Quality Assurance Project

First Annual Project Report

Period of Performance: June 26, 2002 - June 30, 2003
Contract Number GPH-C-00-02-00004-00

October 1, 2003
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Abbreviations

APHA American Public Health Association
ARV Antiretroviral
ASQ American Society for Quality
CA Cooperating Agency
CBT Computer-Based Training
CDC Centers for Disease Control and Prevention
CHAPS Community Health Partnerships
CHK Central University Hospital of Kigali
CLAP Latin American Center for Perinatalogy
COHSASA Council for Health Service Accreditation of Southern Africa
CONAMU National Women’s Council (Ecuador)
CPHRI Central Public Health Research Institute (Russian Federation)
CQI Continuous Quality Improvement
CTO Cognizant Technical Officer
DHMT District Health Management Team
DPQS Division for the Promotion of Quality Care (Rwanda)
EHP Essential Health Package
EOC Essential Obstetric Care
ETAT Emergency Triage, Assessment and Treatment
FHI Family Health International
GHC Global Health Council
GOR Government of Rwanda
HIV/AIDS Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HSR Health Sector Reform
HT Hypertension Care
IHI Institute for Healthcare Improvement
IMCI Integrated Management of Childhood Illness
IP Infection Prevention
IPC Infection Prevention Committee
ISQua International Society for Quality in Health Care
ITAC International Coalition for Treatment, Access and Care for HIV
JCR Joint Commission Resources, Inc.
JHPIEGO Johns Hopkins Program in International Reproductive Health Education
JSI John Snow, Inc.
KZN KwaZulu-Natal
LAC Latin America and Caribbean
LUXAID Luxemburg Agency for International Development
MAQ Maximizing Access and Quality
MCH Maternal and Child Health
MDOH Mpumalanga Department of Health (South Africa)
MOH Ministry of Health
1 Introduction

This report describes the activities and results of the Quality Assurance and Workforce Development (hereafter referred to as the Quality Assurance Project, or QAP) contract in the first year—June 26, 2002 to June 30, 2003—of project implementation under the current contract.

During its first year, the new QAP contract has made significant advances in the application of results-oriented quality improvement approaches and methods. The most important new approach introduced in the new project is to apply the improvement collaborative model in developing countries, as a new quality improvement paradigm for achieving rapid results and spreading the implementation of best practices and improved models of care. In this first contract year, based on our success with an adapted collaborative approach in Russia, we launched five new collaboratives: two in Rwanda, one in Tanzania, and the first two multi-country collaboratives ever started, the Maternal Mortality Reduction Initiative (MMRI)/Essential Obstetric Care Collaborative and the Pediatric Hospital Improvement (PHI) Collaborative. The Rwanda HIV collaborative is the first HIV/AIDS collaborative in a developing country and also the first one aimed at scale up to an entire country. We have also initiated new areas of operations research, particularly in support of HIV/AIDS and tuberculosis programs, including an analysis of critical HIV/AIDS workforce issues.

The Quality Assurance Project’s influence on quality of care in developing countries has continued to grow, underscoring USAID’s commitment to innovation and advancement in quality assurance in health. The project’s technical leadership is demonstrated by the confidence the Rwanda Mission placed in the project to undertake the HIV collaborative involving multiple cooperating agencies and donors, the willingness of the PAHO to co-sponsor the MMRI collaborative, the request of WHO for assistance in promoting improved pediatric hospital care through the PHI collaborative and for assistance in adapting the chronic care model to developing countries, and the request of the new WHO Secretary General for the advice of a QAP staff person, Dr. Rashad Massoud, to advise his transition team on ways to improve quality of care worldwide and quality management at WHO itself. The collaboratives have increased our ability to work in partnership with other USAID cooperating agencies and international donors.

Although the current QAP field programs are relatively new, the activities described in this report are demonstrating quantitative improvements such as those described for Nicaragua, Honduras, Peru/Max Salud, Eritrea, and South Africa. The QAP country programs and international and national improvement collaboratives initiated in Year One are now poised for a rapid acceleration of even more dramatic results in Year Two.

This report summarizes the activities and results for each country program under the project’s major component, Institutionalization, followed by results for short-term technical assistance and core technical activities. We also report on the activities and results achieved in the five USAID Strategic Objective areas.
2 Institutionalization

Africa

2.1 Eritrea

2.1.1 Background
QAP has been working in Eritrea since 1998. Initial efforts were interrupted by local events, but were fully resumed in 2001. QAP is working closely with the Ministry of Health to institutionalize quality assurance, through the integration of quality assurance methods within the daily care delivered in primary health facilities (focusing on management of childhood illness, prenatal care, essential obstetrical care, and perinatal care) and hospitals (focusing on infection prevention), the development and dissemination of standards, and regulatory mechanisms such as licensing. During the last year, we added a workforce component as well, which included staffing pattern and workflow analyses and assistance to improve nursing competency. A collaborative approach to learning and improvement has also been initiated, focused on improving the care of hospitalized children with serious infections or severe malnutrition.

2.1.2 Activities and Results by Major Program Area

Institutionalize quality assurance within key PHC programs

QAP is supporting the integration of quality assurance (QA) within the Integrated Management of Childhood Illness (IMCI) program to improve effective implementation and scale up of IMCI, while simultaneously strengthening the quality assurance skill base of primary health care (PHC) practitioners and zonal management teams. The components of “Quality-IMCI” include: capacity building and incorporation of QA concepts/methods within all types of IMCI training; supportive supervision and mentoring; performance monitoring; team-based quality improvement; best practices and benchmarking; and recognition of achievement. QA tools and methods are used to: strengthen facility and zonal ability to set IMCI standards; measure performance through indicators and implement changes to bridge the quality gap; and empower local decision-making to make the system or process changes needed to effectively implement IMCI. Zonal and IMCI supervisors in the three USAID target zones are using QA tools such as flow charts, patient record reviews (using the IMCI quality indicators), and quality improvement into their follow up visits to overcome implementation barriers and maximize performance in PHC facilities and hospital outpatient departments. Self-monitoring and rapid cycle QI have been initiated in the target zones. QAP’s effort to improve the quality of care of hospitalized children with serious infections or severe malnutrition (described in more detail below) further contributes to improving the care of children across the continuum, from PHC through hospitals where at least 11% will be referred for needed critical care. QAP also assisted in the development of tools to measure compliance with clinical standards of the Safe Motherhood clinical program. Data collection is now underway. A research study is being considered regarding delays in managing obstetrical complications.

Improve management and quality of healthcare services provided by hospitals

During previous years, QAP assisted the MOH to develop basic hospital standards, including related policies and procedures, as a first step toward a system of external quality regulation. During the past year, these standards were disseminated, although systematic implementation of the standards was focused on infection prevention standards, and to a lesser extent, referral standards. Infection prevention (IP) committees have been established in nine of the country’s 22 hospitals (41%), including national referral hospitals, zonal regional hospitals and subzonal community hospitals. An assessment tool was developed to measure general infection prevention practices, including needle disposal, hand washing,
and use of gloves. Baseline and post intervention assessments (conducted approximately six months after the interventions were initiated) were conducted in 14 hospitals with an average improvement of 24 percentage points. QI interventions included on-site capacity building on the IP standards, creation of the IP committees, self-monitoring using the assessment checklist, and problem solving. The greatest range of improvement was from 8% compliance at baseline to 91% after the intervention. Baseline assessments have recently been conducted in an additional seven hospitals. In May 2003, additional standards and monitoring tools were developed and field-tested for kitchen, laundry, and laboratory services. Hospital leaders have identified a number of challenges in implementing the referral standards. Completeness of transfer forms and appropriateness of transfers were targeted for improvement. Transfer/referral forms were revised. Follow-up will include measuring the completeness of transfer information. In addition, baseline data are being collected in referral hospitals to determine the appropriateness of referrals.

During the last year, QAP assisted the MOH to conduct a nation-wide, interactive assessment of current pediatric care in all 19 of its hospitals that care for children. A total of 203 children were directly observed, including 134 with infections or malnutrition, 50 with emergency conditions, and 19 newborns or sick young infants. Through this process, the evidence-based standards and their guidelines were introduced, knowledge and case management skills of zonal practitioners were strengthened, onsite improvements were initiated, and the foundation laid for an ongoing collaborative improvement approach. At the conclusion of its 2-3 day assessment, each hospital received immediate feedback regarding its performance. Aggregate findings were disseminated at a national meeting and discussed within the MOH and are feeding into policy decisions. Key findings include:

**About 1/4 (26%) of children received good care**, according to standard (G) n=35, unit of analysis=child/condition

**Almost three quarters (74%) of children received sub-optimal care** (I or SI) n=99

<table>
<thead>
<tr>
<th>Performance</th>
<th>Good</th>
<th>Needs Strong Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough (N=56)</td>
<td>34%</td>
<td>23%</td>
</tr>
<tr>
<td>Diarrhea (N=31)</td>
<td>13%</td>
<td>55%</td>
</tr>
<tr>
<td>Fever (N=23)</td>
<td>17%</td>
<td>13%</td>
</tr>
<tr>
<td>Malnutrition (N=36)</td>
<td>20%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Eritrea is participating in the multi-country Pediatric Hospital Improvement Collaborative that QAP initiated in 2003, in collaboration with WHO and local agency partners.

**Develop and sustain the regulatory framework for quality healthcare**

Building on the work of previous years, the QAP continued to assist the MOH in the implementation of a professional licensing system and refining its system of facility licensing. The process resulted in the registration of over 3,400 professionals in 18 areas of expertise, ranging from general practitioners and registered nurses, to laboratory technicians and pharmacists. The categorization of health professionals resulted in a more effective system of classifying nurses, combining some categories that had equal qualifications and professional experience. The registration and licensing process captured the private sector for the first time and identified which public providers also had private practices. In addition, 134 private facilities were licensed, which created the first Ministry database on private sector facilities. These facilities ranged form polyclinics to first-aid clinics in workplaces. Not surprisingly, the majority of private facilities were in the national capital region. In 2002, the total revenues generated from professional registration were over 500,000 Nakfa (37,000 USD). This represented an important source of income for the Office of Licensing, Certification, and Accreditation.
Improve the competency and capability of frontline health workers through the development and strengthening of quality pre-service training programs

A nursing workflow study was completed in January 2003, which showed a need for better utilization of staff. In addition, nursing standards related to the nursing process, basic patient hygiene, and patient education/counseling were found to be lacking. With QAP assistance, the MOH nursing leadership has developed standards for nursing services, which are now being implemented. The findings of the workflow study are being used to help develop national staffing policies. In addition, we introduced a quality management in-service curriculum development and training in pilot hospitals and began the development of a pre-service curriculum and internship, including QM and QA, for nurses and health assistants.

The shortage of qualified nurses is another problem area QAP was asked to address, and we implemented an innovative approach to develop the nursing workforce by improving pre-service training. URC recruited and hired six nurse tutors from the Africa region (Kenya, Zambia, and Nigeria) to work at the Ministry of Health College of Nursing and Health Technology in Asmara and in four regional Associate Nursing Schools. QAP trained the six nurse tutors in Supportive Supervision and Quality Assurance/Quality Improvement. Since their arrival in April 2003, they have helped to start up two new regional nursing schools and are replacing several Eritrean nurse tutors who are completing their Bachelor degrees through a distance-learning program. The nurse tutors have reviewed and updated the Procedures Manual for nursing students, reviewed the Community Health Nursing Curriculum for the post-basic degree in nursing, and recommended changes in the course content on HIV/AIDS.

2.1.3 Directions for FY04

Scale up and spread of each of these activities in Eritrea will continue in the second project year. Quality IMCI will be introduced in all health centers, and the Pediatric Hospital Improvement Collaborative will reach every hospital caring for children. During FY04, the Project will also address quality within the community-IMCI component, thus addressing quality care for children across the continuum from community through hospitals. We also plan to initiate operations research in maternal health addressing the third delay and improving performance of nurse midwives and physicians during labor and delivery, and to use the findings of this work to improve essential and emergency obstetrical care in FY04.

2.2 Malawi

2.2.1 Background

A no-cost extension of QAP work in Malawi under the prior contract allowed for follow through on some of the recommendations that came out of QAP’s evaluation of its activities over five years supporting the implementing private voluntary organizations (PVOs) of the Community Health Partnerships (CHAPS) Project funded by USAID. Principal recommendations of the evaluation were to integrate the QA approach into the ongoing national level health sector reforms and to strengthen the National Quality Assurance Task Force (NQATF). QAP long-term technical assistance in Malawi ended in September 2002. A bridging activity was approved under the current contract to provide support to the national level in anticipation of continued QA work under the new USAID bilateral program.

2.2.2 Activities and Results by Major Program Area

Develop policies and tools to support QA at the national level

Within this short-term workplan, QAP supported three major steps in the institutionalization of QA. The reconfigured NQATF energetically took on developing its own mission statement and workplan. With the advent of decentralization and the development of an Essential Health Package (EHP), the NQATF
developed a Charter for Patients’ and Providers’ Rights and Responsibilities and wrote a national QA policy. The QAP institutionalization framework was used as an outline of the policy. The policy has yet to be fully adopted by the Ministry, but it outlines an integrated structure for achieving quality within health services by describing the responsibilities for QA of the existing structures in Malawi’s health system, such as the District Health Management Teams (DHMT) and the District Assemblies, with their committees for Health and Environment. Along with the policy, a medium-term workplan was prepared; it was integrated into the overall 6-year workplan of the Ministry.

The NQATF decided that its priority is to ensure quality in the implementation of the Essential Health Package. QAP helped conduct an inventory of the status of all the standards, both clinical and managerial, related to the implementation of the EHP. QAP worked with JHPIEGO to have the NQATF become the overseer of the national Infection Control Policy through a reward and incentive process. The Infection Control workplan is also integrated into the QA workplan.

Another recommendation was to simplify some of the QI training materials and integrate the QA function into the responsibilities of the district level program manager and supervisor. QAP developed a job aid that coaches or trained team members could use to remind continuing team members or orient new members to the QI steps. A pocket guide was also drafted for the program managers/supervisors to use as references when working with facility teams to improve their performance.

**Develop capacity for the implementation of QA in the health sector**

In the last quarter of the first project year, QAP initiated a new core-funded activity in Malawi: supporting the participation of district hospitals in the multi-country Pediatric Hospital Improvement (PHI) Collaborative, which will improve emergency and in-patient hospital care of children through the implementation of standards and team-based quality improvement. (See further discussion in section 5.3.)

