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QUALITY ASSURANCE AND WORKFORCE DEVELOPMENT PROJECT: YEAR FOUR SELF EVALUATION

Performance Period: July 1, 2005–June 30, 2006

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



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QUALITY
ASSURANCE
PROJECT



Front cover: This child was severely malnourished and experiencing several complications when he arrived at the national children's hospital in Nicaragua months before this picture was taken. Responding to the needs of such children, during Year Four, QAP focused on improving care for severely ill and malnourished children in hospitals in Nicaragua, Niger, and Tanzania. *Photo by Oscar Núñez, QAP/Nicaragua.*

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Executive Summary

The Quality Assurance and Workforce Development Project (QAP) sees as its overall mandate to assure that funds provided by USAID, other donors, and host country governments are used most effectively to achieve quality care and optimized health outcomes. QAP's fourth year of implementation was marked by **continued scale-up** of improvement activities and **expansion** of their technical scope. Field work expanded to additional sites in Ecuador, Honduras, Nicaragua, Niger, Russia, South Africa and Tanzania, and new field programs were launched in Lesotho, Swaziland, and Uganda. New technical work was initiated related to: expanding **newborn care** and better integrating it within maternal care, **incorporating nutritional interventions** in acute pediatric care in Niger, **mainstreaming** quality improvement tools and approaches for health systems strengthening within USAID's health portfolio, and applying QA methods to strengthen programming for **orphans and vulnerable children**.

The improvement collaborative continued as the dominant technical approach applied in QAP-supported field activities, largely due to the results it produces and its effectiveness for systematic scale-up of best practices. QAP has implemented 20 collaboratives in 13 countries in four years and extended 10 into Year Four. Collaboratives in Nicaragua, Niger, and Uganda are being implemented at national scale, with participating sites in almost all districts or regions. The extent of the scale-up of improvement activities in each QAP-assisted country by the end of Year Four are summarized in **Table 1**.

We continued to refine the collaborative approach, with new "spread" collaboratives started in Tanzania and Ecuador and new operations research on the validity of self-assessment. To capture the project's rich experience implementing collaboratives, we brought staff together for a "Collaboratives Learning Week" in June 2006 to share experiences across countries addressing common areas of care and to plan the field evaluations that began in August.

Our key achievements in institutionalizing improvements in quality of care this year included:

- Launch of Niger's essential obstetric and newborn care (EONC) collaborative, which is leveraging the pre-existing pediatric hospital improvement (PHI) collaborative **to integrate maternal and newborn care** best practices into routine care at 88% of national and regional maternity hospitals and 64% of all district hospitals
- Development of a new **quality healthcare policy for Rwanda** that integrates strategies for quality assurance, performance-based financing, and expanding coverage of mutual health organizations
- **Spread of pediatric AIDS and hospital improvement** activities to 12 new hospitals in northern regions of **Tanzania** and the roll-out of job aids and stronger training programs for PMTCT counselors in five regions, reaching 600 providers in over 300 sites
- **Launch** of a national ART collaborative with **Uganda's** MOH in 57 sites in 91% of districts
- **Institutionalization** of improvements in HIV/AIDS services in **Russia** through policy directives, allocation of local budgets, creation of new official positions, and initiation of a new collaborative to improve family planning services for people with HIV/AIDS
- **Declines** registered in **case fatality rates for pneumonia and diarrhea in Nicaraguan hospitals** participating in the PHI collaborative, and the application of standards-based care, client-focused counseling, and continuous quality improvement to a new clinical area: HIV/AIDS services
- Implementation of new contracting arrangements between Honduran health authorities and hospitals/facility networks that incorporate explicit indicators of quality of care linked to **pay for performance** and provide **financial incentives for quality care**
- Formal adoption of active management of the third stage of labor as part of **Ecuador's official norms** and start-up of a national spread collaborative to extend such management to all facilities in the nine provinces where it had not been introduced through the original EOC collaborative

New operations research was carried out in **Zambia** to develop and field test job aids to improve health worker performance with rapid diagnostic tests for malaria. Work progressed on **20 other OR studies** during the year: four were completed and results published; another six have final reports in editing. In all, QAP published **eight research and technical reports** and presented findings at **ten international and regional conferences** in Year Four. Our results have sparked interest in the collaborative approach among other USAID cooperating agencies, and we have begun plans for new collaboratives next year that will be implemented by other organizations with limited QAP technical assistance.

Recognizing the value added by QAP to their country portfolios, USAID Missions in Honduras, Nicaragua, and Russia increased funding to QAP this year. The project continued to demonstrate its field orientation by increasing the use of host country national (HCN) personnel. In Year Four, HCN labor and benefit costs exceeded headquarters staff costs by 2 percentage points: 17% versus 15%.

Priorities for next year include completing and disseminating results of field evaluations and cross-country analyses of QAP-supported collaboratives, including evidence for sustainability of collaborative results and institutionalization of QA activities; mainstreaming the collaborative approach by completing and disseminating collaborative evaluations, guidelines, tools, and training materials and by mentoring new organizations to conduct collaboratives; and expanding work to increase client and community involvement in improvement activities and strengthen community linkages to enhance the continuum of care for children and adults with HIV/AIDS.

Table 1: Scale-up in QAP Country Activities as of June 2006

Country – Clinical Focus**	Scope of Initial Improvement Activities (Start Date)	Extent of Scale-up of Activities as of June 2006	% of Facilities or Areas Covered as of June 2006
Benin – EOC**	15 facilities in 2 sanitary districts (out of 34 districts in the country) (February 2005)	Expansion to include stronger newborn care and linkages with PMTCT planned for 2007	40% of regional hospitals (2/5) 9% of district hospitals (2/23) 2% of health centers/posts (10/616)
Ecuador – EOC**	All (7) health areas in 1 province (August 2003)	76 health areas in 13 provinces (out of 22 in country)	45% of all MOH health areas in the country (76/168)
Honduras – EOC**	1 health region out of 7 in the country (November 2003)	62 facilities in 5 departmental areas (out of 20 in country)	100% of hospitals and MCH clinics and 82% of health centers in the 5 departmental areas
Lesotho TB-HIV	5 Health Service Areas out of 18 in the country (October 2005)	5 out of 18 Health Service Areas	28% of the country's Health Service Areas
Nicaragua – EOC**	3 local health systems (SILAIS) out of 17 in the country (September 2003)	14 out of 17 SILAIS in the country	80% of the country's municipalities
Nicaragua – PHI**	6 out of 22 maternal and child care hospitals in the country (October 2003)	14 of 22 maternal and child care hospitals in the country	64% of the country's hospitals that treat children
Niger – PHI**	6 out of 10 national/regional pediatric hospitals, all 3 national maternity hospitals, and 8 out of 33 district hospitals in the country (August 2003)	8 out of 10 national/regional pediatric hospitals; 3 out of 3 national maternity hospitals; 21 out of 33 district hospitals	80% of national/regional pediatric hospitals 100% of national maternity hospitals 64% of the country's district hospitals
Niger – EONC**	3 out of 3 national maternity hospitals, 4 out of 5 regional maternity hospitals, and 21 out of 33 district hospitals in the country (January 2006)	3 out of 3 national maternity hospitals; 4 out of 5 regional maternity hospitals; 21 out of 33 district hospitals	88% of national/regional maternity hospitals 64% of the country's district hospitals

Russia – HIV/AIDS treatment, care, and support**	Pilot sites in 4 of 89 territories in the country (November 2004)	19 facilities in 1 out of 19 districts in St. Petersburg; 17 facilities in Samara Oblast; 11 facilities in Orenburg Oblast, including Oblast AIDS Center; 23 facilities in Saratov Oblast, including Oblast AIDS Center	1.8 million population are served by the facilities assisted by QAP
Russia – Family planning**	Pilot sites in 4 cities (in St. Petersburg, Saratov Oblast, and Samara Oblast (January 2006)	15 health institutions in Krasnogvardeiski District in St. Petersburg; 26 health organization in Saratov City and Engels, Saratov Oblast; 9 health institutions in Togliatti, Samara Oblast	494,000 women of reproductive age are served by the institutions assisted by QAP
Rwanda – PMTCT**	18 sites, at least 1 in each of the country's 12 provinces, representing 100% of the PMTCT facilities at that time (July 2003)	17 original sites (1 original site became inactive) + 19 expansion sites = 36 sites	4 hospitals (12% of the country's district hospitals) 32 health centers (9% of the country's health centers)
Rwanda – Malaria**	60 health centers and hospitals in 4 of the country's 39 districts (January 2003)	Reduced to 23 sites by July 2004 (3 district hospitals and 20 health centers) and expanded to 31 more health centers in September 2005	3 district hospitals (100% of district hospitals in the 4 districts) 51 health centers (85% of health centers in the 4 districts)
Rwanda – ART**	16 sites covering all 12 provinces, representing 100% of the ART facilities at that time (August 2004)	16 original sites + 14 expansion sites = 30 sites	5 hospitals (15% of district hospitals) 25 health centers (7% of health centers in the country)
South Africa – VCT, PMTCT, ART, palliative care	10 hospitals and 50 clinics in Mpumalanga Province (July 2002)	33 facilities in Mpumalanga Province 25 facilities in KwaZulu-Natal Province 27 facilities in Eastern Cape Province 11 facilities in Limpopo Province	These facilities: counseled 64,853 clients post-HIV test; tested 21,438 pregnant women; delivered NVP to 8,687 pregnant women and 9,046 infants; provided palliative care to 24,391 PLWHA; and served 7,095 clients with TB and HIV services and 9,820 clients with ART
Swaziland – TB-HIV	3 TB diagnostic units and 22 clinics in Manzini, 1 of 4 regions (August 2005)	25 facilities in Manzini Region	22 out of 162 clinics (14%) in the country
Tanzania – Pediatric AIDS**	7 hospitals in 3 regions (out of 25 mainland regions in the country) (October 2004)	19 facilities in 7 regions: 3 hospitals in Dar es Salaam; 1 hospital in Kilimanjaro; 1 hospital in Kibaha; 4 hospitals and 2 health centers in Arusha; 1 hospital in Morogoro; 6 hospitals in Tanga; 1 hospital in Manyara	Participating hospitals in 28% (7/25) of mainland regions
Tanzania – Family planning**	9 facilities in all (3) districts in one region (capital), out of 25 mainland regions in the country (October 2004)	Collaborative concluded in July 2006	100% of district hospitals and health centers in Dar es Salaam region
Uganda – ART**	57 sites in 51 of the 56 districts in the country (January 2006)	Incorporation of 30 additional sites is planned in 2007	Pilot sites in 91% of districts in the country

