are using the traditional, 11-day, 6-facilitator training approach. The head of Child Health for the MOH, Dr. Jacqueline Reyes, is interested in collaborating with QAP on a prospective OR study to test the CD-ROM's usability, costs, and impact on health provider knowledge and clinical skills versus the traditional training.

### **Follow-up of Spanish TB CD-ROM**

Under QAP II, the Tuberculosis Case Management CD-ROM was translated into Spanish and adapted to Bolivia's norms. In 2002, 1000 copies were delivered to the MOH and from there sent to the departmental MOH offices for local use and distribution. The MOH advised QAP in 2006 that the CD-ROM was "highly successful," that they used DFID funding to produce 2000 more in 2005 and that they expected to produce 1000 more in 2006. The CD-ROM is being used throughout Bolivia, not only by health workers but also by the National TB Control Program (NTCP) with armed forces health care staff and university students.

NTCP began an innovative project with DFID funding in 2005 to enlist undergraduate medical and nursing students as DOTS supporters. Under NTCP's direction, six university faculty developed a 12-hour (3-day) course on TB case management. The course uses the CD-ROM and other NTCP materials and is offered for free to any student who wants to take it. The objective is to prepare them to serve as DOTS supporters in urban areas, where many patients cannot go to a facility for DOTS due to employment, resulting in high abandonment and treatment failure rates. The idea of the program was to have students who pass the initial course undergo a second phase of training with more independent use of the CD-ROM and then "adopt" one or two patients from a particular health facility and make home visits to deliver medications, implement DOTS, educate the patient and family, and collect sputum for tests. The students are supervised by a facilitator responsible for 20 supporters. During 2005, 1600 students received the course in 16 university schools throughout Bolivia: San Andres in La Paz and schools in Tarija, Oruro, Potosi, and Alto. About a third entered the second phase in 2006, beginning in La Paz. After a change in NTCP leadership, MOH support to the program was discontinued.

Jorge Hermida visited Bolivia in February 2006 and used that opportunity to develop a short survey to be sent to departmental MOH offices, requesting data on number of CD-ROMs used, number of facilities covered, types of health worker trained, etc. Five NTCP departmental offices from Potosi, Cochabamba, La Paz, Oruro, and Santa Cruz responded. All of them reported having used the CD-ROM to train personnel, including 330 doctors, nurses, and auxiliary nurses working in MOH facilities and an unknown number of armed forces health personnel and university students. There has been no evaluation of the CD-ROM's impact, although four departments reported that trainees "significantly improved" their knowledge; the fifth department reported "some improvement."

Further follow-up of the use of the TB CD-ROM by the NTCP was cancelled after changes in USAID priorities in Bolivia in 2006, but it is being used in the new TB Collaborative QAP is undertaking with municipal health networks in three regions of Bolivia, with the JSI Gestión y Calidad en Salud project. As part of the Collaborative's first learning session in February 2007, 153 facility staff who participated on quality improvement teams received a one-day of training in TB case management using the CD-ROM. Participants were given multiple-choice knowledge tests with 25 questions before and after the training, with the average score improving from 67% correct responses to 79%. Many participants, especially auxiliary nurses, had never before touched a computer, but at the end of the session all of them could maneuver easily through the CD-ROM.

## **Directions for FY08**

Because of the rapid technology development and transfer occurring in developing countries, the falling prices of computers and related technology, including PDAs, and the expanding availability of internet access, it is increasingly clear that the future of computer-based training involves a mix of traditional approaches and the use of CD-ROMs and the Web. The latter lends itself to more rapid adaptation at national and/or program levels when the material is in the public domain. During the CBT workshop at GHC, we agreed to collaborate with MSH and JHPIEGO to pursue this approach in a synergistic manner. In the coming year, we will pursue such collaboration, continue to disseminate the already-developed CD-ROMs, and follow up and document the impact and usability of these products with the organizations and individuals that have received them.

### **3.3 Mainstreaming Health Systems Strengthening Initiative**

#### **Background**

The Office of Health, Infectious Diseases and Nutrition's Global Mainstreaming Health Systems Strengthening Initiative seeks to find new, cost-effective ways to put the combined knowledge, expertise, and tools from USAID's health system strengthening projects at the service of its large bilateral health service delivery projects and to improve these projects' capacity to affect USAID's strategic objectives. QAP is one of participating global health projects; the others are the Health Systems 20/20 (following on work started under Partners for Health Reform*plus*), the Rational Pharmaceutical Management Plus (RPM+), and the MEASURE Evaluation projects. QAP's first mainstreaming activity, begun late in Year Three, was to participate in the development of a health systems assessment instrument that would help to identify key weaknesses and issues facing a country health system and the health systems strengthening activities that could be addressed by USAID mission initiatives.

As part of this initiative, USAID allocated core funds to the CORE Group to test whether PVOs could apply the collaborative approach to improve community level services. In 2006, following a QAP presentation on the collaborative approach to the CORE Group Annual Meeting, QAP and the CORE Group developed a plan to fund a CORE member organization to implement a collaborative focused on community-based services. QAP would provide training and technical support to the PVO.

#### **Activities and Results**

##### **Completion and Launch of the Health Systems Strengthening Assessment Modules**

During June–August 2006, QAP participated in meetings to review results and implications of the Benin Health System Assessment and then revised instruments used in assessing system components, such as quality of care and quality of pharmaceutical products and distribution. QAP also assisted in developing a practical approach for synthesizing assessment findings. The health systems assessment manual was then finalized by Health Systems 20/20 and RPM+ and published in April 2007. USAID's Health Systems Division requested a launch seminar to present the approach to USAID staff and other cooperating agencies. Dr. Lynne Franco helped organize the seminar, held April 25, 2007 at the National Press Club as part of the MSH-GHC-PAHO-World Bank Technical Seminar series. She presented on the field tests and other applications of the manual in Angola, Azerbaijan, Benin, Ghana, Malawi, Pakistan, and Yemen.

##### **Support to CORE Member for the Design of a Community-based Care Collaborative**

In July 2006, QAP helped the CORE Secretariat prepare a request for applications for a community-based child health collaborative. The CORE Secretariat circulated a solicitation notice in August. In November, the grant was awarded to Plan International for a community-based malaria collaborative in Benin; the collaborative would involve both communities and facilities in malaria prevention through bed net use and the case management of malaria at home and in facilities.

QAP helped the Plan team in Benin develop a detailed implementation plan for the malaria collaborative. In April 2007, QAP staff conducted a workshop in Benin to train staff from Plan-Benin and their local partner NGOs in the collaborative approach and to help them apply the method to improve the prevention and management of malaria in the community. The workshop agenda and materials were adapted from those used to orient staff of the bilateral PISAF Project to the collaborative approach. During the workshop, participants worked in small groups on a community-based malaria case study designed help them understand key QA principles. On the second day, Plan-Benin staff discussed how they had organized and implemented their ongoing community IMCI project; these reflections were then used to introduce the principles of the collaborative approach. Participants worked in small groups on an exercise to plan their forthcoming community-based malaria project.

### Participation in USAID/ANE Bureau Initiative in Scaling Up Best Practices

In the first half of 2007, QAP participated in the planning of an Asia-Near East (ANE) Bureau workshop which will launch the Scaling Up Best Practices Initiative in September 2007 in Bangkok. QAP also contributed to the Request for Applications to solicit proposals from country teams for scale-up support.

### Directions for FY08

We will continue support to the Plan/Benin Community-based Malaria Collaborative. We will present the Collaborative Approach at the Bangkok Workshop and provide limited technical assistance to country teams who wish to use the Improvement Collaborative approach as their model for scale-up.

## 3.4 Operations Research

Table 8 lists the status of operations research studies the project has conducted since July 2002, including those completed in prior years and already reported in previous annual reports and approved studies that have been cancelled. The narrative describes the progress to date of ongoing studies and reports key results of those completed in Year Five.

**Table 8: Status of operations research studies, June 30, 2007**

	Location	Study Name	Status (Yr Completed)
<b>OR Studies Completed or In-process</b>			
1	Global	HIV and infant feeding: Compilation of program evidence	Completed (Yr 3)
2	Global	Review of evidence on orphans and vulnerable children in low prevalence and concentrated epidemic countries	Underway
3	Multi-country	Collaboratives' documentation and evaluation	Underway
4	Benin, Ecuador, Jamaica, Rwanda	Safe motherhood studies: Results from Benin	Completed (Yr 2)
5		Safe motherhood studies: Results from Ecuador	Completed (Yr 2)
6		Safe motherhood studies: Results from Jamaica	Completed (Yr 2)
7		Safe motherhood studies: Results from Rwanda	Completed (Yr 2)
8		Measuring the competence of skilled birth attendants	Completed (Yr 2)
9		Timeliness of hospital care for obstetric emergencies	Completed (Yr 4)
10		Quality of obstetric care in 14 hospitals	Completed (Yr 4)
11		Comparing methods to identify hospital birth attendants	Completed (Yr 4)
12		Factors predicting partograph performance	Data analysis
13	Bangladesh	Rapid assessment of tuberculosis system	Completed (Yr 3)
14	Cambodia	Treating TB in the private sector	Completed (Yr 3)
15	Ecuador	Scale-up of CQI in the Free Maternity Program	Completed (Yr 4)

16	Ecuador	Develop maternal health questions for ENDEMAIN national health survey	Completed (Yr 4)
17	Ecuador	Cultural adequacy and demand generation for quality maternal care	Underway
18	Ecuador	Validity of self-assessments in EOC Collaborative	Underway
19	Jamaica	Impact of PMTCT program on mother-child pairs	Completed (Yr 3)
20	Jamaica	Improving process of maternal mortality surveillance	Completed (Yr 4)
21	Kenya	Evaluation of cost and effect of IMCI CBT	Completed (Yr 5)
22	Kenya	Assessment of skilled birth attendant competency	Report in preparation
23	Laos, Philipp.	Proper application of malaria rapid diagnostic tests	Completed (Yr 3)
24	Nicaragua	Mother-Baby Program as focused accreditation	Completed (Yr 5)
25	Nicaragua	Improved measures of SBA competency	Completed (Yr 4)
26	Niger	Evaluation of PHI Malaria Collaborative	Underway
27	Russia	Situational analysis of TB-HIV co-infection	Completed (Yr 4)
28	Russia	Demand for ART in St. Petersburg and Orenburg	Report in preparation
29	Rwanda	HIV stigma	Report in preparation
30	Rwanda	ARV adherence	Report in preparation
31	Rwanda	Human resources assessment to scale up HIV/AIDS care	Completed (Yr 4)
32	South Africa	Effectiveness of TB DOTS supporters	Completed (Yr 3)
33	South Africa	Accreditation and regulatory options	Completed (Yr 3)
34	South Africa	Functional analysis of Soweto PMTCT programs	Completed (Yr 4)
35	South Africa	Rapid assessment of ART	Completed (Yr 4)
36	South Africa	Sustainability of maternal and neonatal care interventions	Completed (Yr 4)
37	South Africa	Sustainability of TB interventions	Report in preparation
38	Tanzania	Evaluation of infant-feeding counseling for PMTCT	Completed (Yr 5)
39	Tanzania	HIV stigma study	Report in final editing
40	Tanzania	Sequential validity of self-assessment in PHI Collaborative	Underway
41	Tanzania	Pediatric HIV-screening algorithm validation	Underway
42	Tanzania	Evaluation of national scale-up of PMTCT infant-feeding counseling	Underway
43	Zambia	HIV/AIDS workforce study	Completed (Yr 2)
44	Zambia	Health worker performance-based incentives study	Completed (Yr 5)
45	Zambia	Development and testing of malaria RDT job aids	Underway
<b>Cancelled Studies</b>			
1	Multi-Country	Quality of TB care and lab services	Cancelled
2	Eritrea	Nurse motivation and appreciative inquiry	Cancelled
3	Eritrea, Jamaica	Low-cost measures of quality of care for maternal complications	Cancelled
4	Jamaica	Community follow-up of obstetric emergencies	Phase 2 not funded
5	Kenya	Improving client purchases of anti-malarials	Cancelled
6	Zambia	HIV health worker training study	Cancelled

2. Global: Evidence for programming for children affected by HIV/AIDS in low prevalence and concentrated epidemic countries: This study, undertaken jointly with UNICEF, is reviewing the evidence in published and unpublished literature that informs programming for children affected by HIV/AIDS in low prevalence and concentrated epidemic countries. Of interest are children who are infected with HIV, AIDS orphans, children living in households with someone who is HIV infected, and other children who are especially vulnerable to becoming infected, such as street children. The study is assessing the rigor of the evidence, its relevance to explaining the situation of HIV/AIDS-affected children, and the effectiveness and cost of interventions. The evidence is categorized into the areas of: health, nutrition and food security, socio-economic situation, education, psycho-social support, protection, placement, and stigma and discrimination. An early draft was circulated for comment in March; the final report is in preparation.