**2.2.3 Directions for FY04**

The new USAID bilateral project managed by MSH has assumed the technical assistance for QA in the health sector in Malawi. In FY04, QAP will continue to provide support for Malawi’s participation in the multi-country Pediatric Hospital Improvement Collaborative. The work will be done in the southern part of the country in eight district hospitals. The College of Medicine, the Queen Elisabeth Central Hospital, and the Malaria Alert Center will be the institutional partners for the implementation of the PHI Collaborative. The Ministry is also partnering in this effort for the policy implications and decisions regarding the service delivery standards.

**2.3 Rwanda**

**2.3.1 Background**

QAP has been providing assistance to the Rwandan Ministry of Health (MOH) since 1998, focusing on helping to establish the MOH Division for the Promotion of Quality Care (DPQS) and establishing a system of quality assurance in six districts and in the Central University Hospital of Kigali (CHK). In the past year, we have focused our assistance on helping the Government of Rwanda (GOR) to implement a collaborative approach to scaling up Voluntary Counseling and Testing, Prevention of Mother-to-Child Transmission of HIV, and the care and treatment of people living with HIV/AIDS (PLWHA), including anti-retroviral (ARV) therapy throughout the country. We also assisted the National Malaria Program to implement a collaborative approach to improving the case management of malaria at the district level.
2.3.2 Activities and Results by Major Program Area
Collaborative approach to scaling up HIV/AIDS care and support services

A number of donors have been developing plans with the GOR, which if successfully funded, would permit the fairly rapid scale up of HIV/AIDS services. USAID has been an important donor in funding VCT and PMTCT services through the IMPACT and PRIME II Projects and has begun to significantly increase its funding as a result of the President’s Initiative. Other important donors are the World Bank and the Global Fund. The Clinton Foundation is in the process of seeking funds that would permit full scale up of all HIV/AIDS treatment services to the entire country over the next five years.

In November 2002, the Clinton Foundation asked the Institute for Healthcare Improvement (IHI) and URC to provide assistance to the GOR in the implementation of a collaborative approach to the scale up of HIV/AIDS care and support, to be financed with the help of the Clinton Foundation. Because the Clinton financing be delayed a year and because the USAID Mission was helping to support the scale up of PMTCT (and PMTCT/Plus) services, the Mission decided to provide funds to QAP to assist in the collaborative approach through the end of FY04. As a result, the QAP immediately mobilized to undertake this challenging assignment.

The aims of the collaborative approach to scaling up HIV/AIDS care and support are:
1) Rapidly develop highly effective strategies and solutions for the rapid spread of best practices in PMTCT/Plus services. In other words, develop a care model that has successfully addressed problems at the local health facility and community levels that would have impeded the rapid scale up of safe and effective care.

2) Demonstrate significant results in the quality and outcomes of PMTCT/Plus care within 12-18 months.

3) Develop continuous communication among implementation sites and among professional groups to share experiences in improving PMTCT/Plus services.

4) Increase the motivation and satisfaction of health workers and the community through improved results and shared learning.

The collaborative improvement initiative has been launched with 18 sites, with participation of at least one site in each of the country’s 11 provinces. Many donors are supporting one or more of these sites, including USAID, the Global Fund, World Bank, Luxemburg Agency for International Development (LUXAID), French Cooperation, and UNICEF. In addition, QAP is cooperating with CDC, FHI/IMPACT and INTRAH/PRIME II, who have already been involved in assisting a number of the 18 sites. Local collaboration fosters and reinforces national level coordination. The GOR and QAP have maintained a schedule agreed to in February, including a Planning Group Meeting in March, an Orientation Meeting in April, and three meetings in June: a District and Facility Leaders Meeting, an Experts Meeting, and the First Site Teams Meeting. The site teams are now carrying out their first action period in which they are analyzing their systems of HIV/AIDS care and collecting some baseline data. In August, the Second Site Teams Meeting will take place to review and share their work, and then to develop their workplans for testing local improvements during the period from August to October 2003. Issues that can be addressed at the local level include: demand creation (e.g., for pregnant women and for partner testing); logistics of HIV testing; roles for staff and volunteers; strategies to ensure adherence with PMTCT and ARV; reimbursement of patient medication; patient and infant follow-up; patient self-care strategies; and counseling and support.

The collaborative will continue through September 2004, but hopefully with additional funding it will extend through 2008, the target date for full scale up. This is the first time that an HIV/AIDS care collaborative has been undertaken in the developing world, and we believe that it will be an important step in finding approaches that can be implemented to assure rapid scale up of quality services.
Collaborative approach to improving the case management of malaria in children

Malaria is still the leading cause of morbidity and mortality in children 0-5 years. After a survey by the National Malaria Program (PNLP) showed that 44% of malaria was resistant to Chloroquine, the PNLP developed new malaria case management guidelines. The MOH requested that QAP assist the PNLP to implement a malaria improvement collaborative in four districts. The first activity was an assessment by a QA team of the quality of malaria case management, including counseling for and the use of impregnated bed nets. The assessment showed that 71% of infants and children were not treated according to national guidelines, that 31% of health centers had a stock-out of anti-malarials in the previous 30 days, that the district hospital 0-5 malaria case fatality rates averaged 14%, and that 69% of mothers do not use bed nets.

During the first teams meeting, the teams reviewed the results of the assessment, received a brief training in quality improvement, and analyzed the continuum of care for malaria in the districts. The teams chose a set of indicators to be followed in common, and a monitoring system was agreed upon. Staff of the PNLP, French Cooperation, and the International Rescue Committee (both donors in the four districts) attended the first teams meeting and are actively involved in the collaborative planning group. The teams’ first work was to collect data on the indicators. At the second teams meeting, a month later, the teams reviewed the data on the indicators and identified where improvements were needed. They then developed an action plan for testing improvements. The teams are now in this second action period and will be sharing results through meetings at the district and regional level. The collaborative will continue through September 2004. Based on improvements made, the PLNP plans to scale up the improved care model to the entire nation.

Institutionalize QA in the Central University Hospital of Kigali

QAP has continued its work in institutionalizing a quality assurance structure in the hospital. In 2003, emphasis is being placed on the Department of Internal Medicine. An assessment was started in June to evaluate the quality of care for the management of priority medical conditions through chart review. Based on the results, the Department will launch an initiative to begin the quality improvements necessary to bring the care into conformity with national and international evidence-based guidelines. Where such guidelines are not available, the project will provide training to the department in the development and/or adaptation of clinical guidelines as well as technical assistance in the implementation of the first set of new guidelines.

Support to the Ministry of Health Division for the Promotion of Quality Care

QAP continued its work with the DPQS. Members of the DPQS worked side-by-side with QAP staff in all the activities described above. Most training sessions for site teams have been led by DPQS staff or others that they have trained in the various sites.

Conduct operations research in support of the quality improvement activities

Associated with this HIV/AIDS collaborative work, QAP has begun or has developed protocols for four OR studies in Rwanda: 1) Assessing stigma in health providers and its impact on quality of care; 2) Ensuring patient adherence to anti-retroviral therapy: a prospective pilot study of community-based, directly observed therapy (in cooperation with LUXAID); 3) Assessing the outcomes of ARV therapy; and 4) Assessing HIV/AIDS care workforce needs and testing interventions to help solve workforce gaps associated with scale up of services.

2.3.3 Directions for FY04

The HIV/AIDS Collaborative will be fully implemented in the second year, with all 18 sites expected to fully implement their improvement plans. The malaria collaborative is also expected to complete its work in FY04. Improvement activities will be initiated at CHK to improve care based on the audits done in
June. A new Director for the DPQS, previously trained in QA by QAP, has just been appointed and is expected to provide the same kind of dynamic leadership as that of Dr. Claude Sekabaraga, who was appointed Director of Health Services.

2.4 South Africa

2.4.1 Background
In late 2000, QAP was asked by the USAID Mission to help the Mpumalanga Province Department of Health (MDOH) institutionalize quality assurance at various levels of the health system. By the end of the previous QAP contract in June 2002, the quality improvement program was operating in over 50 clinics and 10 district hospitals and covering maternal and neonatal health, tuberculosis (TB), and HIV clinical services. Under the current contract, QAP has continued to provide technical support to the MDOH in its efforts to expand the QA program to the remaining facilities and to expand improvement activities to other clinical services in the province. At present, the QA program covers all public hospitals (20) and 150 (out of 300) of the primary health care centers in Mpumalanga. In October 2002, QAP started work in Empangeni District in KwaZulu-Natal (KZN) Province. Since the start of the QA program in KZN, 8 hospitals and approximately 45 clinics in the province are receiving QAP technical assistance.

2.4.2 Activities and Results by Major Program Area
Institutionalize quality assurance systems at various levels of the health system in the target provinces

QAP-supported activities are playing an important role in improving access to and quality of health care services in South Africa. To improve the quality of care, QAP is facilitating the improvement of the health service delivery system by:

- Emphasizing meeting the needs of the target population through integration of services rather than improving separate service delivery systems;
- Using the continuum of care model to better focus health services on the needs of the client;
- Improving management capacity of health managers so that they can better assess needs, develop responsive plans, monitor planned activities, and evaluate performance;
- Introducing the methods of continuous improvement to achieve greater effectiveness, greater efficiency, more responsiveness to the needs of the population, and long-term sustainability;
- Fostering leadership skills for change and improvement;
- Strengthening the supervision system to develop a system where quality of care is monitored at the facility level; and
- Supporting and strengthening the use of the National District Health Information System (NDHIS) where feedback on data collected is provided to the facility level and where planning is based on data.

For rapid scale-up of high impact clinical services, QAP has applied a collaborative model whereby a large number of facilities and/or sub-districts work on improving the quality of a specific clinical service. Using this approach, QAP is facilitating a rapid expansion of improved practices that result in increased access to and quality of such essential services as VCT, TB treatment, care and support, and treatment of sexually transmitted infections (STI). Facility staff are receiving mentoring and support to redesign care processes to achieve greater efficiency and enhanced outcomes. Staff knowledge and skills have been enhanced though the use of job-aids and innovative in-service training programs. Monitoring and
assessment tools and job aids to enhance health worker adherence to quality standards have been developed for IMCI, TB, HIV, STI, PMTCT, and antenatal care services.

In the past 12 months, QAP has made significant contributions to the health program in Mpumalanga. The perinatal mortality (denominator: live or stillbirths between 24 weeks of gestation and 7 days after delivery) after the introduction of QA has declined from 46 per 1000 live births to 41. Similarly, the early neonatal mortality rate (denominator: live births from birth to 7 days after birth) has declined from 17 to 14.9. There have been substantial improvements in compliance with evidence-based guidelines. For example, many providers were not recording history of women in labor, doing physical exams of the mother, or carrying out APGAR scoring of the newborn. Similar improvements in compliance with evidence-based guidelines have been seen in the KwaZulu-Natal Province since the start of the project about nine months ago. Improvements in TB case detection and smear conversion are also being observed in the province.

**Assist in monitoring and improving compliance with standards of care, targeting priority services**

Under the QA program, each facility has been made responsible for monitoring quality at the local level on a regular basis. The facility staff carry out chart audits or reviewed registers on a regular basis to identify problems at the patient and clinic levels. Some of the indicators tracked at the local level include: VCT and Nevirapine uptake; TB case detection, case holding and cure rates; maternal and neonatal mortality rates; and compliance with specific clinical guidelines. This practice has continued with support from the current QAP contract. Most of the data collected thus far have been analyzed at the clinic level and not aggregated to develop district- or provincial-level trends. QAP is currently working with the NDHIS to make changes in the system so that district staff could enter data for quality indicators and the system could be used for monitoring quality indicators at district levels.

**Provide support to the National Department of Health and National QA Directorate in identifying and communicating “best practices”**

QAP has designed a “best practices” analysis of the Soweto PMTCT program, which has had high uptake of VCT and high acceptance of preventive treatment by pregnant mothers. The study is ready to commence, pending approval by the University of Witwatersrand’s IRB committee.

**2.4.3 Directions for FY04**

In the second year, QAP’s work will continue to expand in Mpumalanga and KwaZulu-Natal Provinces, to spread improvement activities to other facilities and new clinical areas, including HIV/AIDS. QAP will be providing support for QA institutionalization in three new provinces: Limpopo, Eastern Cape, and North West. QAP will also undertake a study of accreditation, at the request of the National Department of Health (NDOH). In addition, QAP will assist the NDOH in developing systems for the introduction of treatment, care, and support for PLWHA.

**2.5 Tanzania**

**2.5.1 Background**

The Ministry of Health in Tanzania recognizes that infection prevention (IP) practices in health facilities need major efforts to bring them up to acceptable standards of care. In the past few months, the MOH has committed itself to adopt national guidelines based on a recently published WHO/AFRO IP manual and to take great strides to implement these policies within health care facilities in Tanzania. Health workers in Tanzania have been concerned about their risk of acquiring HIV/AIDS as a result of poor infection control practices, especially universal precautions. Many have reported reluctance to treat HIV/AIDS
patients, especially for surgical procedures. Since February 2003, QAP has been working with the office of the Regional Medical Officer for Dar es Salaam to develop an Infection Prevention Collaborative among the three district hospitals (Aman, Mwanyanyamala, and Temeke District Hospitals) of this region. The Collaborative’s goal is to introduce evidence-based IP practices (based on WHO/AFRO infection prevention policies and guidelines) into the major operating theater, minor operating theater, labor and delivery, pharmacy, central supply, and laboratory in all the three hospitals.

2.5.2 Activities and Results by Major Program Area

Infection Prevention Collaborative

Since first beginning planning for the IP Collaborative in February 2003, the baseline assessment of IP practices at the three sites and assessment of health worker stigma associated with HIV/AIDS at the hospitals were completed. An Infection Prevention Committee (IPC) and Departmental Teams have been trained in each hospital in the implementation of IP policies and guidelines and in quality assurance methods (including data collection methods and use of supervision and monitoring tools). The baseline assessment of infection prevention practices in each of the three hospitals was conducted in April 2003. The collaborative’s first Learning Session with the participating teams was conducted over two meetings in April and May 2003. In that session—led by the Ministry of Health, the Director of Nursing Services of Aga Khan Hospital, and QAP—the teams learned about the role of a collaborative in quality improvement, quality assurance methods, and IPC responsibilities. The second Learning Session was held July 2003 at which the IPCs presented district priorities for change in Infection Prevention practices and regional priorities were agreed upon. Short-term goal areas include waste management, personnel and patient protection (hand washing and protective wear), appropriate disinfection, and sterilization practices. Mikocheni Mission Hospital, which is affiliated with the Hubert Kairuki Memorial Medical and Nursing University, has also joined the collaborative on its own initiative.