** Designates improvement activities using the collaborative methodology.

Abbreviations

ADD	Aplahoue-Dogbo-Djakotome (Benin)
AMTSL	Active Management of Third Stage of Labor
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
BCG	Bacillus Calmette-Guerin
CBO	Community-based Organization
CBT	Computer-Based Training
CCP	Critical Care Pathway
CD-ROM	Compact Disc-Read Only Memory
CDC	Centers for Disease Control
CHW	Community Health Worker
CORE	Child Survival Collaborations and Resources
COUNSENUTH	The Centre for Counselling, Nutrition and Health Care (Tanzania)
CQI	Continuous Quality Improvement
DOTS	Directly Observed Therapy, Short-course
DRSP	Regional Public Health Directorate (<i>Direction de Regionale de la Santé Publique</i>)
DSR	Reproductive Health Directorate (<i>Direction de la Santé de la Reproduction</i>) (Niger)
EGPAF	Elizabeth Glaser Pediatric AIDS Foundation
EMP	Private Medical Provider (<i>Empresa Médica Previsional</i>) (Nicaragua)
EOC	Essential Obstetric Care
EONC	Essential Obstetric and Newborn Care
ETAT	Emergency Triage Assessment and Treatment
FCI	Family Care International
FP	Family Planning
GFATM	Global Fund for AIDS, Tuberculosis and Malaria
HCN	Host Country National
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HSS	Health Systems Strengthening
IDU	Intravenous drug user
IHI	Institute for Healthcare Improvement
IMCI	Integrated Management of Childhood Illness
IMNCI	Integrated Management of Newborn and Childhood Illness
IUD	Intrauterine Device
LISEM	List of Pregnant Women (<i>Listado de Mujeres Embarazadas</i>) (Honduras)
MAFE	Madres Felices (Honduras)
MANCORSARIC	Municipality of Santa Rita of Copan (Honduras)
MCH	Maternal and Child Health
MDR	Multi-drug-resistant
MIFAMILIA	Ministry of the Family (Nicaragua)
MINSA	Ministry of Health (Nicaragua)
MIS	Management Information System
MOH	Ministry of Health
MOHSW	Ministry of Health and Social Welfare
NDOH	National Department of Health (South Africa)
NGO	Nongovernmental Organization
NTP	National Tuberculosis Program
NVP	Nevirapine
OFDA	Office of U.S. Foreign Disaster Assistance

OGAC	Office of the Global AIDS Coordinator
OPV	Oral Polio Virus
OR	Operations Research
OVC	Orphans and Vulnerable Children
PAHO	Pan American Health Organization
PAK	Pobe-Adja-Ouere-Ketou (Benin)
PEPFAR	President's Emergency Plan for AIDS Relief
PHI	Pediatric Hospital Improvement
PLWHA	Persons Living With HIV/AIDS
PMTCT	Prevention of Mother-to-Child Transmission of HIV
PNLP	<i>Programme National Integre de Lutte contre le Paludisme</i> (National Malaria Control Program) (Rwanda)
POPPHI	Prevention of Postpartum Hemorrhage Initiative
PRSS	Health Sector Reform Project (Honduras)
QA	Quality Assurance
QAP	Quality Assurance Project
QI	Quality Improvement
QoC	Quality of Care
QSM	Quality Supervision and Monitoring
RAAN	North Atlantic Autonomous Region
RAAS	South Atlantic Autonomous Region
RDT	Rapid Diagnostic Test
RHINO	Routine Health Information Network
SBA	Skilled Birth Attendant
SEDES	Departmental Secretariats of Health (Bolivia)
SILAIS	Local Integrated Health Care System (Nicaragua)
SSH	Secretariat of Health of Honduras
STI	Sexually Transmitted Infection
TB	Tuberculosis
TRAC	Treatment and Research AIDS Center (Rwanda)
UNFPA	United Nations Fund for Population Activities
UNGC	National Quality Assurance Unit (Honduras)
UNICEF	United Nations Children's Emergency Fund
URC	University Research Co., LLC
USAID	United States Agency for International Development
USG	United States Government
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
WHO/AFRO	Regional Office for Africa of the World Health Organization
XDR	Extreme Drug-resistant

1 Introduction

This Self Evaluation Report of the Quality Assurance and Workforce Development Project (referred to hereafter as QAP) describes the key results of work performed under the contract during the fourth year of project implementation, July 1, 2005, to June 30, 2006. This document does not attempt to describe all activities performed by the project but rather focus on key results and developmental impact. The USAID evaluation panel is urged to review the project's Year Four Annual Report, published July 31, 2006, for more details about any country or core technical activity.

The structure of this report follows the performance criteria defined by USAID for the contract in Year One and updated in Year Two, as well as technical directives issued by the CTO with respect to the use of the improvement collaborative methodology. Section 2 presents our analysis of the key results achieved in Year Four to institutionalize quality assurance activities (QA) in USAID-assisted health programs. Sections 3–6 address the project's performance with respect to monitoring, quality of services and products, management and efficiency, and collaboration with Missions and USAID cooperating agencies and partners. The final section identifies opportunities for improvement and new directions for Year Five.

2 RESULTS – Developmental Impact

The project's achievements vis-à-vis the contract's performance criteria are summarized in Table 2, focusing primarily on the results achieved through improvement collaboratives and long-term assistance to scale up national QA activities or programs. Results are then reported for each country where QAP has a significant field program. Thereafter are summaries of results from the project's global, regional, and core technical activities.

Table 2: Achievement of Performance Criteria for Results in the Project's Fourth Year

Performance Criteria	Countries/Activities Meeting Criteria (Bold Indicates Addition in Year Four)
<i>Improvement Collaboratives</i> End-of-Project Target: 10 collaboratives implemented	20 collaboratives initiated since start of project in 12 countries (3 new collaboratives in Year Four)
<i>Institutionalization of Quality Assurance</i> End-of-Project Target: Develop and implement large-scale QA programs in at least 10 countries	11 programs/countries: Ecuador, Eritrea, Honduras, Malawi, Nicaragua, Niger , Russia, Rwanda, South Africa, Tanzania, Uganda
<i>QA policy level commitment</i> End-of-Project Target: At least 8 programs develop written policies addressing QA activities	10 programs/countries: Ecuador, Honduras, Malawi, Nicaragua, Peru, Russia, Rwanda, Jamaica, South Africa, Uganda
<i>Organization of QA as an accountable program</i> End-of-Project Target: At least 7 QA programs have comprehensive documentation of the organization of QA activities	9 programs/countries: Honduras, Ecuador, Nicaragua, Niger , Russia, Rwanda, South Africa, Tanzania, Uganda
<i>Training in QA methods</i> End-of-Project Target: At least 7 QA programs have training strategy and use related materials/methods to sustain skills and knowledge of QA	10 programs/countries: Ecuador, Honduras, Nicaragua, Niger , Peru, Russia, Rwanda, South Africa, Tanzania, Uganda
<i>Quality of care monitoring</i> End-of-Project Target: At least 8 programs produce monitoring data with multiple measurements over time	10 programs/countries: Benin , Ecuador, Honduras, Nicaragua, Niger , Russia, Rwanda, South Africa, Tanzania, Uganda
<i>Development of quality standards</i> End-of-Project Target: At least 7 programs develop or revise evidence-based clinical standards and corresponding clinical guidelines	14 programs/countries: Benin , Ecuador, Eritrea, Honduras, Jamaica, Lesotho , Nicaragua, Peru, Russia, Rwanda, Swaziland , Tanzania, Uganda , Vietnam
<i>Promotion of compliance with clinical standards</i>	13 programs/countries: Bangladesh, Benin ,

Performance Criteria	Countries/Activities Meeting Criteria (Bold Indicates Addition in Year Four)
End-of-Project Target: At least 9 programs have documented methodologies to promote compliance with clinical guidelines	Ecuador, Eritrea, Honduras, Nicaragua, Niger, Peru, Russia, Rwanda, South Africa, Tanzania, Uganda
<i>Quality improvement</i> End-of-Project Target: At least 9 programs document results of quality improvement interventions	10 programs/countries: Ecuador, Honduras, Jamaica, Nicaragua, Peru, Russia, Rwanda, South Africa, Tanzania, Uganda
<i>Benchmarking of best practices</i> End-of-Project Target: At least 5 programs introduce a standardized approach to documenting, introducing, evaluating, and spreading best practices	12 countries: Improvement collaboratives initiated in Benin, Ecuador, Eritrea, Honduras, Jamaica, Malawi, Nicaragua, Niger, Russia, Rwanda, Tanzania, Uganda
<i>Quality design/re-design of systems of care</i> End-of-Project Target: In at least 7 programs initiate design of HIV/AIDS or other systems of care	HIV/AIDS: 8 programs/countries: Lesotho, Nicaragua, Russia, Rwanda, South Africa, Swaziland, Tanzania, Uganda Other systems of care: 5 programs/countries: Vietnam, Peru, Ecuador, Honduras, Niger
<i>Documentation and dissemination of QA activities</i> End-of-Project Target: At least 10 programs consistently document QA activities and systematically disseminate them to providers	11 programs/countries: Benin, Ecuador, Honduras, Malawi, Nicaragua, Niger, Russia, Rwanda, South Africa, Tanzania, Uganda
<i>Incentives for performance</i> End-of-Project Target: At least 6 programs introduce performance-based incentives	4 programs/countries: Ecuador, Honduras , Nicaragua, Zambia (OR studies)
<i>Community demand for quality</i> End-of-Project Target: At least 4 programs have ongoing monitoring of patient opinion/satisfaction and/or implement mechanisms to include community participation in the governance of health services	5 programs/countries: Benin, Ecuador, Honduras, Nicaragua, Peru
<i>Monitoring and evaluation of QA programs</i> End-of-Project Target: At least 8 programs support the design and implementation of a large-scale MIS for QA activities	6 countries/programs: Bangladesh, Ecuador, Nicaragua, Honduras, Russia, Rwanda, South Africa
<i>Regulatory strategies for QA</i> End-of-Project Target: Support the development of an external, standards-based QA system in 5 programs	5 programs: Bangladesh, Eritrea, Jamaica, Honduras, Nicaragua
<i>Operations research</i> End-of-Project Target: Conduct 50 operations research studies	3 new studies initiated in Year Four , and 3 approved studies were cancelled, bringing to 37 the total of approved OR studies that are completed or underway. Two more studies are in the concept paper stage.
<i>Short-term technical assistance</i> End-of-Project Targets: Provide 10 consultations related to international bank or Global Fund projects and 15 consultations in support of USAID cooperating agencies or other international organizations	7 international consultations: World Bank (Honduras); WHO Polio Eradication Initiative; WHO Chronic Care Model; UNICEF/WHO HIV and Infant Feeding; WHO Child and Adolescent Health; WHO 3x5; WHO malaria RDT development and testing 10 CA consultations: ORBIS; CRS; Russia (other CAs working in Russia); Linkages regarding Infant Feeding in PMTCT; assistance to CARE, Society for Women and AIDS in Africa, and Salvation Army to develop intervention for community-based case management of HIV/AIDS; CORE Group on improvement collaboratives; develop framework for quality in OVC programming; RHINO