3. Multi-country: Collaboratives' documentation and evaluation: See Section 3.1.

12. Benin, Ecuador, Jamaica, and Rwanda: Factors predicting partograph performance: This study is analyzing the hypothesis that increased competency with partographs, as measured by competency testing, is associated with increased performance in their use and increased frequency of labor monitoring. SBA knowledge, skills, and motivation; duration of labor; quality of care; and other factors are being analyzed. However, work recently revealed significant problems in linking the competency measurements to observed performance during labor, and it is still too soon to know whether the hypothesis can be tested with available data.

17. Ecuador: Cultural adequacy and demand generation for quality maternal care: This study is testing the hypothesis that improving the cultural adequacy of obstetric care in public health facilities will increase perceived quality of obstetric care, which in turn will increase demand for and use of public health facilities for obstetric care by women who otherwise give birth at home. The study sample includes eight district-level hospitals, with one intervention and one control hospital in each of four provinces, representing different ethnic and geographic areas of the country. A baseline survey of culturally relevant beliefs was developed and administered to all women who delivered (and could be located) during a single three-month period in each hospital. An intervention to engage traditional birth attendants and mothers in a process with health providers to identify ways to improve the cultural acceptability of delivery care was pilot-tested in 2005 in one province and is now being applied in the four intervention hospitals. Most initial ideas for improvements focus on provider behavior and allowing someone (friend/family/TBA) to accompany the woman during delivery.

18. Ecuador: Validity of self-assessment in the EOC Collaborative: This study will test the hypothesis that self-assessments by teams participating in the Collaborative are valid estimates of actual provider performance. The medical records of the same cases used by the Collaborative quality improvement teams to self-assess their own performance were retrospectively re-audited by expert clinicians to determine whether the self-assessed data agree with data in the medical record and, if not, the nature of the errors (false positive or false negative). About 1900 clinical records from 12 hospitals were reviewed both by CQI teams and external evaluators. Data collection, entry, and cleaning completed. An SPSS database is ready for analysis, and a first draft report is expected in September 2007.

22. Kenya: Assessment of skilled birth attendant competency: This study measured the competence and skills of 119 birth attendants working at hospitals and health centers in six randomly selected districts. The average knowledge score was about 60%; the average skill score ranged from 92% (checked placenta for completeness) to only 5% (checked for retained products after examining the placenta); and the availability of medicine ranged from SP for malaria available 100% of the time to magnesium sulfate for eclampsia available only 5% of the time. The findings were presented to Kenya's MOH and to the East, Central and Southern Africa Health Ministers' conference in March 2007. A final report with conclusions and recommendations is being prepared (Section 2.9 has additional results).

24. Nicaragua: Mother-Baby program as focused accreditation: This report was published in October 2006 in cooperation with UNICEF/Nicaragua and the Ministry of Health. An international end-of-study meeting in Nicaragua that month was sponsored by UNICEF and the Ministry and attended by official representatives from 21 country governments in the Americas. Its purpose was to launch new sustainability guidelines for the Mother-Baby Friendly Hospital Initiative using study results on improved adherence to breastfeeding standards as evidence of success. The study confirmed that the Initiative had been a successful focused accreditation program since its 1993 inception, expanding to most of the hospitals and health centers in the country, plus many health posts, universities, MOH field offices, and even many municipalities. The study identified factors contributing to this success, which were communicated at the meeting.

26. Niger: Evaluation of PHI Malaria Collaborative: This study involves six district hospitals and is comparing the quality of malaria and pneumonia care given to children ages 0–59 months in three situations: with no intervention, under the Pediatric Hospital Improvement Collaborative, and after traditional quality improvement and technical training. It is also examining case-specific care-seeking behavior of caretakers of febrile children evaluated at facilities, with an emphasis on the trajectory from home to facility. To compare the interventions, the study is assessing both provider performance and system variables. Provider performance during assessment (classification and treatment) is being observed directly. System variables include: delay in attending a client; duration of consultation; administration of antibiotics; and availability of oxygen and needed equipment, medication, supplies, and lab services. All measurements have been completed, and data analysis is underway.

28. Russia: Demand for ART in St. Petersburg and Orenburg: Although Russia has adequate ARV supplies, many HIV-infected people are not using them. QAP has contracted with Stellit, a private research organization in St. Petersburg, to undertake a study of the determinants of ART demand in St. Petersburg and Orenburg. A questionnaire has been developed and administered to about 600 HIV-infected persons by interviewers. Data analysis is underway.

29. Rwanda: HIV stigma: This study used chart reviews and focus groups of 40 health care workers from six urban, semi-urban, and rural health centers. Field work has been completed and data analysis is underway.

30. Rwanda: ARV adherence: This study is assessing adherence to ARVs among HIV-infected patients in health facilities to explore perceived barriers to adherence. After a preliminary assessment of 76 ARV patients at King Fayçal Hospital, the study was expanded to include four sites outside Kigali. An in-depth interview form was developed and tested, and over 600 patients were interviewed. To assess adherence, patients were asked about doses missed, not taken on schedule, and not taken with required food and about weekend problems. Pill count adherence was calculated and related to reasons given for non-adherence. Preliminary analysis suggests that adherence is significantly associated with only one factor: familial support. Multivariate analysis indicates that the type of drug combination is also significantly associated with adherence. Data analysis is still underway.

31. Rwanda: Human resources assessment to scale up of HIV/AIDS care: A summary report integrating the findings from the three earlier reports was published in December 2006.

35. South Africa: Rapid assessment of ART: In 2005, QAP undertook a system-level assessment of service provision in nine health care facilities in five provinces that offer ART. A previous study had identified weak areas: personnel issues, structural renovations, pharmacy modifications, patient-tracking mechanisms, data management and information systems, referral systems, and civic involvement. This assessment found varying levels of preparedness and capacity in terms of organization, service provision, and resource utilization, but progress had been made in pharmacy procurement and storage practices, patient-tracking systems, referral systems, engagement with civil society, and staff understanding of government care and treatment protocols. More effort is needed in staff recruitment, information access, financial control, and data collection and use, especially the sharing of accreditation criteria and targets

with facilities so that better monitoring and evaluation of their activities will improve important weak areas. The draft report was discussed with the National Department of Health in 2006.

36. South Africa: Sustainability of maternal and neonatal care interventions: During 2002–04 QAP helped health facilities in four provinces improve the quality of maternal and neonatal care. Interventions including the use of evidence-based guidelines, changes in service delivery procedures, and regular performance review led to increased compliance with guidelines and declines in peri- and neonatal mortality. A follow-up study over a year later in 40 facilities in three districts found that the interventions and improvements had been sustained and mortality continued to decline. The draft report was presented to USAID/South Africa in 2006.

37. South Africa: Sustainability of TB interventions: QAP provided technical assistance in quality improvement to TB programs in two provinces from 2002 through 2005. This study was undertaken in 2006 to ascertain the sustainability of the QI activities; it used interviews with providers, in-depth discussions with facility quality assurance coordinators, and monthly data collection. It concludes that improvements were not sustained in facilities that discontinued use of formal improvement methods (specifically, the PDSA cycle) compared to facilities that did continue their use. The final report is in preparation.

38. Tanzania: Evaluation of infant-feeding counseling of mothers for PMTCT: This multi-faceted intervention aimed to improve the quality of counseling and the infant-feeding practices of HIV-positive and HIV-negative mothers to be more in line with WHO guidelines. It developed pictorial job aids that health counselors used to counsel mothers of any HIV status about proper infant-feeding options, take-home materials for the mothers, and a counselor training course. This study evaluated the impact of the intervention on a cohort of 59 mothers and infants: 30 in the intervention group and 29 in the control, both HIV-positive and HIV-negative. In-depth home interviews and observations were held with all mothers and follow-up home interviews with a few. Results indicate that the intervention counselors used the materials with all clients and were enthusiastically positive about them. Intervention mothers: 1) reported higher quality counseling (e.g., more demonstrations), 2) had kept and repeatedly referred to the take-home materials, and 3) were more knowledgeable than control mothers about options and best practices. Mothers were reasonably consistent in sticking to their chosen option, although the analysis of the accessibility, feasibility, affordability, sustainability, and safety requirements for replacement feeding proved problematic, in part due to possible selection bias. The final report was published in March 2007.

39. Tanzania: HIV stigma: Interviews with 204 providers in three hospitals in Dar es Salaam obtained data about their knowledge, attitudes, and discriminatory practices related to HIV/AIDS patients. Findings show that providers were knowledgeable about various modes of transmission and ways to prevent it, although a significant portion said that instruments used on HIV patients should be sterilized separately and less than half selected not re-capping needles as a way to decrease the risk of infection. Most providers expressed at least one negative attitude towards HIV patients: a desire for separation, isolation, or blame for infection. However, they also emphasized a willingness to be of service to and sympathy toward HIV patients. Reported fears of infection varied, with less than half worried about being infected at work or putting family and friends at risk of infection. Receipt of HIV training, being male, and being a doctor or medical officer were associated with more HIV knowledge and fewer negative attitudes toward HIV patients. Multivariate regression revealed that lack of knowledge and fear of HIV infection were associated with negative attitudes toward people with AIDS and that stigma was marginally associated with reports of discriminatory behavior by peers. The report is in final editing.

40. Tanzania: Sequential validity of self-assessment in PHI Collaborative: Self-assessment is a critical component of Tanzania's Pediatric Hospital Improvement (PHI) Collaborative. The objective of this recently launched study is to measure the validity of the several steps that comprise the self-assessments, including the preparation, storage, retrieval, and abstraction of written patient records and summarization for feedback for the facility quality team. The study also seeks to measure the change in the validity of

these steps over time as the quality teams and collaborative mature. The feasibility study generated some interesting findings, such as the various innovative ways that hospitals use to overcome barriers to self-assessment. These preliminary findings are being written up, along with a revised workplan for the study.

41. Tanzania: Pediatric HIV-screening algorithm validation: Because reliable blood tests are not widely available for diagnosing HIV in children less than 18 months, the Tanzania national IMCI program has put forward a syndromic approach for identifying infected children that can be used countrywide. The primary objective of this study is to conduct performance characteristic tests comparing the sensitivity, specificity, and likelihood ratio of the algorithm for the clinical diagnosis of children with symptomatic HIV infection to the gold standard HIV DNA PCR or HIV ELISA tests (depending on the child's age). The secondary objective is to determine the stage of the HIV infection using WHO disease staging and then correlate the disease stage with the CD4 count. This recently launched study will be done with a sample of 400 children from Muhimbili National Hospital.