Study of stigma associated with HIV

To examine levels of stigma associated with HIV, QAP has designed a study of provider attitudes toward HIV+ patients. Data collection for the health worker HIV stigma study began in August 2003.

2.5.3 Directions for FY04

A four-day training session focused on the short-term regional priorities was conducted September 2003 in association with the MOH’s National AIDS Control Program. A professor from Muhimbili University College of Health Sciences, the Aga Khan Hospital’s IPC coordinator, Dispositek Africa (a waste disposal consulting agency partnering with the MOH to define hazardous waste management protocols and procedures), and QAP presented. The participating hospitals agreed on indicators to measure progress in implementation of change in each of the short-term goal areas and one medium-term goal area (the development of risk management and post-exposure prophylaxis programs at the hospitals).

The hospital teams are now in an action period of quality improvement activities to assure adherence to IP standards. Indicators of compliance with infection prevention standards will be tracked monthly at each hospital. Health workers participating in the IP Collaborative will be surveyed again after the collaborative ends to measure change in perceptions of HIV stigma. During the next year, leaders from this first phase will assist other hospitals to scale up improvement practices and introduce the collaborative approach to improvement in other districts.

Also in FY04, in conjunction with WHO, QAP hopes to undertake an interactive assessment of care of hospitalized children and use the results to launch a PHI collaborative in Tanzania.
Asia/Near East

2.6 Vietnam

The prior QAP contract received funding from the Leahy War Victims Fund at USAID to provide training and develop capacity in quality improvement methods in Vietnam in the area of Prosthetics and Orthotics/Rehabilitation (P&O/R), in partnership with Health Volunteers Overseas, which will provide technical content expertise. Our proposed counterparts for this assistance include the Danang Rehabilitation Center and possibly Hospital C in Danang, the Ministry of Labor, Invalids and Social Affairs (MOLISA), possibly the Ministry of Health (MOH), and the National Coordinating Committee on Disabilities. There have been many challenges in the process of beginning the P&O/R improvement project in Vietnam that have delayed the process for over two years. QAP has submitted several versions of a proposed workplan for review by the various partners. The last request, in January 2003, was to provide the MOH with another revised version of the workplan and budget. QAP submitted that proposal and a limited budget for in-country costs. At the end of Year One, QAP was still waiting for the MOH and MOLISA to sign a Memorandum of Understanding with USAID/Vietnam. We remain hopeful that project start-up activities will begin early in FY04.

Eastern Europe

2.7 Russia

2.7.1 Background

QAP started activities in Russia in 1998 in collaboration with the Central Public Health Research Institute (CPHRI) of the Ministry of Health of the Russian Federation in Moscow. Phase I adapted modern quality improvement methods to improve systems of care for women with pregnancy-induced hypertension (PIH) and infants with neonatal respiratory distress syndrome (NRDS) in pilot sites in Tver Oblast and to improve the system of hypertension care (HT) in pilot sites in Tula Oblast. In Phase II (2000-2002), the improved systems of care were scaled up in the entire Oblast in which they were originally developed. PIH was spread from 3 to 40 hospitals; NRDS was spread from 5 to 43 hospitals; and HT was spread from 5 to 289 clinics. Importantly, the champions from the teams in Phase I were the ones to lead the spread in Phase II. The improved systems of PIH, NRDS, and HT care yielded groundbreaking results in clinical outcomes as well as savings in the costs of care: early neonatal mortality in Tver Oblast fell from 10.8/1,000 in 1998 to 5.3/1,000 in 2001; the cost of the system of PIH care fell by 87%; and the number of patients managed at the primary care level for HT increased 7.6-fold with a consequent 60% decrease in hypertension-related hospitalizations.

QAP in Russia is now focused on a federal level roll-out of the QI methodology (Phase III). Phase III is using collaborative quality improvement methods to raise the quality of care in five clinical areas, engaging teams from approximately 30 territories of the Russian Federation. QAP is supporting the CPHRI to manage the collaboratives in a sustainable way (e.g., meetings are held at MOH facilities, participating oblasts cover their own costs, conservative use of print materials, minimal compensation to Directors and others) in order to establish a collaborative improvement process that can continue without QAP support. The project is also expanding the cadre of quality improvement experts in the Russian Federation who can carry on QI work in the future.
2.7.2 Activities and Results by Major Program Area

Scale up the collaborative improvement methodology on a national basis to improve quality of care in multiple clinical areas

To date, five collaboratives have been launched involving 48 teams from 23 Oblasts plus 10 Raions from Moscow Oblast, working on 16 clinical topics (some of the collaboratives are working on more than one clinical topic). A sixth collaborative on tuberculosis was cancelled due to lack of funds and time to pursue it. The collaborative themes and topics for improvement covered in Phase III include:

- **Hypertension** (20 teams)
- **Maternal and Neonatal Care**. Topics: Pregnancy-induced Hypertension, Neonatal Respiratory Distress Syndrome (11 teams working on one or both topics)
- **Secondary Prevention of Cardiovascular Diseases**. Topics: Diabetes Mellitus, Ischemic Heart Disease, Hypertension, and Hyperlipidemia (9 teams, all working on all the topics)
- **Maternal and Child Health**. Topics: Anemia in Pregnancy, Premature Births (in Maternity Hospitals), Infant Growth Monitoring, Breastfeeding, and Neonatal Jaundice (5 teams working on one or more topics)
- **Other Adult Conditions**. Topics: Bronchial Asthma, Chronic Obstructive Pulmonary Disease, Depression, and Breast Cancer (3 teams working on one or more topics)

Each collaborative uses a series of facilitated meetings of teams, with ongoing interaction among teams between the meetings through a web-based application developed specifically for this purpose. The web-based application has four functions: Electronic Messages & Listservs, Calendars, Archives, and Data Modules. It also has security levels and predetermined automated notification systems. The teams are using the web-based application throughout their work.

QAP’s technical assistance strategy in Russia emphasizes methodology adaptation, transfer of knowledge and skills, leadership development, and institutionalization. Throughout the three phases, QAP has continued to work “in the background,” promoting the role of Russian counterparts to the extent possible, supporting them to conduct most of the work described above. This has proven to be a very effective strategy; it contributed greatly to the success in Phases I and II. This strategy has also enabled the QA project to move from pilot to national spread with relatively modest funding.

By end June 2003, teams in each of the five collaboratives had completed their baseline assessments and participated in the first two learning sessions (seminars). At the first seminar, the team learned about the improvement model and how to analyze their current systems of care. At the second, the teams convened to review their current systems of care for the focus clinical areas and receive training in evidence-based practices and updated clinical content. Teams in all five collaboratives are now developing and testing changes to their systems of care and monitoring their results.

In early September 2003, the third learning session for the AH collaborative was held for teams to share experiences and ideas in implementing improvements. Collaborative directors have begun to make technical assistance trips to all territories involved in the improvement collaboratives. These trips train more team members in QI, coach teams, and bring together participants and leadership to build project support.

**Expand technical capacity in the Russian Federation in quality improvement**

A second major objective in Russia is to expand the cadre and network of quality improvement experts through building the capacity of Phase I and II “champions” and other professionals through training, coaching, and running quality improvement projects. Each collaborative is being run by 2 to 3 “champions” from Phases I and II. Dr. Rashad Massoud is holding Master Classes for all collaborative
directors to further enhance their ability to run collaborative improvement projects. The first Master Class was held in conjunction with the first learning seminar. All collaborative directors were involved in planning the first collaborative seminars and participated in the feedback sessions. After the first seminar, each director assumed greater responsibility for planning the next seminar, taking into account the lessons learned in the first seminar. The second Master Class was held in June. The Master Classes provide an opportunity for all directors and project staff to discuss how better to adopt the seminars of the collaborative improvement methodology to the Russian context. A special forum for Master Class members was created on the web-based application through which QAP provides ongoing guidance and technical support.

2.7.3 Directions for FY04
During FY04, teams in the five collaboratives will implement improvements and share results through the web-based application. QAP will continue to make technical assistance trips to territories to provide onsite support to collaborative teams and directors. A Master Class will be held to prepare collaborative directors for conducting seminars 3 and 4, which focus on sharing improvements and implementing changes. A final project conference of all collaborative teams and leadership is also planned for late FY04 to share results achieved to that point. While QAP assistance to the collaboratives will end in FY04, the work of the collaboratives is expected to continue after close-out of QAP activities.

Latin America and the Caribbean

2.8 Ecuador

2.8.1 Background
In 2002, QAP successfully completed an OR study to test a continuous quality improvement (CQI) model applied locally in district hospitals and demonstrate its effect on compliance with MCH standards, client satisfaction, and utilization of services. Based on the pilot test's positive results, the MOH decided to scale up the CQI model to more districts in the “Free Maternity Program,” a publicly financed social insurance program that assures provision of a basic package of MCH services to all mothers and children. This year QAP began a new operations research study to support and document the scale-up of CQI focused on maternal and child health services in eight of Ecuador’s 22 provinces through the Free Maternity Program. This activity is funded through three sources: the LAC Health Sector Reform Initiative, core funds, and the LAC Maternal Mortality Reduction Initiative (MMRI). National authorities and the Provincial Health Directorate of Tungurahua Province in Ecuador are also participating in the LAC MMRI essential obstetric care improvement collaborative (see related text in section 2.14).

2.8.2 Activities and Results
The current OR study is documenting the scale-up effort in 40 districts. It will also describe the institutionalization process, emphasizing the relationship of the CQI scale-up to the health sector reform elements embodied in the Free Maternity Program. Some of these features are expected to facilitate a “pro-quality” environment: a) separation of roles in the health system; b) new method of payment to providers; c) involvement of users’ committees; and d) role of local governments.

In this first project year, 38 MOH CQI facilitators from the eight participating Provincial Directorates and Health Areas finalized their training, participating in the second and third workshops on CQI methods. Fourteen CQI teams completed and began to implement improvement plans at their health districts. A second measurement of compliance with quality MCH standards was carried out by CQI teams in all 14 Health Districts. A short-term consultancy was also completed to prepare a background document on the
origins and development of the Free Maternity Law and program. The background document had been requested by the USAID LAC Health Sector Reform CTO. Data collection was started on variables related to the “enabling environment” for supporting quality improvement at the district level.

At the central level of the MOH, the coordinating group for this study was strengthened by the Ministry’s decision to add members of the Maternal and Child Care Division to the group providing oversight to the Free Maternity scale-up. Moreover, QAP was officially made a member of the Technical Advisory Committee of the Free Maternity Program. This MOH-led Committee also includes UNICEF, PAHO, UNFPA, Family Care International, the National Council of Women (CONAMU), the National Association of Municipal Governments, and other government institutions. QAP also collaborated with CONAMU in planning for the formation and functioning of users’ committees, which are envisioned in the Free Maternity Law. QAP is advising CONAMU on developing the role of these committees in improving quality of care.

2.9 Honduras

2.9.1 Background
QAP began assistance to the Ministry of Health (MOH) in Honduras in 1997, designing and implementing a QA system to improve the quality of maternal and child health services in a demonstration health region. QAP supported the development of an integrated QA model in Health Region 2 (Comayagua) and assisted with a range of core QA activities, including standards development and communication, compliance monitoring, quality design, and quality improvement teams. QAP also supported the local implementation of the national QA regulatory mechanism of facility licensing. The region created its own Quality Assurance Unit to coordinate all QA activities, and QA facilitators were named from each hospital and health area in the region. In the first year of the new contract, the MOH and USAID asked QAP to expand the QA institutionalization activities to a second region, Region 5 (Santa Rosa de Copan). In addition, Honduras has agreed to participate in the regional EOC Improvement Collaborative.

2.9.2 Activities and Results by Major Program Area
Institutionalize a comprehensive QA program in Regions 2 and 5
In this first year of the new contract’s work in Honduras, QAP made important advances in the process of institutionalizing the CQI system in Region 2 (Comayagua). Ten CQI teams have been formed in the three hospitals in the region and in maternal clinics and health centers, beginning in February 2002. Twelve facilitators, who are MOH staff working at different facilities, have been coaching these teams since approximately September 2002. The facilitators received special training on CQI methods and coaching from QAP. The CQI teams monitor monthly compliance with the standards, identify areas or processes with poor quality, analyze their root causes, and devise and implement improvement plans.

With QAP technical support, the MOH’s regional directorate concentrated its QA efforts on maternal and child care and established eight quality standards and their corresponding indicators for antenatal care and six standards for labor and delivery. These standards have been introduced in all the facilities in the region and are now subject to routine quality monitoring. In April 2003, quality monitoring was expanded to include three standards for family planning activities, two for early detection of cancer of the cervix, and five for IMCI.

The CQI model put in practice in Region 2 is being progressively institutionalized within the regular managerial structure of the Ministry of Health and the Regional MOH office. The aim is to develop and showcase an institutionalized CQI model that the MOH will then replicate in other regions in Honduras. Important features of this institutionalization process have been the creation and functioning of the
Regional QA Unit, staffed by a full-time professional paid by the MOH. The Regional QA Unit works through the 12 CQI facilitators to support the facility-based CQI teams. It also receives and aggregates data from the CQI teams on monthly indicators of standards compliance. Other staff members of the Regional MOH office also provide support to the Regional QA Unit. Funds for improvement plans are being progressively allocated within the budgets of the strategic plans of the health districts where the CQI teams work.

Quality of maternal and child care, as measured by compliance with technical quality standards, has improved steadily for most processes since QI teams were first organized in Region 2 in February 2002. Because of the CQI teams’ work, 90% of the women who deliver in public hospitals or maternal clinics in Region 2 now receive quality care.

In the last quarter of Year One, QAP began work with the Regional Directorate in Santa Rosa de Copan to organize a regional QA structure to support CQI activities and begin training in CQI for district and hospital teams.

**Support institutionalization of QA at the central level of the MOH**

QAP also continues to provide technical support to the central level QA Unit of MOH in Tegucigalpa, which consists of three full-time MOH-paid professionals. The QA Unit has played an active role in the institutionalization of the CQI model in Region 2, overseeing and supporting the regional QA Unit in Comayagua and the CQI facilitators, and monitoring aggregated data from the regional QA Unit. The central QA Unit is also developing, with QAP technical support, an initial experience with client satisfaction assessment and improvement methods in four hospitals in Tegucigalpa.

**EOC Improvement Collaborative**

June witnessed the formation of the National Coordinating Group to oversee Honduras’ participation in the regional EOC Improvement Collaborative. Led by the MOH, the group includes PAHO, USAID, UNFPA, EngenderHealth, JHPIEGO, and QAP. The group chose Region 5 as the area for the collaborative. Region 5 has three districts—Copan, Gracias Lempira, and Ocotepeque—each of which has a district hospital and may be considered a distinct EOC system. Support for the collaborative will be provided by QAP/Honduras advisor Dr. Norma Aly and Drs. Luis Fernando Vieira and Jorge Hermida of QAP’s Quito office. (See also section 2.14 below.)