Performance Criteria	Countries/Activities Meeting Criteria (Bold Indicates Addition in Year Four)
Technical leadership End-of-Project Targets: Participate in at least 10 major technical meetings; produce at least 8 technical reviews; publish at least 5 articles in peer-reviewed journal, participate in at least 10 technical collaborations with other international health organizations; conduct at least 10 briefings; and conduct at least two state-of-the-art training courses for staff	Participated in 22 major international and 14 regional conferences. Published 14 articles in peer-reviewed journals, 44 operations research and technical reports, 1 monograph, 4 case studies Participated in 8 technical collaborations (PAHO on prenatal care and skilled attendance at birth; UNICEF on HIV and Infant Feeding; WHO Polio; WHO Chronic Care Model; International Coalition for Treatment, Access and Care for HIV; WHO Making Pregnancy Safer; Roll Back Malaria Conducted 1 staff training on collaborative improvement; Collaboratives Learning Week held for field and home office technical staff

2.1 Advances in Adapting the Improvement Collaborative Model to Developing Countries

Four years ago, QAP embarked on a major methodological challenge: adapt the core improvement mechanisms of collaboratives to the complex realities of developing countries. During Year Four, QAP continued to manage 10 collaboratives in nine countries and launched new collaboratives in Uganda, Niger, and Russia, bringing to 20 the number of collaboratives initiated during the contract (see Table 3). Collaborative work in these countries is proving to be effective both in significantly increasing the quality of care in diverse programs and in accelerating the scale-up of the improvements from initial facilities to much larger portions of the health system.

Moreover, in several countries (Niger, Nicaragua, Honduras, Ecuador, Tanzania, and Uganda), “prototype” process improvements—evidence-based practices introduced through a collaborative, and in some cases, improvement methods themselves—have been or are being institutionalized into national policies. For example, Tanzania’s the pediatric hospital improvement (PHI) collaborative developed effective emergency triage assessment and treatment methods and tools, as well as mechanisms to provide quality urgent care to sick children as soon as they arrive at an outpatient unit. On its own initiative, the Ministry of Health began this year to spread these mechanisms to 13 new facilities in Tanzania’s northern region. The essential obstetric care (EOC) collaborative in Nicaragua, Ecuador, and Honduras has served as a mechanism for spreading evidence-based EOC practices, such as the correct use of the partograph, active management of the third stage of labor, and post-partum monitoring, to large portions of those countries in relatively short periods. In Niger, we leveraged the quality improvement capacity developed through the PHI collaborative to launch a new essential obstetric and newborn care (EONC) collaborative at scale from the very beginning, reaching 68% of the country’s hospitals that attend deliveries. We also began this year to test new and adapted concepts, methods, and tools that will guide the international community in the successful application of the collaborative approach to developing countries, including training materials and new forms of collaboratives, such as “spread” collaboratives that even more rapidly scale up proven best practices.

Throughout the experience of working with hundreds of managers and country teams on three continents, QAP has demonstrated several advantages in the collaborative approach:

- Leadership of national institutions (usually the Ministry of Health) is established from the beginning of the collaborative and fostered at all levels: national, regional/provincial, and facility. This instills ownership by the national institutions and paves the way for institutionalization of improved processes and evidence-based interventions.
- Scale-up is an explicit objective planned from the start of the collaborative.

- Sharing of improvement experiences and innovations among collaborative teams is a powerful way to collectively develop “prototype interventions” to overcome operational obstacles to evidence-based practices and increase quality.

Table 3. Status of QAP Improvement Collaboratives as of June 2006

Area	Country	Status as of June 2006	Number of Sites
1. PMTCT	Rwanda	35 th month	17 original sites + 19 expansion sites = 36 sites
2. Malaria	Rwanda	36 th month	23 original + 31 expansion sites in 4 districts (out of 39 health districts in the country)
3. Latin American EOC	Ecuador, Honduras, Nicaragua	34 th month	Ecuador: 13 provinces (out of 22 in country) Honduras: 5 departmental areas (out of 20 in country) Nicaragua: 14 SILAIS (out of 17 in country)
4. Infection prevention	Tanzania	Completed	4 hospitals
5. Multiple topics	Russia (5 collaboratives)	QAP support ended in December 2004	23 oblasts
6. PHI	Eritrea	QAP support ended in September 2005 due to USAID program closure	10 original hospitals + 10 new hospitals added in June 2005
7. PHI	Niger	33 rd month	32 facilities (out of 46 pediatric hospitals in country)
8. PHI	Nicaragua	33 rd month	14 hospitals (out of 22 MCH hospitals in country)
9. PHI	Malawi	QAP support ended in Dec. 2005; support for PHI was folded into bilateral assistance for QA	8 district hospitals (out of 27 districts in the country)
10. PHI	Guatemala	Terminated after 6 months in Dec. 2004 due to changes in MOH and USAID priorities	13 district, regional, and departmental hospitals
11. PHI and HIV/AIDS Care	Tanzania	20 th month	20 hospitals in 6 regions (out of 25 mainland regions)
12. Adolescent health	Jamaica	Ended in May 2005 due to end of QAP funding; improvement activities resumed under the bilateral adolescent reproductive health program in 2006	4 sites
13. ART	Rwanda	23 rd month	5 district hospitals and 25 health centers
14. HIV/AIDS treatment, care and support collaborative	Russia	19 th month	Pilot facilities in 4 territories (out of 89 territories in the country)
15. EOC	Eritrea	QAP support ended in September 2005 due to USAID program closure	17 facilities in 2 districts in 1 of 6 zones in country
16. Family Planning	Tanzania	20 th month	9 facilities in all 3 districts of Dar es Salaam region (1 of 25 mainland regions)
17. EOC	Benin	16 th month	15 facilities in 2 sanitary districts (out of 34 districts in the country)
18. ART	Uganda	5 th month	57 sites in 91% of districts
19. EONC	Niger	5 th month	28 facilities (out of 41 hospitals attending births in country)
20. Family Planning for PLWHA	Russia	5 th month	Pilot sites in 4 cities (3 territories) involving 50 health institutions

- The emphasis that collaboratives place on monitoring an intervention's results makes teams and managers particularly aware of their potential to modify quality of care. The collaborative approach allows for an increased pace of expansion of improvements and implementation of best practices much faster and more efficiently than other improvement approaches.
- The combination of mechanisms to increase clinical competence and process improvement skills in collaborative learning sessions is proving to be effective in empowering teams to analyze and change care processes.

The three-country Latin American EOC Collaborative continues to use information technology to promote sharing among teams and managers. In the past year, the website (www.mortalidadmaterna.org) continued as a viable vehicle for sharing results among the now more than 200 teams participating in Ecuador, Honduras, and Nicaragua. In addition, the low-cost email technical forum supported discussions of five new topics across teams and countries, including individuals not participating in collaboratives.

Documentation, Evaluation, and Research on Collaboratives

An evaluation protocol for conducting field evaluations of collaboratives was developed through discussions among QAP, subcontractor EnCompass, and USAID. The field visits will compare collaboratives' plans to their implementation and document outcomes. Evaluation data will be obtained from collaboratives' records, direct observation, interviews, and other data collection methods involving team leaders, team members, national and district level MOH staff, donor organizations, NGOs, healthcare facilities and providers, community members, coaches, country managers, and QAP staff. Each evaluation team will include a senior QAP staff member who has not been directly involved in the collaborative being evaluated (to avoid potential bias), an evaluation expert from EnCompass, and a local consultant. Evaluation field work began in Tanzania in August 2006 and will continue in Year Five to cover six countries: Tanzania, Niger, Uganda, Nicaragua, Ecuador, and Russia.

A "Collaboratives Learning Week" was organized by EnCompass and held in Bethesda, MD, June 19–23, 2006. QAP field staff from nine countries joined headquarters staff for an intensive meeting to share experiences and insights about implementing collaboratives. Small group and plenary session discussions illuminated the similarities and differences in implementing collaboratives and provided an opportunity to document in-depth information on issues raised and lessons learned from implementation. Meeting notes are being used to inform the field evaluations.