42. Tanzania: Evaluation of PMTCT infant-feeding counseling national scale-up: The Tanzania PMTCT program is expanding its pilot to over 5000 sites countrywide. The infant-feeding counseling program that QAP helped develop and evaluate at pilot sites will be implemented as part of the expansion. QAP is responsible for the design of the scaled-up infant-feeding counseling component, including the job aids and take-home materials, the inventory system for those materials, the counselor training program, and the national monitoring system of the infant-feeding counseling component. With funding from the Global Development Network, QAP will coordinate, with the Ifakara Research Centre, a controlled evaluation of the cost and effectiveness of the national infant-feeding counseling program. This study was launched in June 2007.

44. Zambia: Health worker performance-based incentives: This study tested two performance incentive models: one had financial incentives for health providers, and the other had non-financial awards: trophies. The study was conducted in two districts over 12 months, with award recipients being interviewed three times. Providers worked in teams, which were awarded the funds and could decide how to use or share it or the trophies. The study found that strong leadership and performance management systems are prerequisites for successful incentive systems and that the indicators on which the awards are based must be tied to the indicators used by the organization to monitor its own performance, rather than other indicators and data systems that are not integral to the organization. The final report for this study was published in December 2006.

45. Zambia: Development and field testing of malaria RDT job aids: This study builds on earlier work done by QAP in the Philippines and Laos to develop simplified instructions for malaria rapid diagnostic tests (RDTs) for use by community health workers (CHWs). Formative research led to a revised job aid and orientation. However, widespread RDT use at the community level in Africa raises many issues that we plan to study and resolve: safe blood handling practices, appropriate disposal of medical waste (including sharps), proper storage and handling of the test kits prior to use, clinical judgment on the part of the CHWs about when to treat based on test results and when to treat presumptively, and what CHWs should tell patients who are febrile but RDT-negative. QAP is working closely with the National Malaria Control Center in Zambia and WHO on this study.

### **Directions for FY08**

OR activities for the coming year will 1) initiate five new studies, most addressing issues emerging from our global collaborative evaluation study; 2) complete several ongoing studies, including the review of programmatic evidence on children affected by HIV/AIDS, the QAP collaboratives evaluation, factors predicting partograph performance, validity of self-assessments in EOC collaboratives in Ecuador, SBA competency in Kenya, demand for ART in Russia, Rwanda HIV stigma, Rwanda ARV adherence, Soweto PMTCT programs, Tanzania provider HIV stigma, and malaria RDT job aid testing in Zambia; and 3) submit articles reporting the results of these studies in peer-reviewed professional journals.

### **3.5 Regulatory Approaches to Quality**

#### **Background**

QAP continues to seek opportunities and funding for applying licensing, accreditation, certification, and other regulatory approaches to improving health care quality, particularly in the area of HIV/AIDS care. QAP has also held discussions with the National Committee on Quality Assurance (NCQA) in the United States to assess the feasibility of applying their self-assessment approaches to certification and pay for performance. Such approaches might be particularly applicable to HIV/AIDS care. QAP has proposed testing a variant of the NCQA self-assessment approach in Uganda. Also, a research study on the Nicaragua Mother-Baby Friendly Hospital certification program was carried out in Year Four and completed in October 2006.

#### **Activities and Results**

##### **Nicaragua Mother-Baby Friendly Hospital Accreditation Program Evaluation**

This study's report was published and its results presented in October 2006 at a regional meeting of delegates from Ministries of Health and NGOs in Central America. The Managua meeting was sponsored by UNICEF and focused on improving the sustainability of the Mother and Baby Friendly Hospitals Initiative.

##### **Stepped-up Accreditation of ARV Care in Uganda**

In conjunction with the Quality of Care Initiative that QAP is supporting in Uganda to expand availability of high quality HIV/AIDS services, QAP proposed a system of "stepped-up" accreditation of HIV/AIDS ART facilities in Uganda. This system would build on the government's current system of accrediting facilities wishing to provide ART, which is based on very minimal standards. "Stepped up" accreditation would evaluate facilities using progressively more stringent requirements in providing ART. Due to the intensity of ART collaborative start-up activities, this activity was postponed until FY08.

#### **Directions for FY08**

We will begin planning and implementation of a stepped-up ART service accreditation program, possibly in collaboration with the National Committee for Quality Assurance (NCQA).

### **3.6 Training**

#### **Background**

The planning and implementation of training in QA methods are decentralized and determined by each QAP country program. Core training staff in Bethesda provides services to field staff and country programs as requested and responds to requests for short-term training assistance from USAID-assisted countries and cooperating agencies.

#### **Activities and Results**

During the past year, QAP developed a training manual, "Collaboratives for Quality Improvement in Healthcare" designed to orient managers—whether of an NGO, MOH, or cooperating agency—to the process of designing and implementing a health care improvement collaborative. The 14-session course was pilot-tested and revised accordingly.

#### **Directions for FY08**

QAP intends to use the new course to train teams from the Asia-Near East region in how to implement collaboratives to scale up best practices in EONC or family planning. There will be other opportunities to adapt and use the course or sections of it, as new countries decide to use the collaborative methodology.

## 3.7 Technical Leadership/Communication

### Background

One of five major components of the QAP Statement of Work in support of USAID’s Strategic Objectives, technical leadership encompasses the development and dissemination of methodologies, tools, and best practices in the application of QA and human resources management (HRM). QAP fulfills this role by publishing technical reports; presenting project approaches and results at international conferences; briefing USAID, donor, cooperating agency, and host country audiences; publishing articles on QA/HRM methods and results in peer-reviewed journals; and operating a project website. The project supports USAID’s commitment to improving health care systems through leadership in applying and adapting the improvement collaborative and other QI approaches to the needs of developing countries.

### Activities and Results

#### Development and Dissemination of Technical Reports and Publications on QA Methods and Results

During Year Five, QAP published six operations research reports and one technical manual (jointly with the Ministry of Health of Ecuador and Family Care International). Four articles on the results of QAP operations research were published in peer-reviewed journals, and a fifth article was published in a non-peer-reviewed journal with a wide circulation in the international health community. Table 9 lists the project’s publications in the July 2006–June 2007 period.

In addition, two articles on the findings of QAP-supported operations research were accepted for publication in peer-reviewed journals. “Are skilled birth attendants really skilled? A measurement method, some disturbing results, and a potential way forward” by Dr. Steven Harvey et al. was accepted in March 2007 for publication in the *Bulletin of the World Health Organization*. It will be included in a special Safe Motherhood issue of the *Bulletin* that will be published in October 2007. In June 2007, a second article by Dr. Affette McCaw-Binns et al., reporting results of the QAP-supported research on the maternal mortality surveillance system in Jamaica and entitled, “Maternal mortality surveillance: perspective from the developing world,” was accepted for publication in the *International Journal of Gynecology and Obstetrics*.

**Table 9: QAP technical publications, 7/1/06–6/30/07**

Operations Research Reports (Date Published)
Leshabari S, P Koniz-Booher, B Burkhalter, M Hoffman, and L Jennings. 2007. Testing a PMTCT Infant-feeding Counseling Program in Tanzania (March 2007)
Djibrina S, WN Edson, M Boucar, A Diogou, and IM Hama. 2007. The Niger QAP/BASICS Joint Project: An Evaluation of QA Activities Two Years Later (February 2007)
Furth R. 2006. Zambia Pilot Study of Performance-based Incentives (December 2006)
Furth R, Gass R., and Kagubare J. 2006. Rwanda Human Resources Assessment for HIV/AIDS Scale-up: Summary Report (December 2006)
Quality Assurance Project and UNICEF/Nicaragua. The Nicaragua Mother and Baby Friendly Health Units Initiative: Factors Influencing Its Success and Sustainability (November 2006)
Quality Assurance Project. Evaluation of an IMCI Computer-based Training Course in Kenya (August 2006).
Other (Date Published)
González Guzmán, D. 2007. Manual para la humanización y adecuación cultural de la atención del parto (HACAP) [Manual on the humanization and cultural adaptation of delivery care]. Publicado por la Dirección Provincial de Salud de Tungurahua, Family Care Internacional y el Proyecto de Garantía de Calidad. Quito, Ecuador (June 2007)
Articles in Peer-reviewed Journals (Date Published)
W Edson, B Burkhalter, and A McCaw-Binns. Timeliness of care for eclampsia and pre-eclampsia in Benin, Ecuador, and Jamaica. <i>International Journal of Gynecology &amp; Obstetrics</i> 97 (3):209–14 (June 2007)

A McCaw-Binns, , SF Alexander, JLM Lindo, C Escoffery, K Spence, K Lewis-Bell and G Lewis. Epidemiologic transition in maternal mortality and morbidity: New challenges for Jamaica. <i>International Journal of Gynecology &amp; Obstetrics</i> 96 (3):226–232 (March 2007)
W Rennie, R Phetsouvanh, S Lupisan, V Vanisaveth, B Hongvanthong, S Phompida, P Alday, M Fulache, R Lumagui, P Jorgensen, D Bell, and S Harvey. Minimising human error in malaria rapid diagnosis: clarity of written instructions and health worker performance. <i>Transactions of the Royal Society of Tropical Medicine and Hygiene</i> 101(1)9-18 (January 2007)
Leshabari SC, P Koniz-Booher, AN Åstrøm, MM de Paoli, and KM Moland. 2006. Translating global recommendations on HIV and infant feeding to the local context: The Development of Culturally Sensitive Counselling Tools in the Kilimanjaro Region, Tanzania. <i>Implementation Science</i> 1:22 (October 2006)
Articles in Other (Not Peer-reviewed) Journals and Popular Press (Date Published)
Goodrich B and B Burkhalter. 2006. Safe Motherhood: Time and Quality Count. <i>Global HealthLink</i> Issue #140 (August–September 2006)

QAP was very active last year with respect to briefings and presentations on its experience with improvement collaboratives, support for infant feeding and nutrition, and operations research. QAP staff conducted 15 briefings for USAID and cooperating agency staff and presented at national and international conferences (Table 10). In addition, ISQua accepted two QAP abstracts (Dr. Jorge Hermida on lessons from improvement collaboratives in developing countries and Ms. Lani Marquez on web-based platforms to support QI) for presentation at its annual conference in Boston in October, and the American Public Health Association accepted four QAP abstracts (Ms. Larissa Jennings on Tanzania stigma study; Dr. Stephen Kinoti on PHI; Dr. Kathleen Hill on EONC in Niger; and Dr. Hermida on LAC EOC) for presentation its meeting in November in Washington, DC. The Institute for Healthcare Improvement accepted Dr. David Nicholas as a speaker at its National Forum on Quality Improvement in Health Care in December in Orlando. QAP has submitted three presentation proposals for the Women DELIVER conference in October in London.