**2.9.3 Directions for FY04**

In the second year, continued technical support will be given to the QA program in Region 2, but greater efforts will be directed at developing a structure to support QA in Region 5, including strengthening of the Regional QA Unit, training of CQI facilitators, forming QI teams, and monitoring quality systematically. QA institutionalization activities in Region 5 will be closely coordinated with the roll-out of the EOC Collaborative Improvement activities there. QAP will also assist both regions in establishing mechanisms for community participation in monitoring the quality of health services through the organization of users’ committees and client satisfaction surveys. At the national level, QAP will provide technical support for the development of a national Quality Assurance Policy, the creation of a National Quality Council, and the training of national level CQI facilitators.

**2.10 Jamaica**

**2.10.1 Background**

QAP started its work in Jamaica in 1998 when it was invited by USAID to help the National Family Planning Board with the updating of the contraceptive guidelines. QAP also provided support for the dissemination of the guidelines and for strengthening the supervision system. Under the prior QAP
contract, support was also provided for the evaluation of the PMTCT program and the development of adolescent or youth-friendly standards of care for reproductive health. QAP has continued providing technical support to the Ministry of Health (MOH) in these and other areas that support the institutionalization of QA and improvements in quality of care in the country.

2.10.2 Activities and Results by Major Program Area

Improve the quality of PMTCT and HIV treatment, care and support services

In the past year, QAP has assisted the Ministry of Health in revising the PMTCT program guidelines. The results of the QAP-supported PMTCT program evaluation provided important insights into what aspects of the strategy needed revision. The revised guidelines help better integrate VCT into antenatal care services. Also, the revised program relies on rapid test kits and the dispensing of Nevirapine (NVP) tablets to mothers in the last trimester of pregnancy. These strategies should improve uptake of NVP among HIV+ mother/child pairs. However, during much of the current year, rapid test kits were not available in MOH facilities.

Conduct operations research to support improved quality of PMTCT and VCT services

QAP completed an assessment of the care and support program for people living with HIV/AIDS (PLWHA). The study showed that access to care and support among PLWHA was a problem. QAP has also designed a study to follow-up HIV+ women who have participated in the pilot program through December 2002. It is expected that over 300 HIV+ women and their infants have received Nevirapine. However, no data are available regarding the health status or sero-conversion of the babies since their birth. Also, unknown is information about the health-seeking behavior and infant feeding practices of these women. Study results will be used to further refine the PMTCT and HIV care and support systems.

2.10.3 Directions for FY04

QAP will continue to provide support in operationalizing the new PMTCT guidelines at the facility level in three parishes and in initiating quality improvement activities. The improvement package to be implemented at the parish level will include: facility-based refresher training; process redesign; facility-based monitoring of uptake of VCT and NVP; customer satisfaction assessments; and tracking of provider compliance with interpersonal communication and counseling guidelines.

Based on the results of the PLWHA study, QAP will provide a small grant to CHARES to improve the quality of home-based care. A similar grant may be provided to the Jamaican AIDS Society. The NGO-based programs will work closely with community health centers to provide quality care and support, including psycho-social and palliative care. The NGOs will be responsible for monitoring the results of the QA-supported interventions.

One out of five HIV-infected persons is also co-infected with TB. The MOH does not have any protocols for treating TB. Because the increase in TB in the country is a recent phenomenon, the MOH is only now beginning to address it and is planning to develop national guidelines over the next few months. QAP will assist the MOH in developing and operationalizing the TB guidelines.

QAP will work with the bilateral Youth.now and the MOH to use a collaborative approach to improvement in those facilities where the youth-friendly standards and self-assessment process has been introduced.
2.11 Nicaragua

2.11.1 Background
Since November 1999 (post-Hurricane Mitch), QAP has collaborated with the Ministry of Health and the family planning NGO, Profamilia, to establish quality assurance programs based on the definition of standards and indicators of quality of care for maternal and neonatal health services. With very modest Mission funding, our team in Nicaragua, led by Drs. Nuñez and Urbina, has added remarkable progress to that already achieved in the first two years of work under the previous QAP contract. There are now six major areas of involvement, any one of which would be impressive for the level of funding received. In total, the project is working in nine of the country’s 17 SILAIS (local health systems).

2.11.2 Activities and Results by Major Program Area

Institutionalization of the quality assurance system at the central level of the MOH
With strong support from QAP’s resident advisors, the Minister of Health’s office has appointed QA coordinators at the SILAIS level who are responsible for organizing and monitoring QA activities at both the primary and secondary levels. In May, the MOH approved QA system plans, including regulation of the private sector, which our QAP team helped develop.

Quality improvement in Essential Obstetric Care
QAP has expanded its geographic coverage of the Essential Obstetric Care (EOC) quality assurance program that we are helping to institutionalize within the Ministry of Health. Four new SILAIS (Chinandega, Nueva Segovia, Madriz, and Bluefields/Atlantic South) were added this year to the four we had been working with under the previous contract (Jinotega, Matagalpa, Boaco, and Granada), raising QAP’s coverage to eight of the 17 SILAIS in the country (47%). Moreover, the scope of the work has expanded to include both the first and second levels of care. For example, to assure safe delivery, QAP assisted staff in 10 hospitals to conduct quality assessments in labor and delivery, surgery, and neonatal units, focusing on antisepsis practices and use of liquid disinfectants. These assessments have revealed many opportunities for quality improvement by more effectively using existing supplies to guarantee safe deliveries. All eight SILAIS are in the process of making quantitative measurements of critical care processes for pregnant women and newborns, defining quality standards and indicators for ongoing monitoring, and implementing small scale improvement activities following iterative Plan, Do, Study, Act (PSDA) cycles. In helping to support the QA Coordinators, QAP has also begun work with SILAIS staff on improving the work environment and client relations.

Strengthen the QA Program of NGO Profamilia
QAP continues to support Profamilia in its 17 clinics throughout the country in consolidating its quality assurance program, which was begun with URC assistance under the previous contract. Achievements have been impressive, including launching Profamilia’s National Quality Assurance Program, formation of 17 quality teams, ongoing monitoring of clinical records to improve technical quality, ongoing measurement of external user satisfaction, design of medical care guidelines and manuals, and improvement in processes such as waiting times, privacy of external users, and institutional image.

Quality improvement to reduce perinatal mortality
A fourth major area of QAP involvement in Nicaragua is to contribute to a national initiative to reduce perinatal mortality at the hospital level; this effort is jointly sponsored by the MOH, UNICEF and PAHO. QAP will work with 10 hospitals in nine SILAIS to improve the quality of perinatal care. Planning for this work began at the end of Year One.
EOC Improvement Collaborative

The National Coordinating Group for Nicaragua’s participation in the EOC Improvement Collaborative is led by the MOH and includes PAHO, USAID, UNFPA, UNICEF, and QAP local staff. The group held its first meeting in June. At the request of the MOH, these institutions have held several meetings to share their work in maternal care and to coordinate their efforts within the EOC Collaborative. Three of Nicaragua’s 17 SILAIS were selected to participate in the EOC improvement collaborative: Matagalpa, Bluefields/Atlantic South, and Chinandega. Each SILAIS has a departmental hospital. QAP technical support for the collaborative will be provided primarily by Dr. Luis Urbina. (See also section 2.14 below.)

Pediatric Hospital Improvement Collaborative

QAP will also support the participation of five hospitals (representing five SILAIS) in the Pediatric Hospital Improvement Collaborative. In the first quarter of Year Two, QAP will assist the hospitals to conduct baseline evaluations of the level of quality of health services provided to critically ill children under 5 years old at the hospital level (see section 5.3 below).

2.11.3 Directions for FY04

In Year Two, QAP’s team in Nicaragua will continue to institutionalize the application of QA at both the primary and secondary care levels in nine SILAIS (Matagalpa, Jinotega, Boaco, Granada, Chinandega, RAAN, RAAS, Nueva Segovia and Madriz). They will assist teams participating in the regional EOC collaborative to implement comprehensive EOC at the secondary care level, basic EOC at the primary care level, and community actions to increase the demand for institutional care. They will also support the learning sessions and first action periods of the Pediatric Hospital Improvement Collaborative to improve the management of severely ill children under 5 years old. Finally, the MOH has requested QAP support to improve the quality of care in the country’s emergency rooms. A consultant will be hired locally and work with Johns Hopkins Center for Disaster and Emergency Care to assess the quality of care, make recommendations and establish a collaborative approach to implementing improvements.

2.12 Peru

2.12.1 Background

In Year One, QAP provided technical assistance to MaxSalud, a Peruvian NGO, to build a Continuous Quality Improvement (CQI) system, initially focused on maternal care, in its network of four urban clinics in Chiclayo, Peru. Peru has also pledged to participate in the regional EOC Collaborative.

2.12.2 Activities and Results by Major Program Area

Institutionalization of CQI in MaxSalud

With QAP’s support, MaxSalud developed a set of 21 quality of maternal care standards and indicators that cover prenatal care, labor and delivery, post-partum care, neonatal care, and family planning. Protocols and clinical guidelines were also developed by MaxSalud’s professionals for many of these services.

A central QA managerial group, headed by MaxSalud’s director, was also formed. This group provides leadership to the CQI system and oversees the work of the CQI teams. One of the first actions of this group was to discuss, approve, and disseminate a CQI policy document that formally describes the CQI system, establishes quality of care goals and strategies, and assigns responsibilities for CQI activities to CQI teams, clinics staff, directors, and the managerial group.
CQI teams in each MaxSalud clinic now carry on monthly measurements of compliance with the standards, identify gaps, and implement specifically tailored improvements. To be able to do so, CQI teams—doctors, nurses, midwives—were trained by QAP in methods for measuring and improving technical quality and client satisfaction. One specific example of improvement across all four clinics is how MaxSalud was able to improve the quality of care for labor and delivery. When a CQI team was struggling to increase the correct use of the partograph and compliance with clinical guidelines in every delivery, they realized that deliveries that occurred at night were attended by the resident doctor. However, while midwives had been trained at the university to use the partograph, the general doctors had not. Moreover, the general doctors have a high turnover rate at MaxSalud, while midwives do not. Instead of deciding to train all doctors in using the partograph, the CQI team decided to test a change in the process. All deliveries would be attended by the midwife on night call, and Max Salud would pay her a little more if she had to be called in at night to the clinic. Compliance with the partograph standard rose dramatically and almost immediately, from 47% (35/74) to 78% (71/91). Both the midwives and the doctors were satisfied with the new policy, and mothers received a higher quality of care. This successful process change was applied to all clinics. Similar process changes have been applied to other services by CQI teams.

Client satisfaction improvement mechanisms have also been put in place. Monthly rapid exit surveys of client satisfaction are being carried out in each clinic, and CQI teams analyze indicators obtained from these surveys. Satisfaction indicators allow teams to identify, monitor and improve specific aspects of satisfaction addressing perceived waiting times, client-provider interpersonal interactions, perceived cleanliness and comfort, etc. The result for MaxSalud has been an increase in demand for its services, improving the NGO’s financial sustainability. This has led USAID to support MaxSalud’s expansion to new geographical areas in Peru, such as Cajamarca and San Martin.

**EOC Improvement Collaborative**

The National Coordinating Group for Peru’s participation in the EOC Collaborative was formed and held its first meeting in June. The group selected Huánuco Region to participate in the collaborative; it has one secondary level hospital and three ambulatory networks (Huánuco, Leoncio Prado, and Marañón). USAID asked that QAP work closely with the Catalyst Project to complement the clinical training and community outreach activities that Catalyst is supporting in Huánuco. USAID will provide operational support for the activities of the collaborative in Peru through the Catalyst Project. QAP’s Collaborative Director, Dr. Hermida, has held several planning meetings with the MOH (both Maternal Care and Quality of Care Divisions), USAID, PAHO, and the local team of the Catalyst Project managed by Pathfinder International. The first meeting of the National Planning Group is planned for July. (See also section 2.14 below.)

### 2.12.3 Directions for FY04

In Year Two, QAP’s focus in Peru will be the implementation of the EOC Improvement Collaborative in the three local health systems encompassed by Huánuco Region. The first learning session, where teams will learn to make their baseline measurements of quality of obstetric care, will take place in October. QAP will continue to provide assistance to MaxSalud.

### 2.13 Regional Health Sector Reform Initiative (LAC HSR)

#### 2.13.1 Background

QAP is contributing to the LAC Health Sector Reform (HSR) Initiative with a series of activities that enhance the ability of health sector reform efforts in Latin America and the Caribbean to have an impact
on quality of care. The work builds partly on the collaboration with PAHO, which was established during the previous QAP contract.

2.13.2 Activities and Results by Major Program Area

Scale-up of the Free Maternity Program

The main activity during the first year of this contract was to begin a study in Ecuador on the impact of the 2000 “Free Maternity Care” Law on scale-up of continuous quality improvement from four to one third of all health districts (covering eight of Ecuador’s 22 provinces). The first part of this study has been completed. This includes an analysis of the objectives and legislative process followed to develop and enact the Free Maternity Law, describing the political, technical, and budgetary and advocacy factors that were important in its successful enactment. The report also describes how the program links improving coverage and access to basic services with improving quality of care. The report, which will include an English executive summary, is being edited and will be distributed for feedback.

Review of Regulatory Experiences in LAC

QAP has initiated a review of current efforts in Latin America and the Caribbean to regulate the quality of healthcare through accreditation, licensure, certification, or registration of healthcare providers or facilities. The review, which will be completed by October 2003, will describe current initiatives by country; identify cross-cutting themes, successes, and challenges; and suggest ways in which the LAC Health Sector Reform Initiative can support these efforts through research and information exchange activities.

2.13.3 Directions for FY04

In the past two years, QAP has worked with PAHO to develop a framework for assuring quality of care under health sector reform. The major activity in QAP’s FY04 workplan under this initiative will be to test the application of the framework in one country. We will also provide materials for the Initiative website, including the framework as well as other tools, methodologies and experiences of the project from Latin American countries that could be considered as part of reform activities, such as the collaborative approach to improving the quality of care in decentralized systems of care. QAP will also help support and participate in the final conference of the Initiative in the summer of 2004.