Data collection continued in Niger on OR initiated in Year Three to evaluate the effectiveness of the PHI collaborative for improving malaria and pneumonia case management in district hospitals and to compare the collaborative approach to traditional clinical training for improving quality of malaria and pneumonia care. The baseline data report was used to inform the design of pediatric malaria and pneumonia case-management training conducted in the spring of 2006 for the PHI intervention group and in the training-only control group, per the study protocol. Final data collection will begin this fall with a final report anticipated in early 2007.

We initiated a new OR study in Year Four to quantify the validity of self-assessment of compliance with standards by facility-based quality improvement teams in Ecuador. The study will identify factors associated with higher validity of self-assessments (team experience, training, facility size, etc.) and identify ways to improve such validity. The study also seeks to develop a practical method and tools that provincial MOH quality facilitators can apply for ongoing supervision of the validity of CQI teams' self-assessments.

2.2 Country Programs

Africa

Niger

QAP's primary achievements in Niger in year four have included the start-up of an essential obstetric and newborn care (EONC) collaborative at scale, the consolidation of the pediatric hospital improvement (PHI) collaborative gains in 73% of Nigerien first-referral health centers, and the introduction of intensive recuperation services in 15 of 32 PHI sites in the aftermath of the 2005 Nigerien food crisis. The PHI and EONC collaboratives reinforce a maternal-newborn-child health and nutrition continuum at scale in shared sites in a country with some of the highest maternal (700/100,000), newborn (44/1000), early childhood (276/1000) mortality rates and childhood malnutrition rates (50%) in the world (UNICEF 2005).

The PHI collaborative, which works to improve integrated management of childhood illness (IMCI) at the first referral level, continues to be implemented in close collaboration with the national MOH IMCI program. Likewise, the EONC collaborative is being implemented in close collaboration with the MOH *Direction de la Santé de la Reproduction* (DSR), charged with overseeing all reproductive health activities in Niger, including safe motherhood and newborn health. The EONC collaborative is introducing improved newborn services at scale for the first time in Niger, including advocacy for a national newborn policy to promote low-cost evidence-based standards for reducing newborn mortality.

Regional MOH pediatrics, obstetrics, and midwifery experts play a vital role in day-to-day activities of both collaboratives (i.e., training, on-site coaching, learning sessions). Day-to-day management of the collaboratives is led by regional MOH authorities (*Direction Regionale de la Santé Publique*, DRSP) employing a uniform set of tools, training resources, and standards. Year Four innovations to strengthen local leadership and support in Niger have included the placement of regional QAP "coordinators", the training of local MOH "on-site internal" coaches, and ongoing support of MOH "PHI regional external coaches" (MOH and hospital staff) to direct regional collaborative management, with close support by QAP staff.

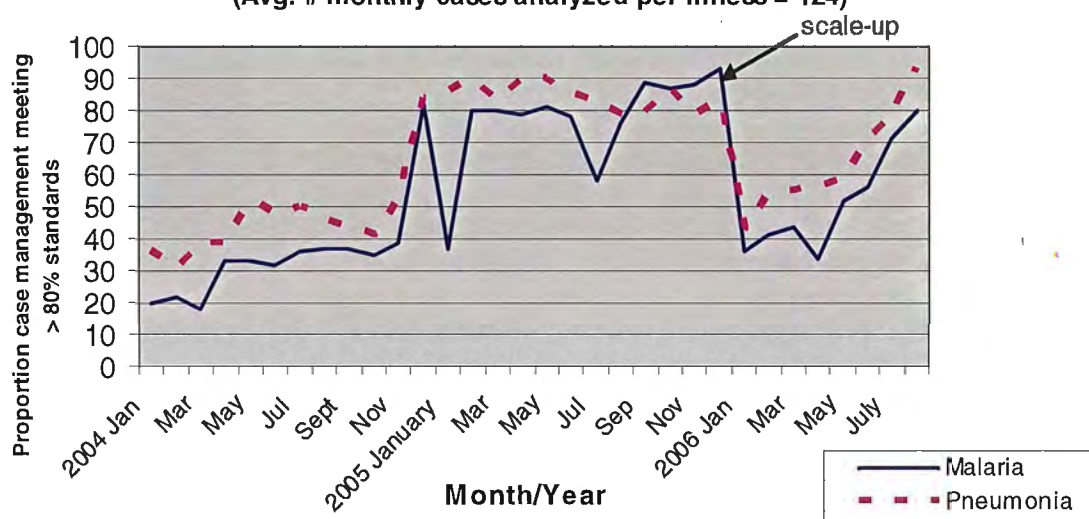
Pediatric Hospital Improvement Collaborative

Officially launched in 2003 in 17 first referral level hospitals, the PHI collaborative went to scale in March 2005, increasing from 14 to 29 sites and achieving coverage of 73% of first referral level pediatric care facilities in Niger. Data for 2005 demonstrate that after an initial dip in performance during scale-up, gains have been achieved at scale in all 29 sites by the end of Year Four for improved pediatric emergency triage assessment and treatment (ETAT) and case management of pneumonia, malaria, and diarrheal disease, leading causes of early childhood mortality in Niger. As can be seen in Figure 1, the proportion of cases meeting 80% of WHO standards for malaria and pneumonia case management in PHI facilities as measured by validated self-assessment improved from January 2004 to December 2005 during the pre-scale-up "phase 1" of PHI, and then again from January to August 2006 during "phase 2" to achieve results at scale comparable to those prior to scale-up. As has been demonstrated by QAP collaboratives elsewhere and as can be seen in Figure 1, the rate of improvement *after* scale-up has been quicker than during the pre-scale-up phase. We believe this is a direct result of deliberate efforts to rapidly disseminate at the start of phase II the best practices and lessons that emerged from phase I.

Examples of collaborative interventions and local changes implemented to improve pediatric pneumonia, malaria, diarrheal, and ETAT care include: regular clinical training and on-site coaching of providers (reinforced by dissemination of standards in simple job-aid formats, morning rounds led by physician staff, etc.); reorganization of care flow processes and hospital staffing; regular monitoring and efforts to ensure availability of stock of laboratory, drug, and equipment inputs; development of site-specific monthly action plans; regular audits of pediatric deaths by the pediatric team; and monthly collection and review of site-specific performance by PHI teams supervised by regional MOH and QAP coaches for

Figure 1. Niger: Proportion of Malaria and Pneumonia Cases Meeting > 80% of Case Management Standards

14 PHI sites 2004-2005 (pre-scale-up); 29 PHI sites 2006 (after scale-up)
(Avg. # monthly cases analyzed per illness = 124)



continuous quality improvement at the local level. A specific example of the changes made is making sure each facility took steps to ensure 24-hour availability in urgent care areas of working oxygen concentrators and pediatric dosages of antibiotics, quinine, and anti-convulsants, which prior to the collaborative were routinely unavailable unless purchased by a child's family.

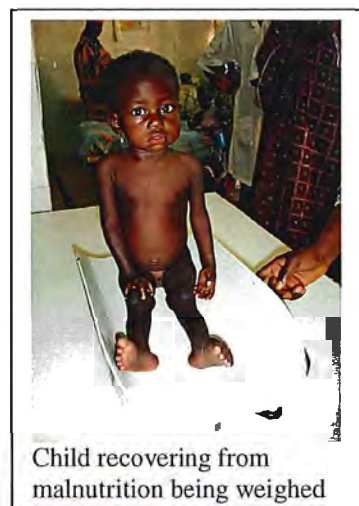
PHI's countrywide introduction of ETAT services into 73% of Nigerien district hospitals has been an important collaborative achievement that is widely recognized by the Nigerien MOH and child health partners. The PHI 2003 baseline assessment demonstrated that prior to PHI there was no system of triage or priority care in district or regional hospitals for children with IMCI danger signs referred to these hospitals from surrounding primary health centers, despite very high mortality rates for these most vulnerable children. Since 2004 the PHI collaborative has conducted regular ETAT training sessions (with supplemental UNICEF and WHO funding) to ensure that all PHI sites at scale are formally trained in ETAT. The acquisition of ETAT skills is a tremendous gain for pediatric providers and the children for whom they care. For Year Five, the MOH has invited QAP to finalize an integrated national "ETAT training and implementation package" to be institutionalized as a routine part of MOH pediatric services in Niger. Niger's accumulated ETAT expertise will extend also beyond the country level: the IMCI Director of WHO/AFRO for West and Central Africa has requested that QAP/Niger provide technical assistance for WHO-sponsored ETAT training in francophone Africa in 2007.

Quality monitoring has presented a formidable challenge for the PHI collaborative in Niger, given the very rudimentary health information systems and low quality of medical records in most facilities. MOH/QAP coaches routinely verify the validity of self-collected data against the medical record during coaching visits. To ease the monitoring burden on collaborative participants and improve quality of monitoring, in 2006, the PHI monitoring framework and tools were simplified to measure ongoing improvement through calculation of *average adherence with WHO case management standards* (among a sample of randomly selected cases) in addition to existent measurement of *proportion of cases treated according to standards*, an "all or nothing measure" adopted at the outset of the collaborative. Average % compliance with pneumonia, malaria, and ETAT standards has ranged above 65% for the first half of 2006, finishing at over 80% for all conditions by the end of Year Four. These results stand in sharp contrast to the 2003 PHI pre-assessment, in which proportion of cases meeting standards was less than 15% for malaria and pneumonia and less than 5% for ETAT. It is hoped that the simplified monitoring tools will facilitate higher quality data collection.

Recuperation of malnourished children as an integral part of PHI:

In the wake of the 2005 food crisis, the PHI collaborative has rapidly expanded care for severely malnourished children in 50% of its sites (15 of 32 district hospitals) with supplemental funding from the Office of U.S. Foreign Disaster Assistance (OFDA) and UNICEF.

Recuperation centers for moderately to severely malnourished children have been established in 15 PHI sites and rely heavily on PHI collaborative gains, infrastructure, and participant staff. At the end of the first quarter of the new PHI program, the 15 participating sites have demonstrated an average 58% compliance with WHO malnutrition recuperation standards, which represents solid progress in these district hospitals where recuperation services have traditionally been non-existent and in which the PHI baseline survey demonstrated a less than 5% compliance with WHO recuperation standards. In the spring of 2006, malnutrition case-fatality rates averaged 14% in the 15 PHI sites newly targeted for intensive recuperation services, as compared with case fatality rates over 40% in PHI sites without such services. In Year Five, UNICEF will provide supplemental funding to extend the malnutrition services to an additional six district hospitals, to reach 21 of the 32 PHI sites.