**Table 10: QAP presentations at briefings and international conferences, 7/1/06-6/30/07**

<b>Briefings and Presentations for USAID and Cooperating Agency Staff</b>
June 2007: David Nicholas, Kathleen Hill, and Mandy Rose presented to staff of the John Snow Inc. IMMUNIZATIONbasics Project on QAP’s experience with scale-up and improvement collaboratives.
June 2007: Maina Boucar and Kathleen Hill presented on the Niger PHI nutritional recuperation work to the U.S. Office of Foreign Disaster Assistance and representatives from the Food and Nutrition Technical Assistance (FANTA) Project and the World Food Programme.
May 2007: Peggy Koniz-Booher presented on the opportunities and challenges in bringing HIV/IYCF to scale in Tanzania at the State of the Art Technical Update on Prevention of Mother-to-Child Transmission of HIV and Infant/Young Child Feeding (IYCF) Options for HIV+ Mothers.
May 2007: Kathleen Hill presented on QAP’s Niger PHI nutrition work at the annual retreat of the Infant and Young Child Feeding Project.
April 2007: David Nicholas and Lynne Miller Franco helped facilitate a workshop for USAID staff entitled “Supporting Standards-based Quality for the Care for Orphans and Vulnerable Children” and sponsored by the PEPFAR OVC Technical Working Group and its partners.
April 2007: Lynne Miller Franco presented on the field applications of the health systems strengthening approach that QAP developed with PHR <sub>plus</sub> and RPM plus at a Technical Seminar for cooperating agencies.
April 2007: Mandy Rose and Ya-Shin Lin conducted a training on how to organize and manage collaboratives for staff of Plan/Benin to assist them in implementing the community-based Malaria Collaborative.
April 2007: Stephen Kinoti presented “Results of Research on Health Workforce Competence and Workplace Assessment for Safe Deliveries: Implications for Training and Performance Improvements at the Workplace” at a seminar held at the World Bank on “Attaining MDG 4-5 in Sub-Saharan Africa and South Asia: Research for Action in Maternal and Child Health.”
March 2007: Steve Harvey and Stephen Kinoti presented the findings of the Kenya skilled birth attendant competency assessment to USAID/East Africa and the Ministry of Health of Kenya.

<p>March 2007: Mandy Rose and Kathleen Hill presented to the USAID/W SO2 and SO3 groups on the progress and results to date of QAP's Essential Obstetric Newborn Care Collaboratives in Niger and Benin (briefing requested by Lily Kak).</p>	
<p>February 2007: Noreen Mucha and Peggy Koniz-Booher presented "HIV and AIDS Resources for Program Managers in Tanzania CD-ROM Toolkit" to staff of USAID and other international development organizations.</p>	
<p>November 2006: David Nicholas made a presentation to the USAID Office of HIV/AIDS on "The Application of Quality Assurance Approaches to Develop and Scale up High Quality HIV/AIDS Services."</p>	
<p>October 2006: David Nicholas and Kathleen Hill conducted a training on collaboratives for BASICS III staff to inform them about improvement collaboratives as a means of organizing CQI.</p>	
<p>August 2006: Bart Burkhalter made a presentation to the ACCESS Project of JHPIEGO on the findings of QAP safe motherhood operations research studies.</p>	
<p>August 2006: Jorge Hermida made a presentation on CQI to the Harvard School of Public Health as part of a case study session in the summer program.</p>	
<p><b>Conference Presentations</b></p>	
<p>President's Emergency Plan for AIDS Relief, Third Annual Field Meeting, 6/07, Kigali, Rwanda</p>	<p>Two posters on QAP-supported work in Uganda were presented. QAP staff member A.K. Musisi presented the poster, "Improving Quality of HIV/AIDS Services in a Resource Constrained Health System, Uganda" and. Hudson Balidawa, MOH of Uganda, presented the poster "Improving Access to Pediatric AIDS Care: A Model from Uganda."</p>
<p>Third South African AIDS Conference, 6/07, Durban, South Africa</p>	<p>Donna Jacob-Jokhan presented the paper "The Role of Quality Improvement in the South African PMTCT program" in the Best Practices/PMTCT session.</p> <p>David Nicholas presented on "The Collaborative Approach to Scale-up of ART in Uganda" during an Institute for Healthcare Improvement workshop linked to the conference and entitled "Methods to Rapidly Spread Innovation and Scale-up Systems of Care in the Developing World."</p>
<p>Global Health Council, 6/07, Washington, DC</p>	<p>David Nicholas presented the paper, "Results of Scale-up Using the Collaborative Improvement Approach," as part of a panel on "Partnerships for the Spread and Scale Up of Health System Improvements."</p> <p>Maina Boucar presented the paper, "Rapid Expansion of Public Nutrition Recuperation Services in Niger" on the panel "Health Services in Complex Humanitarian Times: Reaching the Forgotten."</p> <p>Stephen Kinoti demonstrated QAP's Integrated Management of Childhood Illness (IMCI) CD-ROM in the skill-building workshop, "Using, Not Re-inventing the Wheel: Harnessing Existing Electronic Learning Resources."</p> <p>Thada Bornstein helped facilitate a skill-building workshop, "Fostering change to strengthen health services."</p> <p>Simon Hiltbreitel led a round table discussion on QAP's work to help the government of Bangladesh strengthen its TB program supervision and monitoring and improve quality of directly observed treatment.</p>
<p>East, Central and Southern Africa (ECSA) Health Community Regional Health Ministers' Conference, 3/07, Arusha, Tanzania</p>	<p>Alice Mutungi of the University of Nairobi, Steven Harvey and Stephen Kinoti presented "ECSA Assessment on Quality of Maternal and Newborn Health Services. Phase I: Kenya" summarizing the results of the health workforce competence and workplace assessment for safe deliveries study conducted in Kenya in December 2006.</p>
<p>Global Meeting to Review Processes for Improving Care for Children in Small Hospitals in Developing Countries, 1/07, Denpasar, Indonesia</p>	<p>Stephen Kinoti, Festus Kalokola, and Oscar Nuñez shared QAP's experiences with PHI Collaboratives in Malawi, Tanzania, and Nicaragua at this WHO-sponsored meeting on improving pediatric hospital care in the context of child survival activities and IMCI.</p>

Third National Multi-Sectoral AIDS Conference in Tanzania, 12/06, Arusha, Tanzania	Noreen Mucha and Festus Kalokola presented the CD-ROM “A Collection of HIV and AIDS Tools and Resources for Programme Managers in Tanzania” at the plenary session “HIV/AIDS Interventions in the Context of National and International Goals.”
American Public Health Association Annual Meeting, 11/06, Boston, MA	Bart Burkhalter presented the paper, “Success and Sustainability of the Baby-friendly Initiative in Nicaragua: How Did They Do It?” on the findings of the OR study on factors contributing to the sustainability of the Nicaragua Mother-Baby Friendly Health Units program.
International Union Against Tuberculosis and Lung Disease (IUATLD), 11/06, Paris, France	Neeraj Kak and Refiloe Matji conducted a one-day post-graduate course: “Quality Improvement in TB and TB-HIV Programs: Tools and Approaches for Strengthening Human Resources.” The course addressed the main issues facing human resources in the fight against TB and introduced QA tools and approaches, including the improvement collaborative approach. Donna Jacobs-Jokhan presented on the QA approach to improving TB-HIV co-infection services in South Africa. Kongbun Navy presented on the assessment of public-private mix of TB services carried out by QAP in Cambodia. Victor Boguslavsky discussed “Improving TB-HIV Services in the Russian Federation” as a part of a one-day, post-graduate course entitled “Quality Improvement in TB and TB-HIV Programs: Tools and Approaches for Strengthening Human Resources.”
Regional (Asia) Symposium on Malaria, 11/06, Manila, Philippines	Thada Bornstein presented on training: "StrateGems against Malaria in Asia: Harmonizing Malaria Control Along and Beyond Borders."
XVI International AIDS Conference, 8/06, Toronto, Canada	Victor Boguslavsky presented two posters: “Application of the Improvement Collaborative to the Design of a Model System for HIV/AIDS Treatment, Care, and Support in the Russian Federation” And “Improving TB-HIV co-infection services in the Russian Federation.”

### Management of the Project Website

The main avenue for dissemination of technical publications continued to be the project website, [www.qaproject.org](http://www.qaproject.org). All QAP publications are posted to the project website and announcements of their availability sent by email to a list of over 600 cooperating agency representatives.

### Development of the Collaboratives Extranet

The PHI Collaborative in Nicaragua began using the Collaboratives extranet web in the last quarter of Year Five. Use of the extranet had been delayed due to changes in MINSA and hospital authorities resulting from the change in government.

A poster on QAP’s experience with web-based platforms for knowledge sharing in collaboratives will be presented at the ISQua International Conference in Boston, MA in October.

### Directions for FY08

In the final year of the project, QAP’s technical leadership activities will emphasize publication of results from QAP-support collaboratives, including the field evaluations of collaboratives and training materials and tools to facilitate the application of the collaborative approach by others. We will develop additional manuscripts for submission to peer-reviewed journals reporting the results of QAP-sponsored research, particularly studies related to applying the improvement collaborative methodology in developing countries.

## **3.8 Workforce Development**

### **Background**

QAP's objective in the area of human resources management (HRM) and workforce development (WD) is to conduct research, technical assistance, and pilot-level demonstrations on a limited number of HRM/WD issues where results of improvements can be achieved in a relatively short period and add to the evidence base of effective interventions. Initiatives Inc. is QAP's primary HRM subcontractor; other partners include the Ministries of Health and medical and nursing schools in the countries where we are implementing workforce development activities.

### **Activities and Results**

#### **Human Capacity Development Working Group**

QAP has been active in the Human Capacity Development Working Group since 2005; its purpose is to share, among USAID and its cooperating agencies and projects, knowledge about approaches to human capacity development in health. The group provides an ongoing forum where members have substantive discussions about capacity development topics and can agree on ways to manage and share knowledge so that experience and evidence-based learning can be analyzed and disseminated.

#### **Zambia Performance-based Incentives Study**

The final report of the Zambia Performance-based Incentives pilot study was published in December 2006. Developed with the support of the Zambian Central Board of Health, it tested the effects on health worker performance of monetary and non-monetary incentives provided to facility teams. Sited in two different districts in Lusaka Province, the study tested 1) financial incentives derived from 10% of user fees with modifications in distribution and 2) non-financial awards in the form of trophies. The performance-based incentives system was designed to fit into and reinforce existing performance management systems that had recently been initiated by the Central Board. The study found that staff responded positively to performance-based awards that were based on indicators already being collected as part of the district performance management system: not burdening staff with additional data collection seems to be important in garnering staff support for an award program. Importantly, the study found that staff motivation improved substantially with even small gestures of support and encouragement from district supervisors. For example, non-financial awards were as motivating, if not more motivating, for staff than financial awards and did not generate as much conflict, suspicion, or frustration. Staff also expressed a sense of encouragement from knowing that the District Health Management Team was monitoring their performance and could provide targeted support based on staff's actual needs. Lastly, the study found that district managers felt that the performance-based award program, being linked to the district performance management system, helped guide them in their work, provided direction for supervisory visits, and helped them monitor health facility and district performance.

#### **Rwanda Human Resources Assessment for HIV/AIDS Services Scale-Up**

The summary report drawing together the key findings from the three separate reports based on a three-phase study was published in December 2006. A case study based on this human resources needs analysis is being prepared to illustrate for program managers how the feasibility of reaching targets and timeframes set for getting patients in ART is affected by the levels of existing human resources, entry of new personnel into the health workforce, service organization, and how HIV/AIDS-related tasks are assigned to specific types of providers.

## **Nicaragua SBA Competency Study**

The Spanish version of the final report of this study, completed in Year Four, was published in Nicaragua in July 2006. The English version of the report will be published in 2007.