2.14 Regional Maternal Mortality Reduction Initiative

2.14.1 Background

USAID’s Latin America and Caribbean Maternal Mortality Reduction Initiative (MMRI) seeks to build up LAC regional and national capacity and policy environments that support maternal mortality reduction and help target countries to implement evidence-based practices at the service delivery and community levels to reduce maternal and newborn mortality. QAP and the PAHO are USAID’s implementing partners for a two-year extension of the Initiative through FY04. QAP’s role in the Initiative extension is to develop local EOC capacity in an expanded number of sites in target countries, based on extending the EOC institutional and community model developed in the first phase of the Initiative to multiple new sites in up to nine countries.
2.14.2 Activities and Results by Major Program Area

Implement a regional EOC Improvement Collaborative to rapidly scale up EOC systems in more sites and target countries

In order to achieve this rapid expansion during the two-year time frame, QAP initiated this year the first ever international improvement collaborative to take place in developing countries in the field of maternal care. The goal is to rapidly scale up integrated EOC systems in multiple sites in up to five target countries. Following training in the collaborative improvement method by faculty from IHI, QAP staff developed in February-March 2003 the basic documents to guide the EOC collaborative: Charter, Change Package, and Measurement Strategy. In February, at a regional technical meeting convened by PAHO, QAP presented the proposed EOC Collaborative to delegates from the Maternal Health programs of the Ministries of Health of the Initiative’s 11 target countries, as well as PAHO country staff in charge of maternal care programs. The delegates’ response was highly enthusiastic, with 9 countries expressing interest in participating in the collaborative.

In March, QAP presented the technical plans for the EOC Collaborative to 17 experts in Maternal Care from LAC countries, the United States, the Centro Latinoamericano de Perinatología (CLAP), and PAHO at a meeting in Quito. QAP also presented the concept of the EOC Collaborative to LAC USAID Missions at the SOTA meeting in Miami and held one-to-one discussions with USAID Mission staff from 7 countries, explaining the planned EOC collaborative in detail.

During April-June, QAP held discussions with MOH officials in Ecuador, Honduras, Nicaragua, and Peru, again detailing the EOC collaborative, and every country agreed to participate. QAP met with key national stakeholders in each country and helped to create a National Coordination Group to oversee the collaborative and select the area(s) that will participate in the collaborative. The areas ultimately chosen are: Tungurahua Province in Ecuador (which includes one second-level hospital and 7 districts, 3 of them with a district hospital); Region 5 (Santa Rosa de Copan) in Honduras (which encompasses 3 EOC systems, each with its own hospital); the SILAIS of Matagalpa, Bluefields/RAAS, and Chinandega in Nicaragua (each with a departmental hospital and constituting a separate EOC system); and Huánuco region in Peru (with one secondary level hospital and three ambulatory networks).

The USAID Mission in the Dominican Republic also expressed interest in participating but requested that an initial QAP visit to discuss the EOC Collaborative be postponed until September.

Over the course of the collaborative, which will end in September 2004, teams at the provincial, district, and facility levels in each country are linked through meetings, e-mail, and the Internet to share best practices and innovations. The aim of the collaborative in each country is to rapidly scale up best practices and implement locally defined solutions to establish an integrated model of high quality essential obstetric care in an entire province or region, with the eventual goal of spreading the new model of care to each country’s entire health system.

Document the Scale-up of the Free Maternity Program

LAC MMRI funds are also partially supporting the documentation study of the scale-up of the CQI component of Ecuador’s Free Maternity Program (see section 2.8.2).

2.14.3 Directions for FY04

Teams participating in the collaborative are now entering the intensive period of implementing improvements, shared learning, and monitoring results. A website to facilitate sharing of results among teams will be launched in October, and an international meeting of the national and provincial planning groups from each country participating in the collaborative is planned for January 2004. The EOC collaborative is scheduled to end in September 2004, when national conferences will be held in each
participating country to present the results of the collaborative and to plan for the spread of improved practices to other regions.

3 Short-term Technical Assistance

3.1 ACTMalaria

In June 2003, QAP Training Director Thada Bornstein spent four weeks as a course advisor/trainer for the international ACTMalaria course, “Transfer of Training Technology,” for the Southeast Asia region, held in Kuala Lumpur, Malaysia. Prior to the training, she contributed teaching materials on QI and collaborated on the planning of sessions. The goal of the training was to enable participants to design, develop, conduct, manage, and evaluate training courses using the principles of Instructional Systems Design. Although the course is tailored to malaria, it is generic and could easily be customized for any service sector. The curriculum was designed and conducted primarily by a team from the Malaysia MOH Vector-Borne Disease Unit; the training was attended by malaria service people whose job responsibilities include designing curricula and conducting training courses. Participants attended from Malaysia, Laos, Thailand, Indonesia, Cambodia, Philippines, and Vietnam. During this hands-on course, participants developed a project proposal for a training curriculum to be implemented upon their return. They used the four-step problem-solving QI approach to determine that their problem was due to a lack of knowledge and skills (thus requiring training or other learning activity as the solution). They proceeded with a training needs assessment (audience analysis and task analysis), objective writing, and so on, with one-on-one assistance provided by the course advisors.

3.2 Global Polio Eradication

The laboratory containment of potentially infectious poliovirus is a critical step in the polio eradication process. Over the past year, QAP provided technical assistance to WHO’s Polio Eradication Initiative to develop and test guidelines and a process for evaluating the quality of implementing polio laboratory containment requirements. The initial instruments and process were tested in Hungary, Germany, the Philippines, and Vietnam. The most recent version has been adopted by the European Region and is in use, both in the self-assessment format and the interview format. In May, the guidelines were used during an informal assessment of containment activities in the United Kingdom. They have also been implemented in Spain. We believe that WHO/EURO will be requesting all countries to provide documentation based on the guidelines for their next update, due later this year. India seems interested in adopting the guidelines in their present format. Our consultant believes that the Global Commission will ultimately require documentation based on the guidelines. This assistance has had to break new ground in developing an evidence basis and a process for the combined self-evaluation and external review of biologic containment activities in a way that respects both national sovereignty and appropriate international standards.

3.3 International HIV Treatment and Access Coalition (ITAC)

QAP has participated as an active member of the International Coalition for Treatment, Access and Care for HIV (ITAC), serving on the Quality of Care Working Group. QAP has helped to define the scope of this working group, its workplan, and a related proposal aimed at the development of standards across the continuum of HIV care and support.
3.4 Maximizing Quality and Access (MAQ) Initiative

QAP continues to participate and provide leadership in the MAQ Initiative, especially in the Subcommittees on Management and Supervision, and the newest subcommittee, Organization of Work. During the past year, QAP also provided technical follow up and support to the MAQ-supported teams in Nicaragua and Guatemala on the implementation of their QI projects. QAP participated in the Annual MAQ mini-university in May, making a presentation on the collaborative improvement approach; QAP also participated in the planning of the MAQ-WHO meeting on implementing best practices, which was to have been held in India in March and was re-scheduled and held in September.

3.5 WHO Child and Adolescent Health Division

QAP is working closely with WHO’s Child and Adolescent Health Division to develop the materials and implement the Pediatric Hospital Improvement Collaborative. In this capacity, QAP has been involved in the technical review of related documents and in developing generic assessment instruments, as well as the related facilitation guide. QAP is also helping to implement and evaluate the Emergency Triage, Assessment and Treatment (ETAT) training, as one of the capacity development interventions to improve pediatric emergency care at first level referral hospitals. In August 2002, QAP Deputy Director Dr. Diana Silimperi served as a technical advisor and facilitator during the WHO/AFRO regional meeting in Uganda to review the current status of inpatient pediatric care in Africa. QAP experiences were presented and the Eritrea work highlighted. In addition, QAP has provided ongoing technical updates and is sharing its materials and methods with the Division to integrate QA into IMCI programs. QAP also continues to collaborate with the Child and Adolescent Health Division in the development of the IMCI computer-based training (see section 4.1).

3.6 WHO Chronic Care Model

In November 2002, the WHO Non-Communicable Diseases and Mental Health Division requested that QAP participate in a technical meeting to discuss WHO’s new Chronic Care model to support more comprehensive, higher quality care for chronic conditions, including HIV/AIDS. QAP participated in the technical meeting in Geneva in February 2003 and contributed to the final report, which addresses how the model can be applied. We hope to support the application of the model to the care of persons with disabilities in Vietnam in FY04. We are also using elements of the chronic care model to guide the collaborative improvement work in Russia.

4 Core Technical Activities

4.1 Computer-based Training

4.1.1 Background

The interactive computer-based training (CBT) program Integrated Management of Childhood Illness, a CD-ROM initially developed by QAP in collaboration with the Ugandan Ministry of Health and WHO, allows trainees to follow a multimedia-based training course that mirrors the traditional course material and presents simulated patients and includes testing of trainees. The product was field-tested in Uganda under the previous contract; there QAP found that, for 20% less cost, trainees using the computer-based course received the same scores on post-training knowledge tests and in field compliance observations. This year’s work concentrated on revising the content and enhancing interactive features of the program. This activity has received technical and partial financial support from the WHO. We are also developing a
Spanish version to be implemented in Bolivia. We expect to finish both English and Spanish versions in 2003. Target audiences for this computer-based training program includes health providers from both public and private sector, trainers, and medical and nursing students.

4.1.2 Activities and Results
In June 2003, preparations were made for usability testing of the CBT program in Eritrea, and testing took place the first week in July. In this round of testing, participants of different profiles (physicians, nurses, students, instructors) worked with the program’s content and interactive exercises. The feedback was very positive and demonstrated that even computer illiterate participants found using the program easy. Planning also started for further field evaluation and implementation, and discussions have been held with the Eritrean Ministry of Health and College of Nursing and Health Technology.

QAP made substantial progress on the Spanish version the IMCI CD-ROM this year. This program was tested for usability in Bolivia in June 2003. Once again, the feedback was very positive, and diverse participants’ comments indicated the program was easy to use. Discussions have been held with the IMCI Department of the Ministry of Health regarding future implementation in Bolivia. The Spanish version will be also finalized by the end of 2003. QAP also held discussions with the National TB Program of Bolivian MOH on plans for evaluating the TB Case Management CD-ROM; this activity will start later this year.

Discussions also took place with organizations in Nigeria, India, Nicaragua, and the Philippines to identify potential collaborators for evaluation and implementation of QAP computer-based training products.

4.1.3 Directions for FY04
In the first half of Year Two, we will finalize the English IMCI CD-ROM, finishing development of all exercises, assessment tools, and the library/glossary and completing the final programming. We plan to present the IMCI CD-ROM at USAID and WHO in December and then field-test the computer-based training in Eritrea in conjunction with the Quality-IMCI work QAP is supporting there. Completion of development and programming of the Spanish IMCI CD-ROM is expected by December, to be followed by field-testing in Bolivia.

4.2 Operations Research

4.2.1 Background
Operations research studies in QAP have two focus areas: (1) supporting delivery of key services in USAID’s five strategic objective areas, and (2) QA issues. The QA issues of particular interest in the project’s OR program include: methods for monitoring quality of care; approaches to increase compliance with clinical guidelines; more cost-effective strategies for quality improvement; increasing counterpart capacity to design higher quality systems of care; increasing counterpart capacity to design job aids; evaluating computer-based training and distance learning strategies; strategies of performance-based incentives for providers and administrative personnel; standards-based evaluation strategies for private sector activities; evidence related to quality of human resource management; relationship between cost and quality; and evaluation of the organization, performance and impact of QA programs.

This year, we focused on starting new research studies in support of the HIV/AIDS strategic objective and on critical workforce issues. New procedures for soliciting, approving, implementing, and disseminating results of OR studies were drafted to place greater emphasis on the development of research activities that directly support QAP institutionalization activities in our main country programs.
4.2.2 Studies and Results

Our Year One target of initiating five new OR studies was exceeded: nine new studies were initiated in the first year, of which the first two were completed.

Study 1: Compilation of Programmatic Evidence on PMTCT and Infant Feeding

As a technical collaboration with UNICEF, QAP undertook this year a review of evidence of programmatic experience related to infant feeding and preventing transmission of HIV from mothers to their children (PMTCT). The results were presented at WHO in Geneva in February, at UNICEF in April, at a conference in South Africa in May, and to USAID/Tanzania in May. The revised UNICEF/WHO guidelines are scheduled for release in late 2003 with an accompanying copy of the study’s final report. (See section 5.4.2 for summary of results.)

Study 2: Analysis of Workforce Requirements to Scale-up PMTCT and ARV Programs in Zambia

This study was performed by one of our small business subcontractors, Initiatives Inc., and was aimed at assisting the Government of Zambia to determine whether it will have the staff to scale up VCT, PMTCT, and ARV as planned, and to contribute to better understanding of human resource requirements for HIV/AIDS services in other countries. The results were presented to the Government of Zambia and then at a seminar at USAID in Washington in June. The final report will be completed by October 2003. (See section 5.4.2 for summary of results.)

Study 3: Assessing Stigma in Rwanda

We have designed the study and analysis plan, which includes six focus groups of providers, six focus groups of PLWHA, and interviews of providers from 13 sites. We have completed the six focus groups of providers, and we are completing the six PLWHA focus groups. The analysis of these focus groups will facilitate further development of the interviewing tool.

Study 4: Follow-up HIV+ Mother-Baby Pairs in Jamaica

The study is designed to assess sero-conversion among babies of HIV+ mothers. Work has just begun and results are not yet available.

Study 5: Incentives in Zambia

One component of the Zambia health reforms has been the introduction of cost sharing, which requires that 90% of all revenues accrued by a health center from user fees be used by that health center to improve health services and that the remaining 10% may be used to pay a “bonus” to the health center staff to promote improved performance. In reality, the 10% bonus, when divided equally among all the staff at a health center, is negligible and has done little to either motivate staff or improve performance.

Three District Health Management Teams want to explore the potential for reconfiguring the use of the 10% so as to have more impact on staff performance. The study proposes to answer three questions: Can financial bonuses influence health center performance in priority areas (e.g., promotion of a higher proportion of pregnant women attending antenatal care)? How do performance-based financial rewards influence motivation for staff who receive them and those who do not? Is a performance-based bonus system perceived as more satisfying (fair and rewarding) than the current “everyone gets an equal share” system?

Study 6: Functional Analysis of PMTCT Programs in South Africa

This study of a “best practice model” has just started and will identify elements of the Soweto PMTCT program that have a potential for scaling up. The assessment tools have been finalized, and data collection is expected to begin in August.
Study 7: Improving the Quality of Client Purchases of Anti-malarials from the Private Sector in Kenya

Prior work by QAP uncovered many of the problems associated with the private malaria drug market in Kenya, with performance measures of retail drug sellers under 2%. Previous efforts aimed at wholesale and retail sellers of malaria drugs have been further improved and programs to educate consumers implemented, in part by QAP. An evaluation of this effort found that consumers obtained a recommended drug and dosage 52% of the time from program area drug sellers compared to only 10% in the control area. This effort is being documented and is scheduled for transfer to other districts in Kenya.