Essential Obstetric and Newborn Care Collaborative

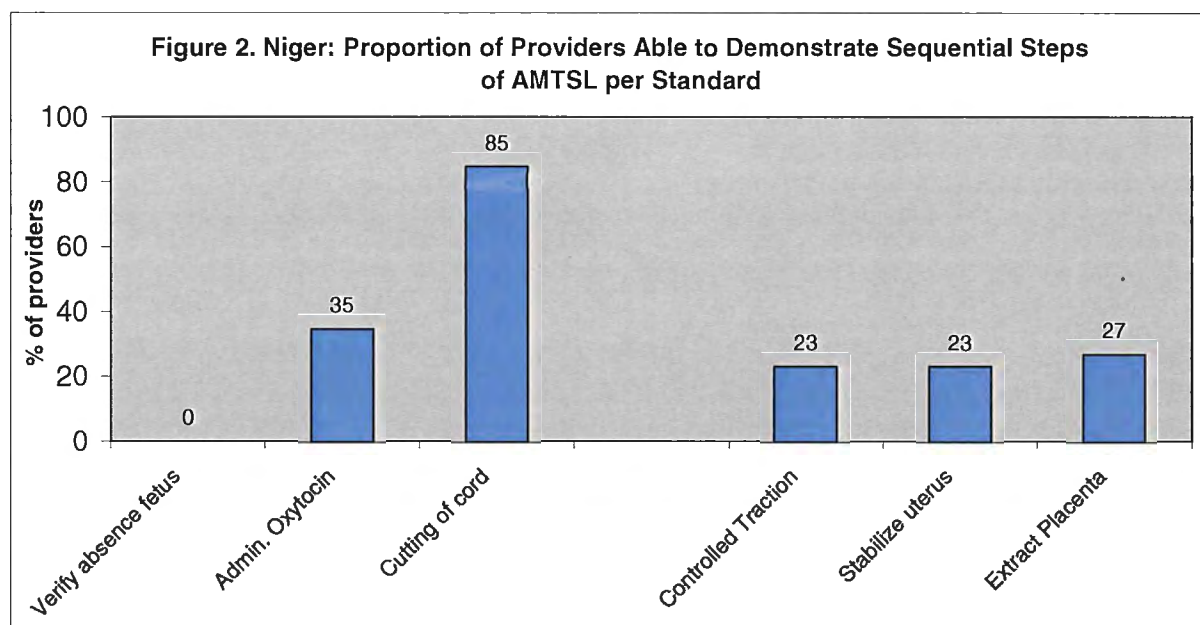
The EONC collaborative was launched in January 2006 in 21 out of 33 district hospitals, four out of five regional maternity hospitals, and all three national maternity hospitals—facilities that cover seven of Niger's eight administrative regions. The EONC collaborative is being implemented in close collaboration with the MOH DSR as a series of phased cycles, with each cycle building upon the previous cycle. Table 4 summarizes the technical content and timing of the EONC cycles.

Table 4. Niger: Technical Content and Timing of EONC Collaborative Cycles

	Phase I (<i>current</i>)	Phase II
Cycle I (Approx. 12- 15 months)	– Active management of the third stage of labor – Immediate and essential newborn care (thermal protection, eye care, early and exclusive breastfeeding, BCG/oral polio virus, umbilical care) – Infection prevention I (handwashing, gloves, instrument decontamination) – Client satisfaction	– Focused antenatal care (birth preparation and risk factor identification; intermittent preventive therapy and malaria treatment; tetanus vaccination) – Correct use of the partograph – Infection prevention II (sharps, waste disposal, high level sterilization)
Cycle II (Approx. 15 –18 months)	– Improved management of obstetric complications (eclampsia, sepsis, hemorrhage) – Improved management of newborn complications (asphyxia, sepsis, management of low-birth weight newborn)	

In the spring of 2006, a baseline survey was conducted in 15 new EONC district and regional level maternity hospital sites to identify critical gaps in maternal-newborn health service delivery and to guide EONC program planning and monitoring. Direct observation of 48 antenatal care sessions found low compliance with basic antenatal care services known to reduce maternal and neonatal morbidity and mortality: birth preparedness counseling, including recommendation for delivery at a skilled facility (2%); screening and counseling for pregnancy danger signs, such as bleeding and pre-eclampsia symptoms (0%); counseling for bednet use (0%) and treatment/counseling for anti-malarial intermittent preventive therapy (0%); routine hematocrit screening (20%) and prescribing of iron (46%); syphilis screening (10%); and systematic screening of blood pressure (77%) for early detection of pre-eclampsia/eclampsia.

The ability of 26 providers (five doctors, 20 midwives, and one nurse) to carry out active management of the third stage of labor (AMTSL) was assessed as part of a simulated case study using a pelvic mannequin in four regional maternity hospitals (MIG, MCZ, Magaria, and Maradi). As shown in **Figure 2**, only 35% of providers demonstrated immediate post-partum administration of oxytocin during a simulated case study and even fewer were able to demonstrate the elements of controlled cord traction, stabilization of the uterus, and appropriate removal of the placenta. Less than 15% of providers demonstrated appropriate hand washing and less than 42% demonstrated appropriate initial disinfection of scarce gloves in chlorine solution. Taken together these findings suggest that AMTSL and basic infection prevention measures are not routinely being practiced in Niger.



In a simulated case study to assess essential newborn care among 18 doctors and 35 midwives randomly sampled from study facilities, 0% of doctors or midwives demonstrated all five elements of essential *immediate* newborn care (delivery onto abdomen, immediate drying with clean cloth, checking respiration, cutting cord with sterile blade, and establishing skin-to-skin contact before delivery of placenta), and only 50% of providers demonstrated all essential *post-partum* newborn care elements (eye care, vitamin k, examination and weighing of newborn, temperature verification, support for breastfeeding, BCG/OPV vaccination), despite solid evidence that low cost basic newborn measures can have a dramatic impact on newborn mortality in limited resource settings.

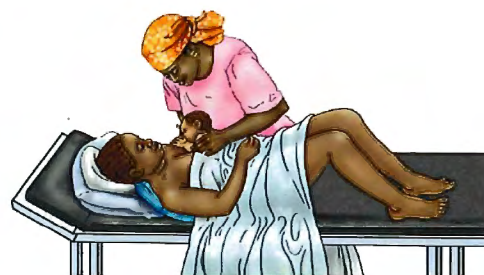
Given the low quality of basic EONC services in even the higher level Nigerien facilities and the absence of quality training facilities for EONC anywhere in the country, one of the greatest challenges for the collaborative is the low number of EONC-trained providers. In the last quarter of Year Four, the EONC collaborative started the first stage of an aggressive, two-pronged training campaign: 1) formal training sessions for EONC providers from collaborative sites, held in two large regional maternity hospitals in the west and eastern extremes of the country (Niamey and Zinder) using expert clinician trainers, followed by 2) on-site continuous training and coaching to reinforce skills in the real-life settings in which providers work. The EONC collaborative is working closely with national experts and regional DSR officials to develop the Niamey and Zinder maternity hospitals as national EONC training centers.

Following the sequence of topics shown in Table 4, training in the last quarter of Year Four (phase 1 of collaborative) targeted AMTSL and essential newborn care. Training sessions use mannequins and QAP-produced job aids. EONC indicators tracked in the collaborative reflect current USAID core maternal and newborn health facility indicators, including the most recent AMTSL indicators recommended by USAID's Prevention of Postpartum Hemorrhage Initiative (POPPHI). To facilitate compliance with

and monitoring of targeted EONC standards, QAP introduced locally produced ink stamps to add into partograph and antenatal records small boxes to record performance of essential elements of AMTSL and newborn care. A behavior change communication component for promotion of early and exclusive breastfeeding (currently < 1%) is being introduced through a series of counseling posters targeting the antenatal and immediate post-partum periods.

As of September 2006, 36 national EONC trainers (10 obstetricians, two pediatricians, and 24 midwives) have participated in a training of trainers to prepare them as national expert trainers. These 36 EONC expert trainers have in turn trained 121 EONC providers from all 28 collaborative sites in seven of Niger's eight regions.

La mise au Sein Immédiate Dans l'heure qui suit la naissance



Counseling poster demonstrates immediate postpartum breastfeeding

QAP's Value-Added in Niger

QAP has been working in Niger since the founding of the Tahoua Quality Assurance Project in 1993. The Niger QAP program has grown substantially in both technical breadth and geographic coverage over the past ten years to now cover over 60% of Niger's first referral facilities. QAP's sustained presence in Niger has fostered strong MOH institutional QA capacity at national and regional levels over the last decade, essential for scaling up improved maternal, newborn, and child health services in a country with very limited resources and among the highest mortality rates in the world. QAP gains are increasingly being institutionalized as part of routine MOH services (e.g., ETAT, AMTSL, essential newborn care), and full MOH leadership and ownership of collaborative achievements represents a leading goal for QAP in Niger. With its added focus on EONC and malnutrition in 2006, QAP's Niger program is now applying its extensive QA and in-country expertise to three of Niger's most pressing areas of need—nutrition, maternal health, and newborn-child health.

Rwanda

During Year Four, QAP continued to support the Government of Rwanda in improving quality of care for HIV/AIDS and malaria services through a PMTCT-VCT collaborative in 37 sites (16 original + 21 expansion sites), a pediatric malaria care collaborative in 23 sites, and an antiretroviral therapy (ART) collaborative in 16 sites. In September 2005, the malaria collaborative was expanded to 31 additional health centers in the same four districts, raising the number of participating sites to 54.