## **USAID/East Africa SBA Competency Study**

In 2006, at the request of USAID/East Africa, QAP assisted the East, Central and Southern Africa Health Community Secretariat (ECSA-HCS) by conducting a workforce study that the region's health ministers had mandated. The study focused on assessing the competency of birth attendants and the adequacy of their working environments to support quality labor, delivery, and immediate postpartum care. Discussions involving USAID, ECSA, and QAP led to a decision to implement the study in two randomly selected districts in each of three provinces in Kenya: Coast, Eastern, and Nyanza. Data were collected in December 2006 and analyzed in January, 2007; the results were presented at the annual conference of ECSA Ministers of Health held in Tanzania in March 2007. Meeting participants responded enthusiastically to the findings, and the Ministers adopted the study's recommendations as part of the meeting resolutions. (See further information in Section 2.9.)

## **Directions for FY08**

QAP will support USAID/East Africa and ECSA member health ministries as requested to conduct additional health worker competency assessments and to support implementation of recommendations to strengthen the capacity of birth attendants and systems to deliver essential obstetric care.

# **4 USAID Strategic Objectives**

## **4.1 SO1 Population**

### **Background**

QAP's SO1 activities focus on ways to support USAID population objectives by adapting quality improvement approaches to address the needs of population and reproductive health programs and improve family planning services. QAP has been active in the USAID Maximizing Access and Quality (MAQ) Initiative since its inception, playing leadership roles on MAQ subcommittees and in planning and implementing the first MAQ Regional Exchange in Latin America. QAP also participates in the activities of the FP/HIV Integration Working Group.

### **Activities and Results**

#### **Asia Near East (ANE) Regional Conference on Scaling up Best Practices**

The ANE Bureau asked QAP to provide technical support for a regional conference to be held in Bangkok in September 2007 to promote evidence-based best practices in family planning and maternal and neonatal health in ANE Region countries. Competitive grants of \$50,000 will be awarded post-conference to three–five country teams to apply and scale up a selected best practice using methods of their choice, including the collaborative approach. QAP will conduct sessions introducing this approach at the conference followed by technical assistance to include training in the collaborative methodology for the winning country teams and coaching via email, telephone, and a website. QAP participated in the development of the request for proposals and in the conference planning as well as the development of specific sessions related to scale-up and improvement collaboratives.

## **Maximizing Access and Quality Initiative (MAQ)**

MAQ and the Implementing Best Practices Consortium (IBP) have joined forces; QAP activities are summarized in the next sub-section.

## **Implementing Best Practices Consortium**

During 2007, QAP continued its participation in the IBP Consortium, providing input to its direction and planning. QAP was an active member of the IBP Fostering Change Task Team, which developed a manual titled, “Fostering Change in Health Services” as a joint product of MAQ and IBP. The self-directed manual is designed to build the skills of those positioned to support change agents in health service delivery. QAP helped facilitate a skill-building session at the annual Global Health Council conference in May 2007, using the manual’s final version for the first time.

## **Improving Family Planning Information and Services for PLWHA in Russia**

QAP has supported Russia’s FP/PLWHA Collaborative since January 2006 to improve family planning and other support services for HIV-positive mothers. The Collaborative involves four sites: three are also sites for the AIDS Treatment, Care, and Support Collaborative, and the fourth is a second city in Saratov Oblast, Balakovo. In February 2007, a regional learning session was held in Moscow with 44 participants from Saratov, Balakovo, St. Petersburg, and Togliatti to share achievements, discuss indicators and QI methodology, and plan further project activities. Technical presentations were also made on current approaches to post-delivery and post-abortion contraception (by the Director of the Moscow Gynecological Clinic) and on the new manual published in Russia on the reproductive health of HIV-infected women (by Dr. Anna Karpushkina from John Snow Inc). Additional information on this activity is in Section 2.13.

## **Integrating Family Planning Services with HIV/AIDS Clinics in Uganda**

As part of the launching of the new sites in January 2007, family planning was added as a focus area in Uganda’s Quality of Care Initiative, with the objective of ensuring the integration of family planning services in existing HIV/AIDS clinics. Three improvement indicators were developed to measure progress toward this objective. During the first learning session for new sites in January, 13 sites from 11 districts self-selected to integrate family planning activities into their existing HIV/AIDS clinics during this first phase and agreed to monitor improvements by means of the three family planning indicators. As of June 2007, baseline data had been collected from eight of the 13 sites on all three indicators (see Section 2.8.)

## **Directions for FY08**

QAP will provide technical assistance to ANE grant-winning country teams to include training and coaching in the collaborative methodology. Activities to integrate family planning services into HIV/AIDS services in Russia and Uganda will continue, and QAP will look for ways to incorporate family planning services into other services where opportunities would otherwise be missed. Additionally, QAP will continue to support the MAQ and IBP efforts.

## **4.2 SO2 Safe Motherhood**

### **Background**

Improving the quality of and access to essential obstetric care (EOC) continued as the main focus of the Project’s QA institutionalization activities and operations research in Year Five. The Latin American EOC Improvement Collaborative has evolved into a stage of institutionalization and consolidation of its gains and spun off two new collaboratives in Ecuador to address narrower SO2 objectives. Niger’s EONC Improvement Collaborative launched at scale in Year Four is achieving important gains, and the EOC

Collaborative in Benin added a stronger newborn component and regained momentum with the hiring of two local technical staff.

### **Activities and Results**

Details on each country-specific activity may be found in the respective country write-up in Section 2 of this report.

### **Latin American Regional EOC Improvement Collaborative**

The demonstration phase of the EOC Collaborative in Nicaragua, Honduras, and Ecuador was highly effective in achieving significant improvements in the quality of prenatal, delivery and postpartum care, and immediate care for the healthy newborn. Based on lessons learned in the initial departments or provinces, each country expanded the efforts from the initial sites to new areas, reaching large populations and covering large portions of the countries: more than 88% of all health areas in Nicaragua, more than 50% of all provinces in Ecuador, and more than 60% of all departments of Honduras.

While the IHI model proposes that collaboratives will cease after several months, this Collaborative has evolved into a way to continuously monitor and improve the quality of essential obstetric care. This approach has been significantly institutionalized and is now led by MOH authorities at the national, departmental, and facility levels. QA activities in each country are increasingly managed by staff and MOH units responsible for the quality of obstetric care at each level. In each country, the Collaborative has strengthened national policies and in many cases has become a part of them, most notably part of national plans for reducing maternal mortality. In all three countries, the standards and indicators for monitoring EOC are now official MOH instruments, and their application is mandatory. In Honduras, the MOH is testing how to link achievements in quality improvement to incentives paid to facilities as a means to foster quality improvement in targeted areas.

Based on the success of the EOC Collaborative, the Ministries of Health of Ecuador and Honduras are expanding its methods to the improvement of neonatal care and reducing newborn mortality rates. The original regional Collaborative is being followed on by “spin-off” Collaboratives addressing obstetric complications care at larger hospitals and AMTSL.

### **Ecuador Demonstration Collaborative on Obstetric Complications**

This demonstration Collaborative was started by the MOH of Ecuador and QAP in July 2006 to address in more depth the problem of how to improve the management of obstetrical complications in large provincial hospitals. Six provincial hospitals, selected by the MOH Maternal Health, are focusing on the management of hemorrhage, eclampsia, and sepsis. Three learning sessions were held during Year Five. The Collaborative will end in 2008.

### **Ecuador Spread Collaborative on Active Management of the Third Stage of Labor**

The Ecuadorian MOH and QAP launched a spread collaborative in May 2007 to extend the practice of AMTSL to the 58 hospitals in 11 provinces that had not participated in the EOC Collaborative. The first meeting of the new spread collaborative was held in Quito with leading ob-gyns and health authorities from the 11 provinces to discuss the recently approved national guidelines for AMTSL and the proposed strategy for introducing AMTSL in all provincial and county hospitals. In June 2007, QAP and the MOH began a series of one-day workshops in each targeted provincial hospital to train the doctors and professional midwives who will be the AMTSL leaders in their respective province. The roll-out of AMTSL training is expected to be completed by August 2007.

## **Benin EONC Improvement Collaborative**

The EOC Collaborative begun in 2005 in two of Benin's districts stalled in early 2006 when the local project coordinator took another job. Two new local technical staff were hired in late 2006, enabling the Collaborative to regain momentum and expand its technical focus to integrate a strong essential newborn care (ENC) component with the EOC interventions. Activities have concentrated for now on Aplahoue-Dogbo-Djakotome District, where four more health posts joined the EONC Collaborative this year. The Collaborative is also facilitating stronger linkages between facilities and communities through greater emphasis on behavior change communication activities and engaging local health management committees in discussions about quality improvement efforts.

## **Niger EONC Improvement Collaborative**

The EONC Collaborative begun in 2006 expanded in April 2007 to incorporate 11 primary care level maternities, which also perform deliveries, to now cover 76% of maternity hospitals and all facilities performing deliveries in 64% the country's districts. Whole-site training reinforced by on-site supervision has allowed the Collaborative to incorporate AMTSL, ENC, and improved infection prevention practices in routine delivery care in these facilities. Quality monitoring by Collaborative teams (discussed further in Section 2.3) have demonstrated large gains in compliance with EONC standards and reductions in rates of post-partum hemorrhage.

## **Operations Research**

Additional information on these studies is in Section 3.4.

### ***Validity of CQI Teams' Self-assessments of Compliance with Standards***

We began a study in Ecuador in 2006 to quantify the validity of self-assessment of compliance with standards by teams participating in the EOC Collaborative. The study is examining factors associated with higher validity and identifying ways to improve it. The study is also testing tools for provincial MOH quality facilitators for ongoing validity checks of CQI teams' self-assessments. Data from approximately 3800 clinical records that were reviewed both by CQI teams and external evaluators in 12 hospitals have been collected and are being analyzed.

### ***Better Methods for Measuring SBA Competency***

The final report of this study was published in Spanish in Nicaragua in June 2006. The English version, including English translations of the instruments used, will be published in 2007.

### ***Timeliness in Treating In-hospital Obstetric Emergencies***

An article summarizing the results of QAP's SO2 research on delays in treating eclampsia and pre-eclampsia in Benin, Ecuador, and Jamaica was published in the June 2007 issue of the *International Journal of Obstetrics and Gynecology*.

### ***Impact of Cultural Adaptation of Delivery Care on Demand for Institutional Delivery in Ecuador***

This OR study is testing the effects of cultural adaptation workshops on demand for institutional delivery in four intervention county hospitals as compared with four control hospitals. Baseline data were collected during December 2006–February 2007. Two of the three planned cultural adaptation workshops were presented by June 2007 with providers, traditional birth attendants, and community members linked to the four intervention hospitals. The Intercultural Health Division of the Ecuador MOH is actively participating in the study, with an interest in possibly expanding the model to new provinces.

### ***Improving the Process of Maternal Mortality Surveillance in Jamaica***

Two articles reporting results from this study conducted in Year Two were accepted for publication this year in the *International Journal of Obstetrics and Gynecology*.

### ***Study on the Relationships between Frequency of Labor Monitoring, Correct Use of the Partograph, SBA Competence, and Environmental Factors***

Data analysis conducted this year revealed difficulties in linking competency measurements to observed performance during labor. Further work will be needed to determine whether the linkages between measurements needed to carry out this study can be made.

### ***Assessment of SBA Competency in Kenya***

At the request of USAID/East Africa and the Eastern, Central and Southern Africa Health Community Secretariat, QAP assessed SBA competency in six randomly selected districts in Kenya in December 2006. Responding to a need identified by the region's Health Ministers in 2006, the study evaluated knowledge and skills (observed in simulated care on mannequins) of 119 birth attendants. Study results were presented to Kenya's MOH in early March and to the Conference of Health Ministers of the East, Central, and Southern African Health Community later that month. Kenya's MOH plans to use the data to develop interventions aimed at improving maternal and newborn services. The Secretariat is interested in conducting similar assessments in other member countries.