Study 8: Accreditation/Regulatory Options in South Africa

This study of current accreditation activities and development of regulatory policy options in South Africa began recently. It was requested by the National Department of Health.

Study 9: Transporting Sputum from Clinics to Lab Facilities in South Africa

This study is assessing the effectiveness of private agents and the use of cellular telephones for sending lab results to clinics. The telephones will also be used for reminders for follow-up visits.

Planning for new studies to be implemented in Year Two

In addition, planning started for three other new studies in Rwanda that will initiate in Year Two and that directly support quality improvement efforts in that country: 1) Adherence to ARV therapy in Rwanda; 2) Evaluation of outcomes of ARV therapy in Rwanda; and 3) Analysis of workforce needs for the scaling up of HIV care in Rwanda. (See section 5.4.2 for more details.)

Completion of QAP II Study Reports

Operations Research reports with the results of the following studies initiated in the prior QAP contract were completed in Year One: Ecuador Laboratory Economic Wastage; Assessment of Use of the QA Kit; Kenya Vendor-to-Vendor/Neighbor-to-Neighbor Study of Anti-malarial Performance by the Private Sector; Niger Improving Adherence to Cotrimoxazole for the Treatment of Childhood Pneumonia; Niger QAP/BASICS QA Program Two-year Follow-up; South Africa Accreditation Impact study; and Zambia IMCI job aids study.

To learn about the factors that affect the quality of maternal care during delivery in hospitals in developing countries, further analysis was done of the data collected in the three multi-country studies of skilled birth attendants and the quality of maternal care that were begun at the end of the prior QAP contract. (Section 5.2.2 discusses the findings.)

4.2.3 Directions for FY04

In Year Two, we will formalize the procedures drafted this year to guide the streamlined review of new OR study proposals and monitor approved studies in appropriate ways. We will focus on completing studies initiated in Year One and preparing articles on results for submission for publication in peer-reviewed journals. Topics that have been proposed for new OR studies in Year Two include: HIV workforce study in Rwanda; development of a computer model for projecting HIV/AIDS care workforce needs and costs; pediatric care standards; evaluation of MAQ Exchange activities in Latin America; study of the effect of community perceptions of skilled birth attendant competency; low-cost methods to measure obstetric complications; quality design of malaria rapid diagnostic test instructions (Philippines, Laos); scale-up of job aids and initial dosage for pneumonia care (Niger); and nursing workforce development.
4.3 Regulatory Approaches to Quality

In Year One, QAP provided technical assistance related to regulatory approaches to quality in Eritrea (see section 2.1) and conducted further analysis of the accreditation impact studies whose field work had been completed in South Africa and Zambia under the prior QAP contract. The studies sought to measure the impact of facilitated accreditation programs in each country on process measures of service quality and health outcomes. The design of the South Africa study produced interesting but controversial results, demonstrating that the facilitated accreditation program had a clear and positive impact on the accreditation indicators, but controversial impact on the more integrative research measurements that were intended to measure outcomes. The different perspectives about the interpretation of the results led to a decision by QAP to include extensive commentary by JCR and COHSASA in the QAP OR Results publication, now in the final stages of editing. The Zambia study was ended before the full evaluation could be completed. Nevertheless, the potential impact of the program was apparent, but at a price.

Papers on the QAP hospital accreditation findings in South Africa and Zambia were submitted and accepted for oral presentation at the September 2003 International Conference on the Scientific Basis of Health Services and at the November 2003 ISQua conference. QAP will also present a half-day workshop on implementing accreditation in developing countries at the ISQua conference.

In Year Two, we will conduct a study on accreditation options for the National Department of Health of South Africa and prepare a review of experiences in Latin America with accreditation and other regulatory strategies aimed at assuring competency of facilities and providers. QAP will continue its work on the use of focused accreditation, especially to improve adolescent health services and child health services. In addition, QAP plans to evaluate the impact of the introduction of selected standards in hospitals on related outcomes such as mortality and morbidity, nosocomial infections rates, pediatric outcome, and adverse events such as medication errors. We also plan to revise and update the Licensure, Certification, and Accreditation Monograph, and develop and test performance indicators for use in developing country hospitals.

4.4 Technical Leadership/Communication

4.4.1 Background

QAP is well recognized in the international donor and cooperating agency community for our technical leadership in quality assurance. This year we have made an important advance in this role by introducing the improvement collaborative methodology to USAID-assisted health programs. QAP’s involvement with the Institute for Healthcare Improvement and the Clinton Foundation in adapting the improvement collaborative approach to address HIV/AIDS and the project’s sponsorship of new improvement collaboratives addressing essential obstetric care, pediatric hospital care, infection prevention, maternal and child health, and chronic conditions are significant because they put USAID’s quality assurance program at the forefront of the international quality improvement movement. QAP has ongoing collaborations with both WHO and PAHO in multiple technical areas, and we are working closely with numerous other USAID cooperating agencies at both the global and country levels. Dissemination of QAP results and methods through technical publications and participation in international conferences has remained strong, as detailed in the table below.

4.4.2 Activities and Results

Development and dissemination of technical reports and publications on QA methods and results

This year the project published a major new monograph on the Institutionalization of Quality Assurance. The monograph was presented at a QAP-sponsored workshop on QA institutionalization at the ISQua
meeting in Paris in November 2002. The institutionalization monograph was also translated to French, and 300 copies were distributed at a national QA workshop in Morocco. Five new OR results papers and two case studies were published.

To streamline dissemination and reduce costs, the primary channels for disseminating new QAP publications this year were to post PDFs on our project website, announce new publications via e-mail, and distribute publications at conference presentations and exhibits. In January 2003, we began sending brief e-mail announcements to a list of approximately 500 individuals, representing cooperating and donor agencies and individuals working in QA in developing countries, to announce the web-posting of new QAP publications. In addition, the new institutionalization monograph, case studies, and selected operations research reports were distributed to USAID Missions through PAL-TECH.

An important milestone was achieved this year through the publication of the first Special Supplement of the *International Journal for Quality in Health Care* dedicated to quality assurance in developing and middle-income countries. QAP Director, Dr. David Nicholas, and Deputy Director, Dr. Diana Silimperi, served as guest editors for the Special Supplement, which reported results from QAP research in Chile, Ecuador, Mexico, Niger, Zambia, and Zimbabwe and featured methodological articles describing QAP approaches to QA program evaluation and the institutionalization of quality assurance.

The American Society for Quality (ASQ) requested permission to adapt our Modern Paradigm for Quality Improvement monograph to create a generic state-of-the-art guide to quality improvement for application to fields other than health. A non-profit professional organization, ASQ will appropriately reference the USAID QAP monograph as the source document and make it available electronically and free-of-charge through their website.

**Dissemination of QAP results and methods at international conferences and briefings**

As shown in the table, QAP staff made presentations on QA results and methodological approaches in six international health and QA conferences and three regional conferences. For the second year in a row, Dr. Rashad Massoud, QAP Associate Director, served as Co-Chairman of the European Forum on Quality Improvement in Healthcare, which is increasingly directed toward developing country participants. In addition to a QAP display at the Global Health Council meeting in May at which the project’s print and CD-ROM products were distributed, the Tuberculosis Case Management CD-ROM was selected as one of the top 24 USAID-supported innovative health technologies for display at an exhibit by the Population, Health and Nutrition Information Project. Seven briefings were conducted for USAID and cooperating agency staff on QAP’s work on HIV/AIDS, tuberculosis, compilation of evidence regarding HIV and infant feeding, SO2 studies, and improvement collaboratives. Oral presentations on QAP results were submitted and accepted for presentation at the International Conference on the Scientific Basis of Health Services in Washington in September 2003 and at the annual meeting of the American Public Health Association (APHA) in San Francisco in November 2003.

**QAP Technical Publications and Presentations: 7/01/02–6/30/03**

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**Operations Research Reports/Summaries**


**Monographs**


**Case Studies**


**Briefings for USAID and Cooperating Agency Staff**

6/03 Presented results of Zambia study on workforce implications of HIV program expansion at the Global Bureau

5/03 Briefings for USAID/Tanzania and USAID/South Africa on the HIV and infant feeding compilation of evidence study

4/03 Briefing for Clydette Powell of Global Bureau on QAP activities to improve quality of tuberculosis programs

4/03 Briefing/Seminar on QA for headquarters’ senior staff of ORBIS, an international eye care PVO

3/03 Presented results of first phase of the Latin American Maternal Mortality Reduction Initiative and plans for the Regional EOC Improvement Collaborative to LAC Mission staff at the LAC SOTA meeting held in Miami, FL

2/03 Presentation to AID/W SO2 Group on the results of the three maternal health studies on competency of skilled birth attendants, third delay, and non-competency factors affecting quality of labor and delivery care received in hospitals in Benin, Ecuador, Jamaica, and Rwanda.

8/02 Briefing/Training on QA for Catholic Relief Services Health Workshop for USA and field staff

**Conference Presentations**

6/03 Presented results of skilled birth attendant competency study and facilitated two group sessions on evaluation of skilled birth attendance at the PAHO-sponsored Regional Consultation on Skilled Attendance at Birth in Santa Cruz, Bolivia

5/03 Presented 1 workshop (quality improvement methods) and 1 individual presentation (tuberculosis quality improvement results in South Africa) at the Global Health Council meeting in Washington, DC

5/03 Presentation on the Improvement Collaborative methodology at the MAQ Mini-University held in Washington, DC

5/03 Presentation of findings from the compilation of evidence related to HIV and infant feeding at the Sixth Annual Congress of the Commonwealth Association of Paediatric Gastroenterology and Nutrition in Drackensberg, South Africa

4/03 Presented 2 minicourses (Implementing and sustaining a quality program and Adapting the collaborative model to different settings), 1 oral presentation (Applying improvement methods in HIV infection and AIDS), and 2 posters (Qualitative study of health provider empowerment through QA and Building leadership for improvement in Russia) at the European Forum in Bergen, Norway

2/03 Presented results of first phase of the Latin American Maternal Mortality Reduction Initiative and plans for the Regional EOC Improvement Collaborative to MCH directors from 11 LAC countries attending the PAHO-sponsored Regional Maternal and Child Health meeting held in Washington, DC

11/02 Presented 2 workshops (quality improvement methodology and institutionalization of QA), 3 oral presentations (Combined effects of a CQI program and health sector reform in Ecuador, Focused accreditation of youth-friendly services, and Improving quality through microprojects), and 1 poster presentation (Applying quality methodology to infection prevention) at the ISQua conference in Paris, France

11/02 Made 1 oral presentation (Economic analysis of evidence-based guidelines for arterial hypertension in Tula Oblast, Russia) and 3 QAP staff served as session moderators at APHA annual meeting in Philadelphia, PA

10/02 Made 1 oral presentation on the results of the SO2 studies at the White Ribbon Conference in New Delhi,
India

9/02 Made 1 poster presentation on Using Quality Assurance Approaches for Increasing Return on Investments in HIV/AIDS in Jamaica at the 4th International Conference on Priorities in Healthcare in Oslo, Norway

Management of the project website

Work began in Year One to redesign the QAP website to reflect new scope of work and country activities and to reprogram the site to enable direct access to discrete pages. We added a search function and site map to the existing website to facilitate navigation. The redesigned website will be launched in October 2003. We also investigated Intranet software to create a project intranet, in conjunction with a planned URC corporate intranet. The first product tested (Intranet Connections) was unsatisfactory; testing of another intranet product (Instant Intranet Builders) will begin in October.

Terms of reference were drafted for a Request for Proposals (RFP) from small business contractors to design a web-based application in English, Spanish, and French to support data sharing and communications for the project’s improvement collaboratives. The RFP is expected to be issued in September 2003.

4.4.3 Directions for FY04

In Year Two, the project will give priority to developing articles for submission to peer-reviewed journals and linking with electronic dissemination channels of other international and USAID cooperating agencies. Following the launch of the redesigned QAP website, we will translate the core website text on project activities and approaches to Spanish and French in order to create fully navigable website sections in those two languages. The remaining operations research results reports and case studies begun under the prior contract will also be published. We also expect to begin developing new technical publications and making conference presentations to communicate new results and methodological innovations (e.g., application of improvement collaboratives in developing countries).

4.5 Training

4.5.1 Background

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

4.5.2 Activities and Results

In Year One, among the many trainings that the project carried out are the following:

- A four-day training in January 2003 for QAP Bethesda and field staff and Rwandan counterparts on the IHI Improvement Collaborative methodology. IHI faculty presented the curriculum from IHI’s Breakthrough Series College, followed by two days of working sessions of QAP and IHI staff to discuss how the Breakthrough Series model and IHI’s experience with collaboratives (particularly their ongoing TB collaborative in Peru) could be adapted for the national contexts in which QAP works. Staff also discussed plans for the Rwanda HIV collaborative, the Latin American EOC collaborative, and the Russia national scale-up collaboratives.
- **Eritrea**: A 5-day supportive supervision and QA training for first line supervisors was conducted with half of the nursing and allied health professional staff at the College of Nursing and Health Technology in Asmara and Southern Zone; the training focused on standards, monitoring, improvement of infection prevention, emergency obstetric care and IMCI. Self-study training materials for orienting QAP-hired nurse tutors were also developed, then modified for use with faculty at Eritrea’s College of Medical Technology, focusing on the Nursing Tutors (lecturers, preceptors) though other professionals also attended (microbiologist, lab technician). A half-day workshop was held to orient the members of the infection prevention committee at the Maternity Hospital in Asmara to their roles and responsibilities. QAP staff also provided an overview of universal precautions at in-service training sessions with physicians; the sessions had been organized by the infection control committee at Halibet Hospital. Onsite mentoring and capacity development in QA and IMCI have been conducted in all regional hospitals. The integration of QA into the IMCI Supervisor Follow Up Training was completed and implemented in 3 zones.

- **Tanzania**: In April and May, training was provided in three sessions for teams at three district hospitals (Amana, Mwananyamala and Temeke) on the following topics: improvement collaboratives as a mechanism of rapid quality improvement; quality improvement in healthcare and the role of data collection and analysis; rapid quality improvement cycles; and infection prevention techniques (e.g., sorting and disposal of hospital waste, hygiene and handwashing, personal protective wear).