Because this was the final year of USAID field support for QAP in Rwanda, the project's efforts were also directed at institutionalizing the quality improvement methods applied and at identifying lessons and best practices emanating from these collaboratives. QAP provided technical assistance to the Ministry of Health to develop a written policy on quality management of healthcare and a national program for quality assurance. In September 2005, QAP trained a team of 25 local experts—staff from the original sites in the PMTCT and malaria collaboratives who best mastered the QA process and methods—to serve as coaches/mentors to two or three new sites. These local experts were asked to visit newer sites at least once or twice a month to provide encouragement and technical guidance in quality improvement. QAP also conducted three major QA trainings for MOH staff during the year. In October 2005, 27 staff members from the Central Hospital of Kigali, the Treatment and Research AIDS Center (TRAC), selected district management teams, and facilities were trained as quality improvement coaches for their respective institutions. In March 2006, QAP held a training of trainers for 10 national MOH staff and then another series of trainings during June-August 2006 for 45 MOH staff at the district level. In a separate effort, in

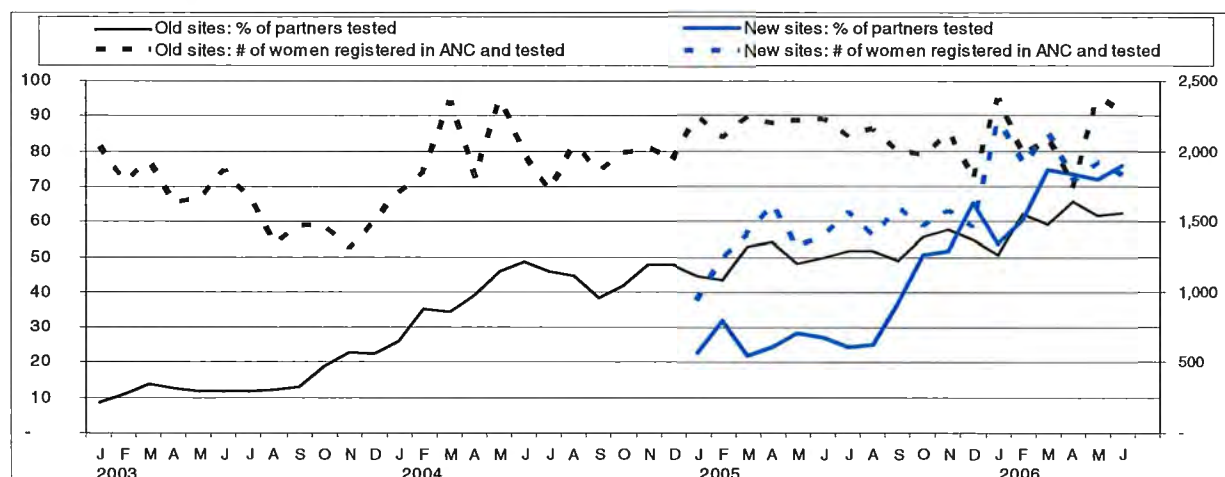
April 2006 QAP responded to a request from Kigali Health Institute, which provides in-service training for doctors and nurses, for assistance in the revision of a training module on basic QA. These trained personnel will enable the sustained application of quality assurance approaches in Rwanda's newly decentralized health system.

QAP's assistance to the Ministry of Health in conducting three national improvement collaboratives culminated in August 2006 with a one-day national conference on the results and lessons learned of the three improvement initiatives. Summarized below are the key results and changes introduced by sites participating in each collaborative to improve case management at the hospital and health center levels.

PMTCT-VCT Collaborative

Figures 3, 4, and 5 show the progression of key indicators that have been monitored by teams, with data pooled for the original sites (old sites) and for the expansion sites (new sites) which joined the collaborative at the end of 2004. Solid lines refer to percentages and are read on the left hand axis, while dotted lines are the corresponding denominators, graphed on the right hand axis of each graph. Generally, the new sites have shown very good results, with 2006 data for all indicators reaching levels comparable to levels achieved by the original sites after a longer period of intervention. Though old sites and new sites did not start out at the same level for all indicators, in many cases, new sites have achieved improvement in less time by implementing best practices developed by the original sites. In some cases, collaborative data compare very favorably with countrywide TRAC data. For instance, the TRAC 2005 Annual Report noted that 47% of HIV-positive women deliver at health facilities, while original collaborative sites reported 69% in 2005 and 80% in 2006 (60% for new sites). In addition, the percentage of HIV-positive women who took nevirapine (NVP) during labor reached 98% in original collaborative sites (new sites reached a level of 96%) in 2005 and 92% in 2006. This compares favorably to the 58% reported in TRAC's 2005 report.

Figure 3. Rwanda: Percentage of Partners of Women Tested for HIV who Are Also Tested



The key improvement changes made by teams to expand uptake of HIV testing and improve PMTCT services are summarized in Table 5. A number of the changes that collaborative teams successfully tested have been adopted nationally. For example, the national norm is now for health facilities to provide HIV test results on the same day as the test, to give NVP at first contact (the same day as an HIV-positive test result is given), and to give written invitations to partners to be tested (a change developed by the collaborative's Kabgayi site that was then replicated in other sites through the collaborative structure). Other changes, such as systematic invitation to partners to accompany the woman on her first prenatal visit and making a list of HIV-positive women expected at the facility's delivery room, are currently in the process of being accepted nationally.

Figure 4. Rwanda: Percentage of HIV-positive Pregnant Women Given Nevirapine to Take Home in Case of Home Delivery, Jan. 2003-June 2006

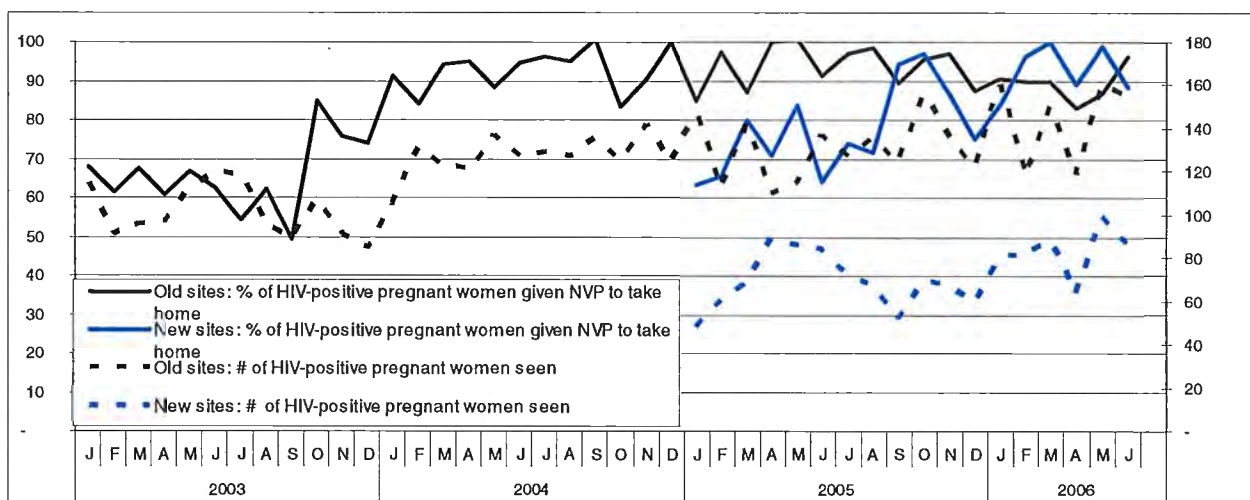
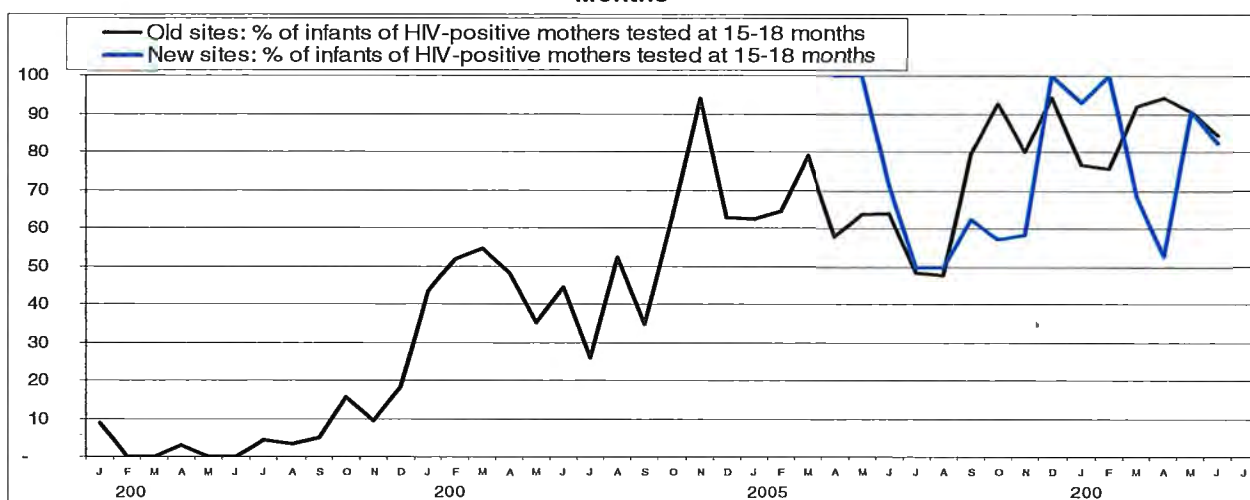


Figure 5. Rwanda: Percentage of Children Born of HIV-positive Mothers Tested at 15-18 Months



The strategy of using an extranet site for sharing data among teams was initiated in August 2005 at the demonstration phase (old) sites. Eight sites began to share their indicator data through the Extranet site regularly within a few months. Dependence on the Extranet for data sharing was discontinued in February 2006, due to factors including turnover in information technology support at QAP's Rwanda office, inefficiency of slow connections, and frequent electricity blackouts.

Malaria Collaborative

Based on the results presented by teams at the fifth learning session of this collaborative in May-June 2005, the National Malaria Control Program (PNLP) of the MOH decided to extend the collaborative to most of the health centers in the four districts. Best practices implemented by the initial sites were identified and discussed at the fifth learning session, to serve as the focused technical content for new sites (see Table 6).