### **Coordination with Other Cooperating Agencies**

During Year Five, QAP staff met several times with staff and consultants of the Preventing Postpartum Hemorrhage Initiative (POPPHI) to share experiences and updates on each project's activities related to spreading AMTSL. Dr. Kathleen Hill represented QAP at a POPPHI AMTSL technical working group meeting in March 2007 where preliminary results from the POPPHI eight-country AMTSL survey were presented. POPPHI staff then made a separate presentation at QAP on the study's findings and implications and discussed ways that QAP country teams in Benin, Honduras, and Nicaragua could support dissemination and follow-on work at the country level, given that QAP is involved in EOC collaboratives in these three countries. Dr. Jorge Hermida has been in touch with Gloria Metcalfe, POPPHI's LAC Team Leader, to coordinate activities in Central America, where URC is also involved in EOC work through bilateral projects.

QAP staff also collaborated with other USAID cooperating agencies working in safe motherhood to propose joint panels for the international Women Deliver conference to be held in London this October. QAP staff proposed a presentation with an FCI-organized panel on the work in Ecuador on cultural adaptation of delivery care; a presentation with POPPHI on the Niger EONC Collaborative and its progress in scaling up AMTSL; and a presentation with IntraHealth on the SBA competency assessments.

### **Directions for FY08**

QAP will continue to support the institutionalization of EOC and CQI in Nicaragua, Honduras, and Ecuador as part of national maternal mortality reduction strategies. In Honduras and Ecuador, standards monitoring and technical training activities will emphasize essential newborn care and management of obstetric complications, focusing on reducing maternal deaths in provincial/regional referral hospitals. Use of The Humanization and Cultural Adaptation of Delivery Care (HACAP) manual will be expanded in Nicaragua and Ecuador and started in Honduras as a means to foster access to skilled birth attendance and care for obstetric complications. In Benin, community mobilization strategies and behavior change activities will be initiated to increase utilization of EOC services. In Niger, the EONC Collaborative will move into its second phase, to emphasize prevention and treatment of maternal and newborn sepsis, birth preparedness, intermittent preventive therapy for malaria in antenatal care, and advanced infection prevention practices. Making use of knowledge management mechanisms, QAP will increase the exchange of experiences and lessons learned among countries and facilities.

## **4.3 SO3 Child Health**

### **Background**

In the last five years, QAP has worked in 13 countries to improve quality and clinical outcomes of neonatal, child health, and nutrition services. QAP's main focus has been to assist Ministries of Health and other organizations to design and strengthen health care delivery systems in order to improve the quality and outcomes of child health services. During Year Five, QAP continued to support Pediatric Hospital Improvement Collaboratives in Nicaragua, Niger, and Tanzania and to coordinate with WHO on PHI and IMCI training; expanded work on essential newborn care and management of newborn complications in Benin, Niger, Honduras, and Nicaragua; provided support for the roll-out of training of PMTCT counselors in Tanzania in the use of job aids to improve infant-feeding counseling; and disseminated the IMCI computer-based training CD-ROM at international and regional conferences.

### **Activities and Results**

#### **Pediatric Hospital Improvement Collaboratives**

QAP country-level work last year focused on expansion and institutionalization of pediatric hospital improvement. Activities included developing national guidelines for case management of severely ill children and supporting training in the application of these guidelines; building consensus on standards and indicators for monitoring the quality of pediatric care; supporting ongoing self-assessment of performance by facility-based QI teams; and the sharing of best practices among teams and national child health authorities as a pathway to institutionalization. Clinical areas emphasized this year included care of the newborn, nutritional recuperation, perinatal mortality surveillance, pediatric emergency care, and testing and referral for pediatric AIDS care and treatment.

Niger's PHI Collaborative continued in 32 sites, representing 76% of referral hospitals there. The Collaborative's technical focus this year was, first, to maintain prior gains in compliance with case management standards for malaria, pneumonia, and diarrheal disease and, second, to conduct refresher training and coaching for providers in all sites on emergency triage assessment and treatment (ETAT) and on the management of malnourished children. QAP worked with Niger's National Malaria Control Program to adapt the pediatric malaria treatment guidelines and counseling materials to support facility case management of complicated and uncomplicated malaria. QAP also assisted the MOH and WHO to develop a national ETAT protocol based on PHI work. QAP Niger staff also participated as facilitators in a West Africa regional WHO-sponsored ETAT training. With supplemental funding from the U.S. Office of Foreign Disaster Assistance and UNICEF, QAP helped establish nutrition recuperation services in 21 of the 32 PHI sites (the discussion in Section 2.3 has details).

In Tanzania, the five original sites participating in the PHI Collaborative in Dar es Salaam, Coast and Morogoro Regions have shown improvements in screening children for HIV, conducting HIV testing, initiating pneumocystis prophylaxis, and referring children suspected of HIV infection for HIV counseling and treatment. As shown in figures in Section 2.7, these hospitals have also demonstrated declines in case fatality rates for pneumonia, malaria, and AIDS in children under five years. QAP supported the MOH in leading two learning sessions for the 12 new sites in Tanga, Arusha, and Manyara Regions, which joined the PHI Collaborative in 2006. A pilot activity was begun in Tumbi Hospital to create linkages with community-based organizations in the hospital's large catchment area to strengthen the facility-community-home continuum of care for children with HIV/AIDS.

In Nicaragua, 17 national and provincial MOH hospitals, 19 health centers, and one private medical provider organization with five clinics now participate in the PHI Collaborative. Quality monitoring activities were disrupted this year due to high-level personnel changes resulting from the 2006 national elections. Most hospitals resumed or continued quality monitoring activities in early 2007. QAP supported the MOH in strengthening the competency of health providers in acute pediatric care through the establishment of three new pediatric care clinical training centers in SILAIS hospitals, clinical updates

for staff in individual hospitals, and “Prize for Knowledge” contests that attracted staff from 10 hospitals. Technical areas emphasized through these activities included diarrhea case management, neonatal resuscitation, management of severely malnourished children, disinfection practices, and breastfeeding promotion. In 15 hospitals and in cooperation with UNICEF and CARE, QAP helped the MOH field test software to facilitate analysis of perinatal and child mortality, an area of ongoing QAP assistance to PHI hospitals as part of monitoring the quality of pediatric care. Having helped develop a guide for referral care for sick children on the basis of the WHO Referral Care Manual, QAP worked with the MOH, PAHO, UNICEF, and CARE to update the guide and to develop a new training course on ETAT to be rolled out by the Ministry later this year.

During the year, the QAP teams in Niger, Nicaragua, and Tanzania contributed to three issues of an internal PHI newsletter, a means of sharing proven tools and best practices across these countries. The newsletters covered monitoring compliance with standards of care, essential newborn care, and pediatric HIV/AIDS and enable all QAP staff to access tools on an ongoing basis.

### **Strengthening Essential Neonatal Health Interventions**

In 2006–07, QAP made important strides in integrating improved newborn care into its maternal and child health program activities in the Africa and LAC regions in recognition of the important contribution of neonatal mortality to early childhood mortality worldwide. The well-established QAP LAC Region EOC Collaboratives have systematically introduced improved newborn care into all their activities. In Ecuador, a new demonstration Collaborative was launched in July 2006 in six provincial hospitals to develop best practices in the management of obstetrical and newborn complications. In Honduras, QAP updated clinical standards and guidelines for essential newborn care and management of complications, including newborn sepsis.

In Niger and Benin where newborn mortality rates are among the highest in the world (48 and 42, respectively), QAP has introduced systematic essential newborn care (ENC) in the respective EONC Collaboratives over the past year. The ENC basic package focused on high impact, evidence-based interventions—thermal protection, eye care, early and exclusive breastfeeding, BCG/oral polio virus, and umbilical care—shown to significantly reduce newborn morbidity and mortality even in very resource-poor settings. The Niger EONC Collaborative results are encouraging with regard to both coverage at scale and improved quality: average percentage compliance with ENC standards has increased from 17% to 94% in an average of 2369 monthly monitored births in 39 facilities (January 2006–March 2007). The proportion of births in which breastfeeding within an hour of birth has been applied increased from 23% to 97% in Niger sites over the same time period. In the Benin EONC Collaborative, a newly introduced BCC strategy is promoting community-based newborn care counseling covering birth preparation, early and exclusive breastfeeding, age-appropriate infant feeding, early danger sign recognition, routine health care needs of the newborn, and basic hygiene. QAP has developed a set of counseling cards and a community-based training curriculum; they will be rolled out through women’s micro-enterprise groups.

This past year, QAP joined the Latin American and Caribbean Regional “Neonatal Alliance” (formerly known as the Interagency Working Group on Neonatal Health), which consists of PAHO, USAID, BASICS, Save the Children, UNICEF, the CORE Group, and the ACCESS Project. The Alliance is providing direction for the development of a regional neonatal action plan to outline regional and national actions to operationalize the new Interagency Strategic Consensus document, “Reducing Neonatal Mortality and Morbidity in Latin America and the Caribbean,” officially released in June 2007. QAP staff commented on the draft action plan and will participate in a regional technical meeting in Asunción, Paraguay, in August to discuss it with regional Ministry of Health MCH officials.

## **Development of Jobs Aids to Improve Infant-Feeding Counseling**

In Tanzania, QAP worked with the National AIDS Control Program to revise the HIV and infant feeding counseling job aids launched by QAP in Year Four and adopt them as official materials of the National AIDS Control Program. QAP continued to support the roll-out of these materials through training of trainers in improved infant-feeding counseling in PMTCT programs in three regions. QAP also worked with the NACP and national PMTCT program to develop a monitoring and evaluation plan to track the impact of the job aids and the training strategy.

## **IMCI Computer-based Training**

Distribution of the IMCI CD-ROM has begun in Africa, especially Tanzania. As reported in Section 3.2, training health care providers in IMCI takes less time, fewer trainer-facilitators, and results in similar knowledge levels as does the original WHO-designed course.

## **Collaboration with WHO and Other Agencies**

In January 2007, QAP participated in a global Pediatric Hospital Improvement meeting organized by WHO's Division of Child and Adolescent Health to review progress and processes for improving care for children in hospitals in the context of child survival activities and IMCI. We shared lessons learned and results of the PHI Collaboratives, specifically covering activities, approaches, and indicators for monitoring compliance with standards of care. QAP representatives at the meeting included Dr. Oscar Nuñez from Nicaragua, Dr. Festus Kalokola from Tanzania, and Dr. Stephen Kinoti from Bethesda. Dr. Maina Boucar from Niger was invited but unable to attend due to visa glitches. The following QAP abstracts were published in the meeting's background documents:

- Experiences in implementing pediatric AIDS care in Tanzania (Festus Kalokola)
- Measuring compliance with standards of care for PHI: Results from multi-country PHI Collaboratives (Oscar Nuñez)
- Advances in the PHI Initiative in Nicaragua (Oscar Nuñez)
- Self-evaluation of pediatric hospital improvement activities in Niger (Maina Boucar)
- Scaling up pediatric hospital improvement (Maina Boucar)
- Accelerating provider competencies in IMCI and PHI through computer-based training: Results of a cost effectiveness evaluation in Kenya (Stephen Kinoti)
- Implementing best practices in pediatric care using the improvement collaborative approach (Stephen Kinoti, Kathleen Hill, and Lani Marquez).

Dr. Kinoti made two oral presentations, one on improvement collaboratives and the other on training in quality improvement. (The latter was made jointly with Ms. Lauri Winter and included material provided by Dr. Diana Silimperi, both of MSH.) WHO will include summaries of these presentations in the framework for quality improvement now in development. The QAP team also shared a number of documents and tools that we are using for training, assessments, and monitoring compliance with standards of care, including the IMCI CD-ROM and its accompanying materials.