- **Southeast Asian Region (12 member countries of ACTMalaria)**: As discussed in section 3.1, QAP participated in the region ACTMalaria course in Malaysia, building capacity among national malaria and vector-borne disease program staff to develop local training programs based on sound Instructional Systems Design principles.

- **Rwanda**: As part of the HIV and Malaria Collaboratives, training was provided in collaborative improvement methods and clinical content for teams from 18 sites for the HIV Collaborative and for the four district teams participating in the Malaria Collaborative.

- **South Africa**: QA training was conducted for staff of the Northern Cape and Valley Trust in KwaZulu-Natal.

- **Peru**: Workshops in CQI methods were organized for the four Quality Improvement teams in MaxSalud clinics in Chiclayo.

- **Ecuador**: Thirty-eight MOH facilitators from the eight Provincial Directorates and Health Areas participating in the scale-up of the Free Maternity Program were trained in three workshops on CQI methods.

- **Russia**: Training in quality improvement methods and clinical content areas was completed for all five national improvement collaboratives. Each training was attended by 1 to 4 representatives from each of 5 to 10 Oblasts. In addition, the two first Master Classes for collaborative directors and improvement advisors were held in April and June.

- **Nicaragua**: Training in quality improvement and maternal/neonatal care for teams from all the SILAIS in which the project is working.

### 4.6 Workforce Development

#### 4.6.1 Background

In the new contract, QAP is directing greater attention to improving the management of human resources so as to increase productivity, efficiency and performance according to standards of care. The project is
conducting research, providing technical assistance, and supporting pilot level demonstrations in a limited
number of workforce issues where results of improvements can be obtained in a relatively short period
and add to the evidence base of effective human resource management/workforce development
interventions. QAP subcontractor, Initiatives Inc., is providing technical support for the project’s research
on workforce issues.

4.6.2 Activities and Results

Zambia Workforce Analysis for HIV Service Expansion: Data were collected and compiled at the 16
study sites; data collectors de-briefed the respective district and provincial directors to give them
immediate and detailed (site-by-site) feedback on what they had seen and found. A presentation on the
study’s preliminary findings was made at USAID on June 27, 2003. A draft report was submitted to URC,
USAID/Washington, USAID/Zambia, and the Zambia Central Board of Health. Initiatives will
incorporate feedback on the draft report and suggestions made during the USAID presentation to finalize
the study report by the end of September.

Rwanda Workforce Analysis for HIV Service Expansion: Planning began to apply the methodology
used in Zambia to assess Rwanda’s workforce needs for scaling up HIV care to the entire country. This
study is scheduled to begin in October 2003.

Zambia “Bonus” Incentive Study: The District Director in Zambia who had wanted to conduct this
study with Initiatives was transferred in December 2002, so another suitable district and district director
were identified by March, but by then the AIDS Workforce Study took precedence. The Incentive Study
was re-scheduled for detailed design in September, with an anticipated start date of October/November
2003.

Rwanda study of health provider behavior that stigmatizes patients with HIV/AIDS: This study has
three parts: focus groups with providers from six PMTCT sites, focus groups with patients, and interviews
with providers from 12 PMTCT sites. Six focus groups were held with providers from six PMTCT sites
in Rwanda: two urban and four rural. Results from the PMTCT focus groups were shared with
USAID/Rwanda and with CNLS (the office in the Rwandan government in charge of training healthcare
workers and addressing stigma). Recommendations based on findings include: reinforce universal
precautions at PMTCT sites; provide post-exposure prophylaxis at these sites; ensure provision of proper
and sufficient protective equipment; training; general management of patients with HIV and TB;
counseling; knowledge of risk; and infection control/prevention measures.

Haiti stigma study: Planning has begun to conduct a study similar to that being implemented in Rwanda.
Principal investigator Rachel Jean-Baptiste, PhD, will travel to Haiti in September to finalize instruments
and begin data collection.

Eritrea nursing workflow study: This study was conducted in hospitals with technical assistance from
QAP to assess current nursing staffing levels to provide an equitable distribution of staff and increase
efficiency. Data were collected in the maternity ward in Mikane Hiwet Hospital and in two pediatric
wards and the medical and surgical wards at Adiugri Hospital in Mendefera. Data have also been
collected regarding staffing patterns at various institutions (Halibet, Massawa, Keren, Ghinda, Mendefera,
and Mikane Hiwet). Two dimensions will be considered: How are the nursing staff using their time in
various types of facilities and services and How much time are the staff providing care to the patients
during a 24-hour period? This information will support decision-making on the use of staff time in the
hospitals.

Eritrea workforce development: A pre-service nursing curriculum on QA/QI will be developed for
Eritrea and implemented in the College of Nursing and Health Technology and the Associate Degree
Schools of Nursing. An initial introduction to QA/QI has been given to approximately half of the nursing
and allied health professional staff at the College of Nursing and Health Technology in Asmara by J.
Reinke in April. Six African nurse tutors were deployed to Eritrea to review the Community Health Nursing Curriculum for the post-basic degree in nursing for the MOH and update the Procedure Manual for diploma and associate nursing students.

Functional analysis of PTCMT staffing in South Africa: The data collection instruments were finalized and an application to conduct the study was submitted to the University of Witwatersrand’s ethics committee. It is expected that data collection will begin September 2003.

4.6.3 Directions for FY04
In addition to completing workforce-related studies initiated in Year One, we have submitted proposals to the USAID SO4 group to conduct assessments of workforce needs for PMTCT and HIV care in additional countries. We will explore the feasibility and needs for developing an interactive computer-based projection model for determining the costs of human resource requirements for HIV service expansion. National and/or regional workshops on addressing human resource needs for HIV expansion will also be considered. We also plan to conduct a seminar on workforce issues and QA, to review experience to date and identify priorities for further QAP research.

5 USAID Strategic Objective Areas

5.1 SO1 Population

5.1.1 Background
QAP’s SO1 group focuses on ways to increase QAP’s role in USAID population activities and to adapt quality assurance and quality improvement to the area of population. QAP continues to play a lead role in the MAQ initiative at USAID by leadership and involvement in the Management and Supervision and Organization of Work subcommittees.

5.1.2 Activities and Results
Following the LAC Regional MAQ Exchange in 2002, QAP provided technical assistance in quality improvement to participants who received seed grants to help and encourage small-scale quality improvement projects. Site visits were made to seed grant recipients in Nicaragua and Guatemala. QAP also continued its active role in MAQ Subcommittees and the annual Mini-University. During this last year, QAP also joined and contributed to the Better Practices Consortium.

5.1.3 Directions for FY04
Training Director Thada Bornstein will travel to India in September to participate in the Reproductive Health Best Practices Consortium meeting. Follow-up technical assistance visits to MAQ seed grant recipients will be made to three countries in the LAC region (Dominican Republic, Nicaragua, and Guatemala). QAP will assist in the design and evaluation of the LAC MAQ, and initiate a family planning collaborative in Latin America.
5.2  SO2 Safe Motherhood

5.2.1  Background
Improving the quality of and access to Essential Obstetric Care (EOC) and Skilled Attendance at Birth continues to be a major focus of our QA institutionalization activities and operations research in Latin America and Africa (see discussion in sections on South Africa, Russia, Nicaragua and the LAC Maternal Mortality Reduction Initiative).

5.2.2  Activities and Results
Four-country SO2 Studies on the enabling environment, SBA competence, and third delay

In the last year of the previous QAP contract, we began three separate multi-country studies, each focused on one maternal health research question: (1) How can the competency of skilled birth attendants (SBA) be measured? (2) What in-facility delays occur during labor, delivery, and postpartum care that might be responsible for maternal complications and their poor outcomes? (3) What factors other than SBA competency contribute to the quality of maternal and immediate newborn care during the labor, delivery, and postpartum periods? This year, we continued our analysis of the data previously collected in Benin, Ecuador, Jamaica, and Rwanda.

The three studies have produced a number of interesting results. Competency testing of SBAs, using written tests and simulated performance with mannequins based on international standards, proved to be credible but lengthy and difficult to schedule. Shortened versions are needed. Large gaps in competency were found in each of the four countries, particularly related to the management of third stage labor. Delays were assessed from 329 patient records and observations of 856 cases. Among numerous notable delays across all four countries were the diagnosis of obstructed labor and the treatment of sepsis and post-abortion care. Increased delays were observed in more complex situations, such as during day shifts at large hospitals. The quality of care provided and associated factors were assessed from 228 observed births and 328 record reviews of complicated cases. The observed cases indicated that the frequency of monitoring during labor and newborn care was erratic and well below international standards, and the quality of delivery and postpartum care was very low, under 50% in most hospitals, with some tasks rarely performed at all. Performance on complicated cases, as measured from patient records, was better, over 90% for sepsis and well above 50% for postpartum care and eclampsia.

Draft reports were submitted to national authorities in Benin, Ecuador, Jamaica, and Rwanda for review. Preliminary results from the three studies were presented at the White Ribbon Conference in India (October 2002), to USAID’s SO2 group (February 2003), and at the regional technical consultation on skilled attendance at birth that was organized by PAHO in Santa Cruz, Bolivia, in June 2003. Final papers are in preparation.

LAC Maternal Mortality Reduction Initiative
As discussed in section 2.14, QAP began work this year with PAHO and Ministries of Health in Ecuador, Honduras, Nicaragua, and Peru to implement the first international improvement collaborative on essential obstetric care. The collaborative’s aim is to establish an integrated EOC system, addressing the continuum of care from the community level to the second referral level, in at least one province, with an eye toward eventual scale-up of the improvements to the entire national health system. The collaborative will run through the end of FY04. Instruments, tools, and results will be made available on a collaborative website, scheduled for launch in October 2003.
**Improving maternal care in Nicaragua and Honduras**

As part of the institutionalization of QA in Nicaragua, teams are conducting quality assessments in labor and delivery, obstetric surgery and neonatal care and implementing quality improvement interventions to assure safe delivery in eight of the country’s 17 local health systems (see section 2.11). Similarly, in Honduras, quality improvement and monitoring activities in Region 2 are addressing six quality standards for labor and delivery care (see section 2.9).

**Ecuador Free Maternity study**

In Ecuador, QAP is supporting the introduction of continuous quality improvement methods as part of the national scale-up of the Free Maternity Program, which guarantees access to selected maternal and child health interventions (see section 2.8).

**5.2.3 Directions for FY04**

We are now developing proposals for follow-on research to the four-country Maternal Health Studies to further test and validate the instruments used to measure the competency of birth attendants and to develop and validate lower-cost instruments and data collection methods to assess the quality of labor, delivery, and postpartum care. The final reports from the three SO2 studies and the individual country reports will be published and journal articles prepared on key findings. Presentations on the findings of the SBA competence study and the study of factors affecting compliance with international maternity standards of care will be presented at the International Conference on the Scientific Basis of Health Services in Washington, DC, in September and at the ISQua Conference in Dallas in November 2003.

**5.3 SO3 Child Health**

**5.3.1 Background**

In August 2002, QAP provided technical assistance to WHO/AFRO at a regional meeting to review current hospital care practices in Africa and WHO’s new “Referral Care Manual.” The need for a systematic, generic hospital assessment instrument was recognized, as well as the importance of linking the assessment with quality improvement. Recognizing that improving the quality of pediatric hospital care had not received adequate attention, QAP initiated an international improvement effort to improve the care of hospitalized children with serious infections and severe malnutrition through the application of evidence-based standards. The effort would also improve recognition and management of emergency conditions in children under 5 years. The focus of QAP’s SO3 work in the first year has thus been to help countries implement a child healthcare model that 1) cuts across the continuum of child health, from the community to hospitals, 2) is driven by evidence-based standards, 3) is focused on the most common conditions that cause morbidity and mortality, and 4) is spread by shared learning through a collaborative approach to improvement.

WHO/AFRO and the Division of Child and Adolescent Health in Geneva are most interested and supportive of this approach; they have invited QAP to participate/present at several regional meetings, as well as provide technical advice within WHO Working Groups. WHO is urging the development of materials to introduce this approach in other countries and participated in the recent Eritrean quality improvement exercise addressing severe infections and malnutrition.

**5.3.2 Activities and Results**

In order to close the gap between actual care and desired care, a collaborative approach to improving inpatient hospital case management of children 0-5 years was launched in three countries (Eritrea, Niger and Nicaragua) and plans made for its launch in another two countries in Year Two (Guatemala and
The aim of the Pediatric Hospital Improvement (PHI) Collaborative is to improve hospital care of sick children with serious infections and severe malnutrition through implementation of case management guidelines (including improved emergency triage, assessment, and treatment, or ETAT) and ongoing quality improvement. Within each participating country, an interactive hospital assessment is first undertaken to identify current practices of care, contrast current practices with the WHO evidence-based guidelines, and introduce the WHO referral care manual. Immediate onsite improvement is initiated during the assessment, and the results are used to sensitize decision-makers, mobilize practitioners, and launch a focused, hospital collaborative improvement effort within each country. It is expected that 5-15 hospitals in each country will participate in the first collaborative action, with anticipated spread to all hospitals within 2-3 years, depending on the country. A core set of common indicators will be used to measure improvement and serves as the basis for determining whether the aims of the collaborative are met for each country. Communication among the national referral hospitals in all the countries will be facilitated over the life of the collaborative.

During the last year, QAP developed, field-tested, and implemented an interactive assessment instrument, along with associated training materials and analysis/report formats. The assessment has been completed in Eritrea and the collaborative improvement launched in 10 of the 19 hospitals in the country that provide pediatric care. Nicaragua has also completed its assessment in 5 hospitals, each in a different SILAIS, and agreed on the collaborative’s implementing structure. Plans were made to conduct the baseline assessment of case management of serious infections and severe malnutrition in young children to initiate PHI activities in Niger and Malawi.

5.3.3 Directions for FY04

Pediatric hospital improvement

Following the initial assessment and collaborative improvement sessions, the teams participating in the PHI Collaborative will introduce guidelines of care for hospitalized, seriously ill young children and infants and implement rapid quality improvement interventions to improve the quality of case management and emergency care. QAP will assist teams in developing and evaluating job aids to improve performance of health providers caring for sick children and caretaker compliance with treatment. In Eritrea, ETAT training and the second collaborative improvement session will take place in September 2003. Both Nicaragua and Niger completed their assessments, disseminated results and will initiate improvement sessions by the fall of 2003. Protocols and workplans have also been developed for Malawi and are planned for Guatemala in early 2004. A WHO-sponsored West Africa PHI regional meeting will take place in Niger in October 2003, with QAP providing key technical and facilitation support. QAP’s assessment instrument and the collaborative approach to improvement will be introduced to participating Francophone countries. WHO hopes to use QAP’s generic instruments and approach in other countries and has asked QAP to assist in its efforts to improve pediatric hospital care in Asia

Quality IMCI

During the next year, QAP will also scale up Quality-IMCI in Eritrea, introduce the integration of QA within the IMCI program in Niger, and assess the impact of the Improvement Collaborative in IMCI in Guatemala. In these 3 countries, QAP will also initiate some efforts to improve the quality of community-based IMCI. Thus, by the conclusion of FY04, QAP will be working across the continuum of care, to improve the care of sick children from the home to the hospital.