Table 5. Rwanda: Best Practices for Improving PMTCT Services Implemented through the Collaborative

Objective	Changes Introduced
Increase HIV testing of women in prenatal care	– Increase # of ANC sessions per week to receive fewer clients per session so as to increase length of counseling session per client – Send HIV test blood samples to lab as they are taken rather than in batches – Analyze HIV test blood samples as they arrive in lab rather than in batches – Reduce staff lunch time to snack break (so that all clients receive post-test counseling the same day)
Increase partner testing	– Counsel pregnant women on importance of partner testing and the issue of discordant HIV test results in a couple – Make partner testing available 7 days a week – Deliver written invitations to partners – Home visits to sensitize partners – Reorganization of reception (priority testing given to partners) – Add partner code on liaison form to identify women whose partners have not yet tested in order to reinforce sensitization – Participation of a health center agent at community meetings to talk about importance of HIV testing and need to accompany women to the first ANC visit – Keeping ANC carnet and/or liaison card at health center and inviting partners to retrieve them, using this as an opportunity for sensitization – Meeting and sensitization of men/partners after <i>umuganda</i> (community work)
Increase % of pregnant women who take nevirapine at delivery	– Instructive meetings to remind staff of their role in assuring that women be given NVP – Reinforcement of staff skills and capacity in PMTCT counseling, delivery norms and procedures, lactation, and feeding of newborns of HIV-positive mothers – Posting of job aids in the delivery room – Add columns to HIV-positive ANC register to add information on patient address, appointment date, date NVP received – Improve appointment system for HIV-positive women to keep track of and follow-up on women who miss appointments – Give NVP at first contact and confirm possession of NVP during following visits
Improve follow-up of children born to HIV-positive women	– identification of children born of HIV-positive mothers for follow up, – Systematic request for liaison card of mothers who come for vaccinations – Improve tracking system to identify all children who need to be tested – Home visits and active search of children lost to follow-up – Use of meetings of associations of parents adhering to the program as opportunity to sensitize families and to test the child

The district medical officer and supervisor in each of the four districts worked with QAP to identify 17 local experts from among the initial teams. These collaborative experts were then trained in coaching techniques in September and October 2005 and made visits to the new sites, accompanied by QAP staff, in November and December 2005, to collect baseline data, orient new teams to the best practices to be introduced, and show new teams how to monitor the indicators used in the collaborative. The sixth learning session of the malaria collaborative was held separately in each district in April and May 2006.

Bringing together the district hospital team and old and new teams from most of the health centers in each district helped participants to better understand problems in the continuum of care. For instance, the presenter from Ruhengeri district hospital observed, when showing data on case fatality due to severe malaria, that patients referred from health centers were typically arriving in a very severe condition, which then led to discussions with health center staff on why referrals were given so late. Such discussion helped providers at both levels of care to understand how to work together more effectively.

Table 6. Rwanda: Best Practices for Improving Pediatric Malaria Services Implemented through the Collaborative

Objective	Changes Introduced
Increase timely care-seeking for children with fever	- Health center staff take advantage of windows of opportunity such as well child check-ups, treatment visits, and vaccinations to reinforce importance of taking children to the health facility within 24 hours of fever - Information/education through faith organizations and places of worship - Promotion of community-based health insurance schemes
Improve malaria case management at facilities	- Reinforcement of malaria case management norms through staff refresher training meetings and collaborative learning sessions - Re-assignment of skilled staff to patient consultations - Posting of flowcharts and job aids in consultation rooms - Improvements to the patient visit registration system - Designation of a staff person to supervise each child's intravenous therapy and take vital signs every 6 hours
Reduce case fatality through prompt triage and treatment	- Introduction of triage system and giving priority to children 0-5 years old - Work schedules and task assignments reviewed regularly and reorganized to assure the presence of skilled personnel and availability of lab services on weekends and holidays

Figures 6 and 7 show the final data related to two key objectives of the collaborative: improving timely care-seeking by mothers and malaria case management. The final learning session, held in July 2006, brought together representatives from the four districts to review the monitoring data and best practices emerging from the improvements that teams tested.

At the final collaboratives conference in August 2006, the MOH publicly acknowledged the contributions of the malaria collaborative. The PNLP has integrated one of the indicators that was first tested in the collaborative into the national health information system: *% of children 0-5 years old who were taken to the health center within 24 hours of presenting with fever*. In addition, beginning in October 2005, the PNLP itself started to provide basic QA and collaborative training in other districts, with technical support from QAP. Training participants have included health center providers and district health management teams in 13 of Rwanda's 39 districts. The PNLP hopes to attract new donor funds to support continued quality improvement activities for malaria care in these districts.

Figure 6. Rwanda: Percentage of Children 0-5 Years with Fever that Were Taken to a Health Center in the First 24 Hours, May 2003-June 2006

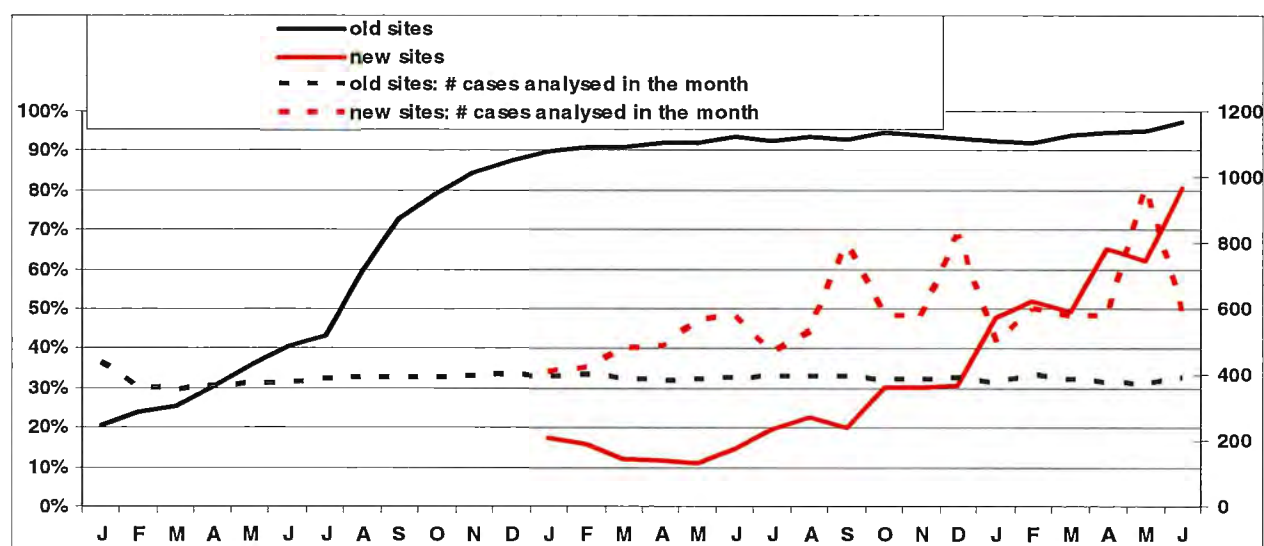
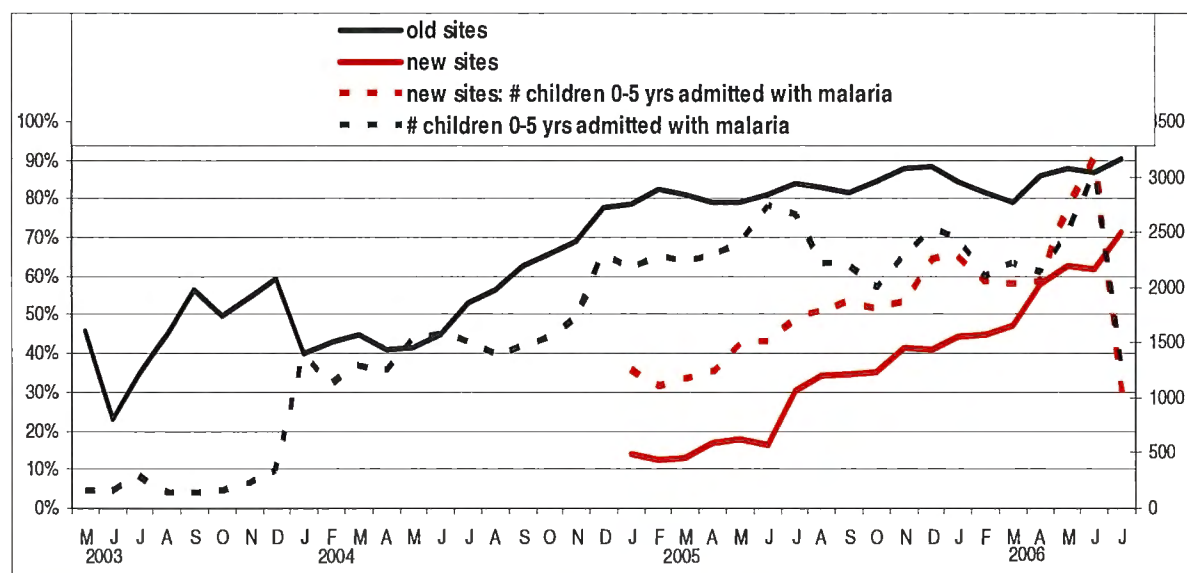


Figure 7. Rwanda: Percentage of Children 0-5 Treated at Health Centers According to Malaria Case Management Standards, January 2004-June 2006