## **Operations Research**

### ***Impact of the PHI Collaborative on Pediatric Malaria Care Quality and Outcomes in Niger***

Data collection has been completed, and the final report of this study is expected by November 2007.

### ***Sequential Validity of Self-assessment in the PHI/Pediatric AIDS Collaborative***

The feasibility study for this research was conducted in three hospitals in February and March 2007. Data collection instruments for the study are now being revised.

## ***Validation of the WHO HIV Screening Algorithm in Tanzania***

Data collection in the study's three sites has just begun.

### **Directions for FY08**

QAP work on the Child Survival strategic objective (SO3) expanded over the past year, with maternal, newborn, and child health care increasingly being integrated with each other and in special programs such as malaria and HIV care. QAP will continue along this direction as resources increase for child survival in the HIV context and in the HIV-free context. PHI Collaboratives will expand and link to overall maternal child survival and PMTCT programs. Human resources capacity development and application of modern quality improvement approaches, including computer-based training, will be central to this process. We will consolidate tools for implementing PHI Collaboratives, disseminate them via CD-ROM and Internet, and follow up with those who use these materials to document their impact and usability.

## **4.4 SO4 HIV/AIDS**

### **Background**

The overall strategy of QAP's HIV/AIDS program is to create sustainable systems of health services delivery for quality HIV/AIDS care and support in developing countries, including services for sexually transmitted infections and opportunistic infections. QAP support is in concert with USAID's SO4 objectives and seeks to: 1) increase use of HIV/AIDS services and preventive practices, including counseling and testing, PMTCT, and ART; 2) increase access to these services; 3) improve provider knowledge and skills related to HIV/AIDS; 4) improve performance of laboratories and diagnostic services; 5) test strategies for appropriate staffing of health systems; 6) develop and implement models and best practices for comprehensive, high quality HIV/AIDS services, including ART and services for orphans and vulnerable children (OVC), and 7) strengthen national policies and guidelines in support of HIV/AIDS services.

### **Activities and Results**

#### **HIV/AIDS Services Strengthening in South Africa**

QAP supported quality improvement activities during Year Five in 153 health facilities in the five USAID priority provinces in the areas of PMTCT services expansion, basic care and support and management of HIV-TB co-infection, counseling and testing, and ART. QAP also worked with the National Department of Health to develop strategies for improving the quality of HIV and AIDS care, treatment, and support services. (See Section 2.5.)

#### **HIV/AIDS Care Improvement Collaboratives in Russia**

QAP is working with local health authorities in two territories (St. Petersburg City and Orenburg oblast) to scale up comprehensive systems of treatment, care, and support for HIV-infected and AIDS patients and to integrate TB and HIV services. These spread collaboratives build on the work led by teams in the pilot sites in Krasnogvardeiskiy district of St. Petersburg and Orenburg City in the initial treatment, care and support collaborative implemented from 2003 to late 2006. QAP also supported this year the demonstration collaborative begun in Year Four in four sites to better integrate HIV/AIDS and family planning services. Another demonstration collaborative was started in February 2007 in St. Petersburg to improve the comprehensiveness of services to meet the needs of HIV-positive mothers, including social services, pediatric centers, women's consultation clinics, and maternity hospitals (Section 2.13 has more detail).

## **ART Collaborative in Uganda**

Quality improvement activities begun in January 2006 in 57 facilities expanded in January 2007 to 29 more Ministry of Health facilities and four private health facilities that are part of the Business PART Project. Improvement activities at the level of facilities participating in the Collaborative addressed monitoring of patient adherence to ART, identification and treatment of HIV-infected children, and integration of TB case detection and counseling in HIV/AIDS services. In addition, 13 HIV/AIDS clinics have begun working on integration of family planning within the services they offer HIV-positive clients. (See Section 2.8.)

## **Uganda: Quality Assessment of HIV/AIDS Laboratories**

QAP began work with HIV/AIDS laboratories in November of 2006 with the hiring of a laboratory focal person. This staff member began to introduce the concept of quality improvement and the use of quality improvement tools by training staff at 22 of the 90 sites currently covered by Uganda's Quality of Care Initiative. In June 2007, Dr. Beth Turesson visited Uganda to work with the new staff member to conduct a quality assessment of representative laboratories.

QAP developed an assessment tool for the laboratories and shared it with the MOH, Central Public Health Laboratories (CPHL), AIDS Control Programme, National TB Reference Laboratories, and the CDC. Laboratories at regional referral hospitals, district hospitals, private hospitals, and health centers were visited in the districts of Mbale, Jinja, Rakai, Masaka, Lyantonde, Mbarara, and Rushere. A meeting was held at each laboratory with the facility medical superintendent and all laboratory staff. These staff were briefed about the assessment visit, which was followed by a lengthy tour and assessment with a senior laboratory member and a debrief to all laboratory staff with recommendations for next steps.

Common laboratory problems noted from the June assessments included: equipment failure, lack of training on equipment maintenance at the local and CPHL level, lack of standard operating procedures for lab processes (e.g., sample processing, referral processes, sample disposal, quality control), lack of sample referral processes both for receipt and outsourcing of sample testing (resulting in large numbers of tests not being done), poor communication between hospital administration and laboratories, stock-outs of lab reagents and/or HIV testing kits, lack of understanding/procedures for ordering lab supplies, lack of a system for HIV testing of pediatric patients under 18 months, lack of knowledge regarding national resources available, and shortages of trained lab staff.

QAP interventions and recommendations from the assessments included: use of quality improvement tools and flow charting of laboratory processes, establishment of written laboratory procedures for all lab processes, participation of a laboratory representative on the facility quality improvement team, inclusion of a lab representative on the health facility procurement committee, regular preventive maintenance of all equipment as per the equipment manuals, and establishment of internal quality control procedures for all tests conducted at the laboratory.

## **Pediatric Hospital Improvement/Pediatric AIDS Collaborative in Tanzania**

QAP supported two learning sessions during the past year for the original five regional and national hospitals participating in the Collaborative and for the 12 new sites in Arusha and Tanga Regions where the Ministry of Health has led the expansion of the PHI Collaborative. In 2007, the Collaborative began new work to strengthen linkages among the various points of service and care for children affected by HIV/AIDS, including the referral and counter-referral links between facilities and community-based organizations that provide HIV/AIDS-related services. In June 2007, QAP was asked by USAID to conclude work with the original five regional and national hospitals participating in the Collaborative and focus in the coming year on strengthening the capacity of national and regional health authorities to implement quality improvement for all HIV/AIDS services, not only those directed at children. (See Section 2.7).

## **Improved HIV/TB Care and Support in Lesotho and Swaziland**

QAP is providing technical assistance to the Ministries of Health and Social Welfare in Lesotho and in Swaziland to help their National Tuberculosis and HIV/AIDS programs develop integrated service delivery models and guidelines for health facilities and providers. QAP is also supporting clinical training on HIV-TB and in support systems, such as supervision and information systems for the Ministry, NTP, and other service delivery partners (Sections 2.2 and 2.6, respectively, have further details).

## **HIV/AIDS Care Improvement in Nicaragua**

QAP is working with the Global Fund and other USAID cooperating agencies to support MINSA in expanding HIV/AIDS services with a quality focus in 10 SILAIS. Much of QAP's assistance this year focused on assisting SILAIS in organizing and developing provider capacity to provide counseling and testing and other HIV/AIDS services and integrating HIV counseling with family planning services. QAP also assisted with strengthening the laboratory network for HIV testing and conducting workshops with providers to reduce stigma and discrimination (Section 2.17 has details).

## **Improving the Quality of Infant-Feeding Counseling for HIV-positive Mothers**

In November 2006, the National AIDS Control Program in Tanzania formally evaluated the whole facility training program and counseling materials developed by QAP with partners. The Program made modifications in the job aids and officially adopted the materials, which will be launched nationally in 2007 after the materials have been reprinted with the NACP logo.

## **Improving the Care of Orphans and Vulnerable Children**

QAP provided assistance to OGAC in FY06 in developing a process and tools for achieving standards of care and quality improvement in programming for orphans and vulnerable children. This began with QAP participation in a series of meetings with interested OGAC and partner representatives, followed by a March 2006 presentation by the QAP Director at a global USG staff meeting on the topic in Namibia. Further QAP assistance related to the development of a facilitation guide for the OVC programming process. During Year Five, QAP continued to provide technical review of the process and tools as revised after field testing in PEPFAR-supported countries. In February 2007, QAP supported participation of Dr. Benson Tumwesigye of QAP/Uganda in the first test of the facilitation guide in Ethiopia, where a workshop was held with local organizations receiving PEPFAR funds to develop consensus-based standards for selected OVC services. OGAC, PACT, FHI, MEASURE/Evaluation, and QAP are working collaboratively to develop a quality improvement methodology for OVC programming. On April 26 QAP conducted a one-day training, *Supporting Standards-based Quality for the Care for Orphans and Vulnerable Children*, attended by over 50 participants from USG, PEPFAR-implementing partners, and other international OVC partners (e.g., UNICEF, UNFPA, and UNAIDS). This workshop focused on a four-phase approach to improving the quality of OVC services: 1) agreement on desired outcomes, 2) a participatory process for developing standards, 3) introducing standards, and 4) improving quality of OVC care by increasing compliance with standards.

QAP began in April 2007 to organize monthly "Quality in Focus" conference calls. The first involved 16 participants from Africa, Haiti, and the US and focused on the field testing of OVC standards. The second (in May) addressed the relationship of quality improvement to monitoring and evaluation and reporting ("How to know we are serving a child well") and had 18 participants. No call was scheduled for June due to the HIV Implementers Meeting in Kigali. QAP staff also attended the Interagency Task Team on OVCs. QAP continues to work with other partners on the development of a strategy to support countries as they move beyond standards to implementation and quality improvement.

## **Study on the Evidence Base for Programming Principles for Children Affected by HIV/AIDS in Low Prevalence and Concentrated Epidemic Countries**

In September 2006, QAP initiated a study co-funded by UNICEF of issues in OVC programming in countries with low prevalence of HIV but highly concentrated epidemics. This study will examine OVC programs in such countries and their results, reviewing the evidence base for programming for children affected by HIV/AIDS in these countries. This exercise has thus far identified over 300 documents on health, nutrition, socioeconomic, education, psychosocial, placement, protection, and stigma challenges faced by children affected by HIV/AIDS. It is classifying the evidence base into strong, moderate, and weak though a systematic assessment of the rigor of documentation and consolidation of information. A first draft was submitted in March for review by 21 individuals worldwide working in OVC services. A final version is being prepared for review by the end of July 2007. The final report will become an input into a series of UNICEF-sponsored consultations with managers of OVC programming in the countries of interest.

### **Operations Research**

#### *Demand for ART in Russia*

Interviews were conducted with about 600 HIV-infected persons in St. Petersburg and Orenburg. Data analysis and reporting are underway.

#### *Adherence to ART and stigma among HIV/AIDS health workers in Rwanda*

Data analysis continues for these two studies.

### **Directions for FY08**

QAP will continue support for the implementation of HIV/AIDS quality improvement activities in Uganda, Russia, Tanzania, South Africa, and Nicaragua. In Tanzania and Uganda, we will continue to provide assistance for scaling up the use of health worker job aids and mother counseling materials for the feeding of infants of HIV-positive mothers. We will continue our assistance in developing a tool for improving OVC programming, and in September, QAP will jointly sponsor with FHI and PACT an African Regional Training and Consolidation event on “Standards-based Quality Improvement for OVC Services” for PEPFAR implementing partners.