Computer-based technology

Full-scale “usability” testing of both English and Spanish versions of the IMCI CD-ROM is planned for the summer of 2003 in Eritrea and Bolivia. The Project also aims to assess the actual effect of the product within an IMCI Program. This information will then inform early implementation of two national IMCI
programs. WHO has been supporting this effort financially and is quite interested in using CBT within national programs. Utilization of the CBT to reach private practitioners will be incorporated in the study.

**Operations research**

Certification of Health Workers [Eritrea]

The QA Project proposes to work with a network of providers from the public sector, NGO s and private practitioners to evaluate the impact of "certification" to enhance their implementation of IMCI, increase client satisfaction and improve clinical outcomes.

**Job aids**

Parallel job aids for the caregiver and provider have been shown to hold great promise for increasing adherence and thereby reducing the likelihood of resistance in both the Vendor-to-Vendor/Neighbor-to-Neighbor project in Kenya and a similar intervention related to the use of Cotrimoxazole for treatment of childhood bacterial pneumonia in Niger. During the next year, QAP proposes further OR to develop and test job aids that enhance IMCI performance of providers as well as caregivers.

### 5.4 SO4 HIV/AIDS

#### 5.4.1 Background

QAP is committed to creating sustainable systems of health services delivery for HIV/AIDS Care and Support, including services for sexually transmitted infections and opportunistic infections in developing countries. QAP HIV/AIDS activities are aimed at increasing quality and use of HIV/AIDS services and preventive practices, including voluntary counseling and testing and prevention of mother-to-child transmission of HIV, and improving related provider knowledge, skills, and performance. QAP is also addressing the quality of laboratory and diagnostic services and human resource issues related to appropriate staffing and scale-up of HIV/AIDS services.

#### 5.4.2 Activities and Results

**Rwanda HIV Collaborative**

QAP is supporting the national AIDS commission, TRAC, to implement a Collaborative Improvement Project on PMTCT and PMTCTplus services in 14 sites, involving all major donors and facilities providing HIV/AIDS services in the country. (See section 2.3.)

**South Africa VCT**

QAP is helping the Departments of Health in Mpumalanga and KwaZulu-Natal Provinces to improve the quality of PMTCT, VCT, STI, and TB services. (See section 2.4.)

**Jamaica PMTCT**

QAP is working with the MOH in four parishes to improve the quality of PMTCT and HIV treatment, care and support services. (See section 2.10.)

**Tanzania infection prevention**

In Tanzania, concern among health workers about their risk of acquiring HIV/AIDS as a result of poor infection control practices is being addressed through QAP’s collaborative improvement project to implement WHO infection prevention guidelines in three hospitals. (See section 2.5.)
Operations research

Programmatic evidence on PMTCT and infant feeding. The review of programmatic experiences related to infant feeding and preventing transmission of HIV from mothers to their children that QAP carried out this year in collaboration with UNICEF and WHO highlighted the multiple challenges faced by programs related to training, counseling, logistics, community support, and behavior change. It also draws attention to the continuing confusion of healthcare workers and communities alike about the best infant feeding options for mothers with HIV. More than 100 documents from 17 countries were initially reviewed, including field research, program evaluations, rapid assessments, and conference abstracts. Of these, 46 reports were selected and summarized for their valuable insights and hard-to-find information on a variety of complex issues surrounding infant feeding in the era of AIDS. The analysis of key findings was based on questions generated during a recent international colloquium on HIV and infant feeding, with additional input from a number of key informants. Results were clustered around seven broad issues: general universal findings, exclusive breastfeeding, exclusive replacement feeding, informed choice, male involvement, stigma and abuse faced by mothers perceived as having HIV, and formula use. The research team also examined the role of public education and behavior change communication programs, perceptions of health workers and mothers about infant feeding and their knowledge about transmission of HIV, as well as issues related to the scaling up of PMTCT programs. The review is the first attempt of its kind to collect and analyze a wide range of worldwide program experience on the topic and will assist the international health community in updating and adapting the international guidelines on HIV and infant feeding guidelines.

Workload and staffing requirements to scale up PMTCT and ARV programs in Zambia. This study was conducted to aid the Government of Zambia to determine whether it will have the staff to scale up VCT, PMTCT, and ARV as planned under its proposals to the Global Fund. Data were obtained over a 2-4 day period per site using direct observation, facility record review and interviews with providers, for VCT and PMTCT at 3 government hospitals, 5 government clinics, and, 3 NGO facilities (VCT only), and for ARV at demonstration sites in 2 government hospitals, 2 private facilities, and one NGO facility. The data included interviews with 102 providers (e.g., doctors, nurses, volunteers), 320 direct client observations, 42 observations of laboratories, and 25 observations of ARV dispensing sites (largely pharmacies). The large quantity of data thus obtained has been tabulated and a first analysis completed. Among the many findings are: (1) at the best sites, pre- and post-test counseling takes 40-44 minutes regardless of HIV status; (2) vertical services (by staff who provide only HIV/AIDS services) are substantially more effective and less costly than integrated services (by staff who provide a full range of health services); (3) when pilot projects that pay incentives to HIV counselors end along with the incentive payments, counseling services fall off rapidly; (4) the average time across all demonstration sites for ARV initiation, monitoring and dispensing was 22, 15 and 8 minutes per client, respectively; (5) although current training of VCT counselors varies from 1 to 8 weeks, and of PMTCT counselors from 2 to 8 weeks, depending on the curriculum used, there is no apparent correlation between length of training and counseling performance.

Cost figures are being calculated for alternative assumptions about scale-up. One alternative assumes that all residents of Zambia are tested and counseled appropriately once per year at an efficiency equal to the best observed site and the current mix of types of providers, and that 20% of HIV persons will require anti-retroviral therapy. These assumptions imply that to accomplish this, Zambia would require a minimum of 958 additional counselors, 302 additional doctors, and 119 additional pharmacy technicians at an annual salary cost of $11.6 million (USD), not counting training or other costs.

Healthcare worker attitudes toward HIV/AIDS stigma. QAP initiated in Year One a study of the impact of HIV/AIDS stigma among healthcare workers on the quality of care provided in PMTCT services in Rwanda. In Year Two, we plan to replicate this study in Tanzania and Haiti.
Adherence to ARV therapy in Rwanda. We have designed a draft study plan, not yet approved, which includes interviews with HIV+ patients using ARVs who come for medical care to King Faisal Hospital, including adherence and its barriers. We have identified a research coordinator at the hospital and a research assistant who would actually do the interviews.

ARV therapy outcomes in Rwanda. We have been asked by the Rwanda Ministry of Health to evaluate the outcomes of all people currently receiving ARVs in Rwanda. This would include documentation of the impact on CD4, viral load, and hospitalizations, using 2002 data from the six major sites that have been providing ARV in Rwanda to date. Discussions have been held with these sites, with a positive result. A detailed workplan is being drafted with the expectation that the study will start by the end of 2003.

Workforce to scale-up for HIV care in Rwanda. This study would apply the methodology used in Zambia to assess Rwanda’s workforce needs for scaling up HIV care to the entire country. It is anticipated that this analysis would be the first part of a larger study to test interventions to meet these workforce needs. Discussions have been held with Initiatives Inc. to schedule the first country visit in September or October.

5.4.3 Directions for FY04
A major focus of the project next year will be on the human resource requirements for large scale expansion of HIV/AIDS treatment. Our efforts in Year Two will also be directed at supporting the ongoing HIV Collaborative in Rwanda, continuing to expand activities to improve the quality of HIV/AIDS services in South Africa and Jamaica, completing the HIV/AIDS-related OR studies begun or planned in Year One, and disseminating results. We anticipate significant results in terms of improved adherence to national norms for treatment, improved participation rates, and improved outcomes of PMTCT and VCT.

5.5 SO5 Infectious Disease: Anti-microbial Resistance

5.5.1 Background
Anti-microbial resistance (AMR) is a global problem that exacerbates the threat of infectious diseases in all countries. Inappropriate use of drugs, both by medical practitioners and drug vendors who provide patients with inappropriate drugs, and by patients who fail to correctly follow appropriate drug regimens, has contributed to increases in anti-microbial resistance, and particularly to the rise of multi-drug resistant strains of malaria and TB.

5.5.2 Activities and Results
In Year One, we completed reports and published results for two OR studies with implications for reducing anti-microbial resistance: Improving Adherence to Cotrimoxazole for the Treatment of Childhood Pneumonia in Niger and the Kenya Vendor-to-Vendor/Neighbor-to-Neighbor study of anti-malarial performance by private sector. An article on the process of developing job aids to increase patient adherence to pneumonia treatment in Niger was published in the Special Supplement of the International Journal for Quality in Health Care.

5.5.3 Directions for FY04
In Year Two, we will explore opportunities to replicate the job aids work done in Niger in other QAP countries, such as Nicaragua. A study on adherence to anti-retroviral therapy for HIV/AIDS has been proposed for Rwanda and awaits formal approval.
5.6 SO5 Infectious Diseases: Malaria

5.6.1 Background
Through operations research under the prior contract, QAP has developed expertise in communicating malaria treatment standards to private medical and pharmaceutical practitioners and enhancing their compliance with standards using tools such as job aids, self-assessment, and problem-solving teams. Such approaches are applicable to both the public and private health sectors to enhance compliance with standards and promote cost-effective use of malaria treatment protocols.

5.6.2 Activities and Results
As noted in section 2.3, QAP initiated in Year One an improvement collaborative involving teams in four districts in Rwanda to improve the case management of malaria in children under five years. In July 2003, QAP helped set up a study tour for Rwandan program managers, including staff from the National Program for Malaria, to visit private sector malaria projects in Kenya, including the QAP’s Vendor to Vendor and Neighbor to Neighbor activities carried out with the DHMT and AMREF in Bungoma District.

We continued additional analysis of Phase II data from the Vendor-to-Vendor and Neighbor-to-Neighbor interventions in Kenya in preparation for writing articles that will be submitted to peer-reviewed journals. An article on the Vendor-to-Vendor article was published in the online Malaria Journal in May 2003.

As was noted in section 3.1, QAP provided training assistance to support the ACTMalaria coalition meeting of national malaria control officials in Malaysia. The Pediatric Hospital Improvement Collaborative discussed (section 5.3) is addressing improvements in hospital treatment of severe pediatric malaria.

5.6.3 Directions for FY04
The Vendor-to-Vendor and Neighbor-to-Neighbor approaches developed in Kenya show great promise for increasing adherence to correct malaria treatment. In 2004, we will scale-up our work in Kenya to at least three additional districts. QAP will work with the Kenyan National Malaria Control Program and a consortium of PVOs to design and implement this scaled-up intervention.

The Rwanda malaria improvement collaborative will be completed in Year Two. Over the next year, QAP proposes to work with the MOH, the Country Coordinating Mechanism for the Global Fund, and PVOs on improving case management according to national guidelines by the formal and informal private sector. QAP’s effort would also include work on client demand for correct malaria treatment similar to the Neighbor-to-Neighbor intervention in Kenya.

WHO has requested QAP assistance to develop a job aid to help low-level health workers correctly use and interpret malaria rapid diagnostic tests (RDTs) under field conditions. In this collaboration, QAP staff and consultants will work to refine, field-test in the Philippines and Laos, and finalize a job aid for RDTs that could be easily adapted for use by semi-literate or non-literate rural health workers in different cultural settings and with different brands of RDTs. QAP will also continue to participate in the USAID-coordinated group on improving private sector management in malaria in conjunction with BASICS, CORE, the SARA Project, MSH, and others.
5.7 **SO5 Infectious Disease: Tuberculosis**

### 5.7.1 **Background**
QAP is improving access to and effectiveness of TB prevention and treatment programs through support to quality improvement by facility-based teams in South Africa. The project is also developing job aids to improve TB case management.

### 5.7.2 **Activities and Results**
In South Africa, as detailed in section 2.4, QAP is providing technical support to the provincial Departments of Health in Mpumalanga and KwaZulu-Natal to improve case management of TB, a leading cause of morbidity and mortality in the country. In Mpumalanga, we are working in 20 hospitals and 150 clinics; in KwaZulu-Natal, we are working in some 8 hospitals and 40 clinics. Baseline assessments have been carried out to identify quality gaps, and based on the results, processes for prevention/education, case detection, case confirmation (lab/diagnosis), and case management (including symptomatic cases, confirmed cases, and prevention of other infections) have been redesigned. Basic training has been provided to health workers to improve TB case management knowledge and skills, and job aids have been developed to help providers internalize basic skills about case management. Facility staff are conducting monthly reviews of service statistics and patients records to ensure appropriate follow-up of patients.

The QA strategy in South Africa has resulted in improved case detection as well as cure rates. Based on the results in the KwaZulu-Natal and Mpumalanga, USAID and the NDOH have asked QAP to expand its TB work to three additional provinces. Related OR studies were initiated in Year One and will be completed in Year Two: 1) a study in KwaZulu-Natal is testing the efficacy of using cellular phones for communicating lab results as well as following up with patients to ensure return visits; and 2) a model for contracting out transportation of sputa from public facilities to laboratories is being developed and will be tested for a year to determine its efficacy.

In Bangladesh, QAP has begun work with the NGO Service Delivery Program to expand access to and quality of TB services through a network of over 300 clinics. A systems analysis will be done in Year Two to assist in designing systems to improve identification, referral, and case management systems.

### 5.7.3 **Directions for FY04**
In October 2003, QAP will deliver a one-day workshop on quality improvement in TB case management at the 34th IUATLD (International Union Against Tuberculosis and Lung Disease) World Conference in Paris. The workshop is aimed at health providers, TB program managers, and policy makers and will cover the following topics: quality improvement principles and methods and developing facility-based quality improvement activities to improve case detection and case management.

An additional operations research study is being planned in South Africa to test the efficacy of a model wherein case workers will be assigned to TB patients. The case workers will be responsible for ensuring continuity of care and patient compliance with treatment regime. The cure rates from this model will be compared with patients who do not have assigned case workers.

QAP will also explore interest on the part of the MOH and USAID/Cambodia to improve the quality of TB services offered by private providers.