We will conduct external assessments of CT, PMTCT, and ART systems in countries assisted by QAP and make recommendations for additional changes needed. QAP will expand its efforts in peripheral laboratory system strengthening by assessing district and regional systems, identifying gaps, and working with local providers to improve processes for collecting and transmitting specimens and reporting HIV testing and monitoring results. We expect to receive PEPFAR support to conduct an assessment of ART service systems in Ivory Coast and may also assist in QI activities there to improve performance. QAP will work to strengthen pediatric HIV/AIDS care across the home-to-facility continuum in the context of district health services. We will test incentives, such as pay for performance, to improve quality of ART and conduct a pilot of “stepped-up” accreditation of ART facilities in Uganda. QAP also plans to launch a web site focusing on guidance for improving the quality of HIV/AIDS services. We will document and disseminate best practices in improving quality in counseling and testing, PMTCT, ART, pediatric HIV/AIDS care, and peripheral laboratory support for ART as well as an evidence base of OVC programs in low prevalence, highly concentrated HIV epidemic countries. We will also document and disseminate monitoring tools for use by facilities and district managers as well as manuals for peripheral laboratory support and/or the integration of HIV and TB detection and follow-up, among others. QAP will provide policy assistance for improving the quality of OVC care and support and will conduct workforce studies as requested.

## 4.5 SO5 Infectious Disease: Malaria

### Background

QAP has collaborated with WHO's Tropical Disease Research Program since 2004 to apply quality design principles to improve malaria diagnosis through the use of rapid diagnostic tests (RDTs) in rural areas with limited access to formal health services. Because of the restructuring of malaria funding into the President's Malaria Initiative, no new central or field-support funds have been available to QAP since FY05, limiting the Project's malaria work to that performed as part of improvement collaboratives. Collaboratives supported by QAP in West Africa continue to focus on improving malaria prevention and case management for children and pregnant women. The Niger PHI Collaborative emphasizes improved pediatric malaria care, including improved assessment and management of malaria complications at the first referral level. The Benin and Niger EONC Collaboratives have standardized Intermittent Preventive Therapy as one essential element of the antenatal care improvement package.

### Activities and Results

#### Malaria Collaborative in Rwanda

The Malaria Collaborative, begun in four districts of Rwanda (Gisenyi, Ruhengeri, Kibungo, and Muhima) in 2003, ended in July 2006. The final learning session brought together representatives from these districts to review the monitoring data and best practices emerging from team interventions that proved beneficial (see Box 2 for a summary). At the final Rwanda collaboratives conference, in Kigali in August 2006, the MOH publicly acknowledged the contributions of the Malaria Collaborative. The PNLP has integrated one of the indicators first tested in the Collaborative into the national health information system: *percentage of children 0–5 years old who were taken to the health center within 24 hours of presenting with fever*. In the first quarter of Year Five, QAP staff provided technical support to the PNLP to conduct training on quality improvement in malaria care for health center providers and district health management teams from 13 of Rwanda's 39 districts. The PNLP hopes to attract new donor funds to continue quality improvement activities for malaria care in these districts.

#### Development and Field Testing of RDTs in Zambia

In 2006, QAP worked with WHO and the Zambian National Malaria Control Center

#### Box 2: Successful interventions tested by the Malaria Collaborative in Rwanda

*IEC for early treatment-seeking for children with fever:* Health centers took greater advantage of such opportunities as well-baby check-ups, treatment visits, and vaccinations to provide education and reinforcement information to mothers on the importance of taking children to the health facility within 24 hours of fever. These messages were also reinforced through faith organizations and places of worship.

*Reorganization of health center services:* Patient flow was changed by instituting triage systems and giving priority to children 0–5 years old, resulting in improved reception and shorter waiting times.

*Improved systems for case management according to norms:* Staff received training in malaria case management during regular meetings and breaks. Greater attention was paid to fortuitous distribution of tasks, and skilled staff were assigned for patient consultations. The patient visit registration system was improved. Regular meetings on quality improvement included assessing and monitoring the selected indicators.

*Improved organization of district hospital staffing and processes:* Children 0–5 years were given priority in hospital triage. Procedures for filling out hospitalization and consultation registers were changed, leading to better patient records. Staff schedules and assignments were modified to include the availability at all times of a doctor and a night watch person in the pediatric ward and the presence of skilled personnel and availability of lab services on weekends and holidays. Each hospital assembled and put in place an emergency drug kit.

*Reinforcement of appropriate clinical procedures:* Flowcharts and job aids were posted in consultation rooms. Orientation was given to mothers or other caregivers to assist in monitoring transfusions and child positioning. A staff person was designated to ensure transfusion supervision, and the procedure was changed to take vital signs every six hours. Also, a team was assigned to monitor compliance with norms.

(NMCC) to develop and test materials that would enable volunteer community health workers (CHWs) to use malaria RDTs safely and effectively. Pilot tests in July 2006 showed that CHWs using a QAP-developed job aid after a three-hour training session performed 90% of RDT test steps correctly, compared to only 60% correct performance by CHWs relying on manufacturer's instructions. QAP has prepared a final version of both the job aid and a manual, which includes the curriculum for the training program. Both are scheduled to be posted on WHO's RDT website, where they will be available for download and adaptation by malaria control programs worldwide. Further research is scheduled to begin in Zambia in 2007 when WHO, NMCC, and the Malaria Consortium will use the job aid and manual to train all CHWs in one district. The study team will then observe each CHW at three, six, and 12 months post-training to determine whether the job aid and training suffice to ensure high quality performance over time.

An article by QAP and WHO describing the initial RDT job aid work in the Philippines and Laos PDR was published in the *Transactions of the Royal Society of Tropical Medicine and Hygiene* in January 2007.

### **Directions for FY08**

Depending upon availability of funds, QAP will continue to support malaria case management improvement activities as part of its ongoing child survival work. Also depending on funding, QAP will continue to provide technical assistance to WHO, the Malaria Consortium, and the Zambian NMCC in carrying out the RDT job aid and training study and in the drafting and publication of results.

## **4.6 SO5 Infectious Disease: Tuberculosis**

### **Background**

Tuberculosis continues to pose a serious threat to public health in many countries, a threat exacerbated by HIV/AIDS and MDR/XDR TB. Most countries with a high TB burden face many challenges, including lack of integration of TB services into primary health care services, case detection difficulties, a vast private sector lacking knowledge of or involvement with DOTS, inadequate public provider knowledge and treatment behavior, inadequate quality of basic DOTS services, and lack of patient adherence. QAP is working closely with WHO and national TB prevention and control programs in selected high burden countries to improve case detection, case management, and as a result, case cure rates.

### **Activities and Results**

#### **Improving Quality of TB Case Management in Bangladesh**

QAP has provided technical assistance to Bangladesh's National TB Program (NTP) in: improving laboratory systems, strengthening the supervision system for DOTS services, and strengthening TB services (referrals as well as treatment). QAP, with NTP, developed operational guidelines for internal and external quality assessment of TB services. To strengthen supervision, QAP has supported a Quality Supervision and Monitoring intervention in six administrative districts (Section 2.10 has details). Working closely with WHO-Dhaka, QAP has assisted NTP in developing a national strategy for involving the private sector in TB service provision. A rapid assessment of the capacity of pharmacy practitioners in peri-urban communities to participate in DOTS is underway.

### **Southern Africa**

In South Africa, QAP continued to use QA tools to improve TB case detection and case management as well as increase identification, treatment, and follow-up of TB-HIV co-infected patients. QAP has developed informational materials on TB testing, conducted on-the-job training, and enhanced data collection and data aggregation tools. QAP carried out a follow-on assessment of the sustained effects of earlier assistance—curtailed in mid-2004—to improve the quality of TB services. Preliminary data show that many facilities that stopped receiving external supervision and performing TB cohort analyses had significant declines in their performance. In Lesotho and Swaziland, QAP is providing support for

strengthening TB-HIV integration. Regionally, QAP is working with NTPs on developing operational strategies for prevention and control of MDR/XDR TB (see Sections 2.2, 2.5, and 2.6 for additional information).

### **Russia HIV/AIDS-TB Integration**

QAP continued to support national and regional level technical meetings to share relevant national and international experiences in improving TB-HIV co-infection services. A roundtable in Moscow in October 2006 reviewed Isoniazid Preventive Therapy and TB screening practices with teams from QAP-supported as well as GFATM recipient regions. The TB-HIV integration work begun in four demonstration sites in 2003 led to this year's launch of two spread collaboratives (one in St. Petersburg City and the other in Orenburg Oblast) to scale up the improved systems of TB-HIV integration developed in the demonstration sites. The first learning session for the St. Petersburg TB-HIV Spread Collaborative was in March 2007; Orenburg activities began in May (Section 2.13 has details).

### **Improving DOTS in Bolivia**

QAP launched a TB DOTS Collaborative in Bolivia this year in partnership with the USAID-funded Gestión y Calidad en Salud project. The Collaborative involves 16 municipal health networks in three departments (La Paz, Santa Cruz, and Cochabamba) and seeks to increase cure rates through increased DOTS coverage and improved quality of clinical and laboratory services. Two learning sessions have been held, and the third is scheduled for September 2007 (discussed in Section 2.14).

### **HIV-TB Integration in Vietnam**

Also in 2007, QAP launched a new collaborative on HIV-TB integration with the Department of Health of Thai Binh Province. The Collaborative involves facilities in all eight Thai Binh districts. In April 2007, QAP conducted TB-HIV training for 22 provincial trainers from Thai Binh and other GFATM provinces. These trainers then led training on the goals and methods of the TB-HIV Collaborative for 40 staff of all the HIV and TB facilities in Thai Binh. The Collaborative's first technical area is HIV counseling and testing. Further discussion of the new work in Vietnam is Section 2.12.

### **Developing Public-Private Partnerships in Cambodia**

QAP continues to provide limited support to the USAID-funded bilateral program expanding the public-private mix model in Cambodia. This model highlights the importance of strengthening both public and private TB services simultaneously and the value in having frequent sessions for both types of providers to review referral processes, clinical questions, and other relevant matters.

### **Training in Quality Improvement at the Meeting of the International Union Against Tuberculosis and Lung Disease (IUATLD)**

QAP conducted a one-day post-graduate course on tools and approaches for strengthening human resources in TB and TB-HIV programs at the IUATLD conference in October 2006. Over 40 participants from various world regions attended. The workshop focused on QA tools and approaches for prevention and control of TB and MDR/XDR TB and the integration of TB and HIV services.

### **Work with the STOP TB Secretariat**

QAP participated in STOP TB Secretariat meetings in October 2006 in Geneva to develop guidelines for prevention and treatment of MDR/XDR TB. More than 110 participants representing the most affected countries attended and focused on: management of MDR/XDR TB in settings with high HIV rates; infection control and occupational health; communicable disease preparedness and response; and advocacy, communication, and social mobilization. An expert panel made recommendations for

developing country-specific responses at the global, national, and local levels for controlling the emerging public health threat posed by XDR TB. QAP is using these recommendations as the basis to guide national TB programs and health ministries in developing operational strategies to control MDR/XDR.

### **Directions for FY08**

As it continues to support TB programs, QAP's major focus next year will be on the prevention and control of MDR/XDR TB. We also plan to expand our support for training in infection control in TB settings. Discussions with USAID/Philippines about the possibility of starting TB work in that country are ongoing. QAP will also explore working with regional WHO offices to jointly present training on use of QA tools and approaches in TB prevention and control. We anticipate co-funding from WHO in Bangladesh to support implementation of public-private partnerships.





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