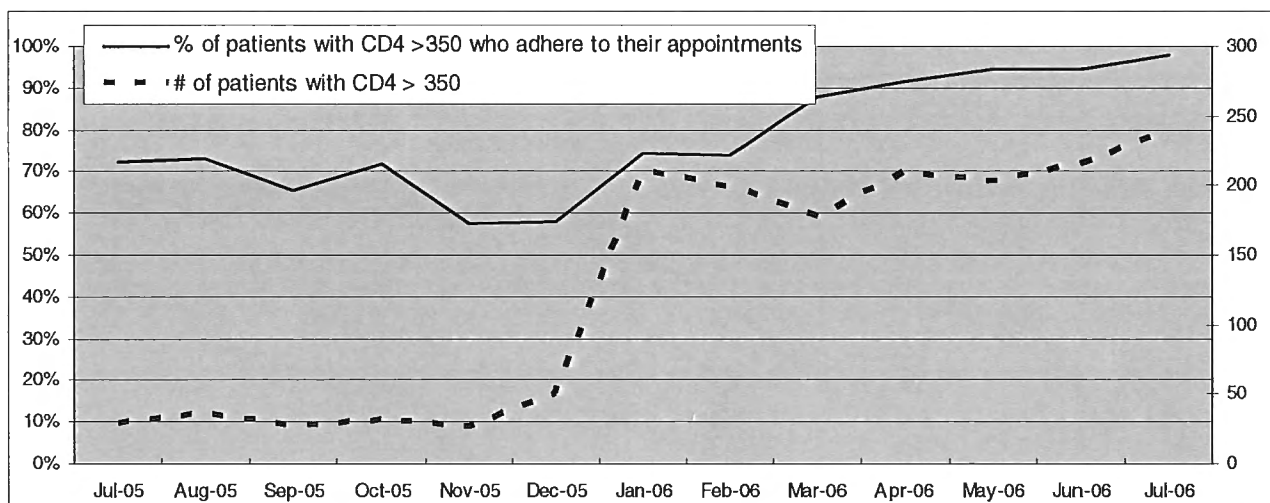
ART Collaborative

Fourteen sites continued participating in the ART collaborative during the year. A problem for the collaborative last year was the lack of physician participation on the improvement teams. In August 2005, in preparation for the fourth learning session, QAP staff visited sites attempting to sensitize doctors to become more involved in the collaborative. During the fourth learning session, held in September 2005, teams confirmed problems with lack of commitment to QI work. Many teams reported that they were not meeting regularly and only four out of 16 initial sites were able to collect indicator data. Only three doctors participated (among 27 participants), and all were from the same hospital.

To address these obstacles, QAP staff asked sites to assemble a list of problems they had with ART. Each site decided which problems they wanted to work on (e.g., waiting time, home visits) and formulated objectives and indicators. Sites monitored three common indicators as well. Teams found that sharing information helped to identify system problems. For instance, sites noticed that the indicator for increase in CD4 count had decreased in all sites. After inquiring at the national laboratory, they found out that the sole CD4 machine had malfunctioned and was giving false results.

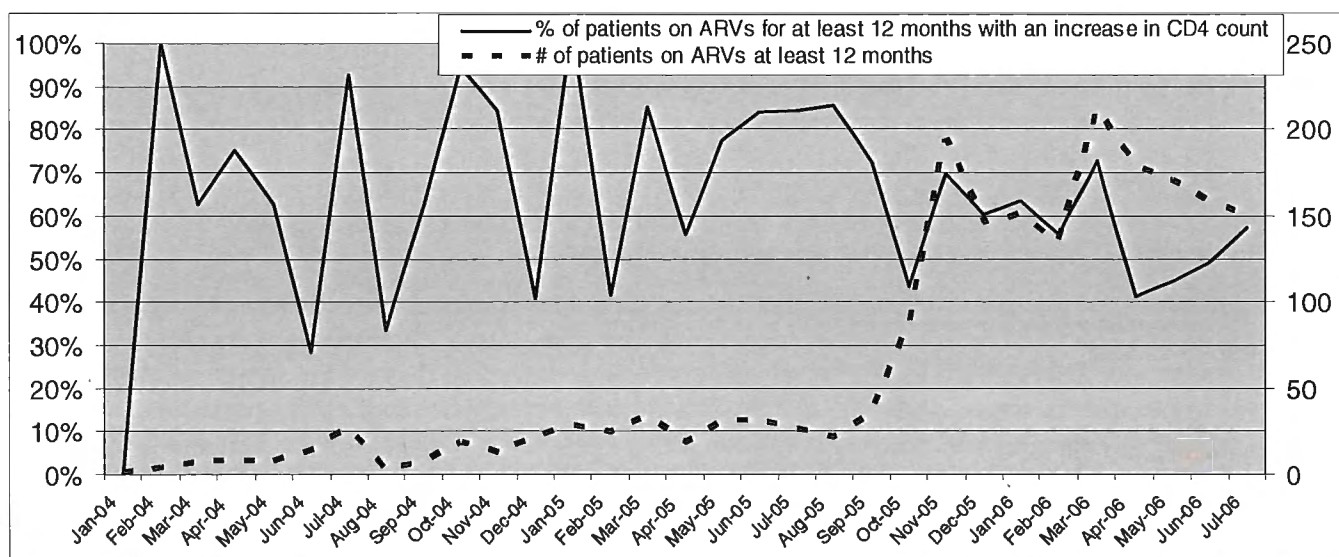
By learning session five in February 2006, three sites were represented by doctors, and by the sixth learning session in July 2006, doctors represented four sites. Sites found that they were able to reach some of the targets defined at the fourth learning session. Sites also shared their experiences with dealing with site-specific issues. For instance, the Masaka health center team noted after reorganizing their services that they were missing some patients whose CD4 counts were still above 350/mm³ (i.e., not yet eligible for ARV treatment). These patients were not coming in for appointments to monitor their CD4 count levels, and as a result some came when they were in advanced stages of AIDS. The team began monitoring more carefully the percentage of such patients that showed up to their appointments and improved counseling to HIV-positive patients not yet eligible for ART. After they shared their results, other sites started implementing the same changes, and by the sixth learning session, five sites were reporting on this indicator (see Figure 8).

Figure 8. Rwanda: Percentage of Patients with CD4 >350 who Adhere to their Appointments (5 Sites), July 2005-July 2006



However, not all indicators showed improvement. Two objectives in particular were not easy to improve: “100% of patients on ARVs for 12 months had (any) increase in CD4 count” and “100% of patients on ARVs for 12 months had increase in body weight.” As seen in **Figure 9**, sites found that their ability to influence this outcome was affected by factors that are beyond their influence, such as stage of infection, nutrition (not all sites have nutritional support), and drug resistance. During the final learning session, teams discussed what successful changes they had introduced to improve ART services. These are summarized in **Table 7**.

Figure 9. Rwanda: Percentage of Patients on ARVs at Least 12 Months Showing CD4 Increase, 5 Sites



Technical Assistance in QA Policy Development

In 2005, the Ministry of Health requested QAP assistance to develop a written policy on quality assurance, a document laying out a national QA program, and a strategic plan for assuring quality throughout the health system. In 2006, the Ministry’s needs changed from a document focused exclusively on QA to one focused on quality of care and including quality assurance, performance-based

Table 7. Rwanda: Changes Introduced through the Collaborative to Improve ART Services

Objective	Changes Introduced
Improve quality of care for PLWHA	– Staff trained to expand topics on which ARV patients are counseled to include importance of adherence to ARV regimen, CD4 testing, keeping appointments, maintaining health, secondary effects of ART, and information about associations of people living with HIV/AIDS – Increase the number of rooms where ARVs are distributed to reduce waiting time – Reduce frequency of appointments for patients who have been on ARVs for >1 year and adhere to treatment very well – Completion of files during patient's consultation
Improve patient follow-up (for CD4 testing and ARV adherence)	– Monitoring of medical records for completeness – ARV distribution schedule explained to clients – Scheduling ARV distribution and CD4 testing on the same day – Enrolling patients in ARV program the same day as HIV-positive test results given – Schedule monthly meetings of HIV-positive community-based supporters (<i>guardiens</i>) with patients – Home visits to patients who miss appointments, one week after appointment

financing, and mutual health organizations. QAP worked with the Promotion of Quality Care Department and other stakeholders to develop a single, comprehensive policy on quality management, which allows for integrated efforts to improve and sustain the quality of care for the people of Rwanda. The policy document has been officially accepted by the Ministry of Health (May 2006), and the Quality Management Program document is nearly completed. The latter outlines strategic directions and specific results, strategies, and activities and specifies roles and responsibilities of all key health system actors related to quality management. The fact that quality of care is viewed by the Ministry as the responsibility of all health system actors paves the way for more sustained efforts to improve and maintain quality. In Year Five, QAP will assist the Government of Rwanda to develop a detailed, five-year strategic plan for quality management.

QAP's Value-Added in Rwanda

Rwanda has changed by leaps and bounds in the last decade in nearly every arena--not just in health. This is due to the will of the Rwandan leadership to build the country after the genocide, supported by a great number of multilateral and bilateral aid organizations. As aid dollars continue to pour into this stable country with competent leadership, visible improvement in all arenas *should* be expected. Against this backdrop, QAP has contributed in several important ways. Early on, QAP demonstrated that teams of facility staff could be trained and organized to institute measurable improvements in healthcare, and that this process empowered teams. In the last few years, QAP has demonstrated that the collaborative methodology can extend quality improvement at large scale in a relatively short period of time, with measurable results. In the last 18 months, QAP had an all-Rwandan technical staff, trained and supported a cadre of district-level local experts to support teams, trained QA trainers and coaches at key institutions, helped to incorporate QA into in-service training, and assisted the MOH to formulate a written policy and implementation plan to support quality assurance. Spreading QA is ultimately about teaching health personnel at all levels to improve on their own performance. While this may not have been the optimal moment to end the three collaboratives, QAP has passed on the experience, knowledge and demonstrated value of quality assurance to all levels of the Rwandan health system.

South Africa

Between October 2005 and September 2006, QAP continued to help the National Department of Health (NDOH) of the Republic of South Africa to expand the provision and improve quality of HIV/AIDS services in four provinces: Mpumalanga, KwaZulu-Natal, Limpopo, and the Eastern Cape. Due to PEPFAR reporting requirements and provincial rezoning, fewer facilities were supported by QAP during

Year Four. QAP staff provided direct assistance to 96 health facilities in the four provinces: 33 facilities in three districts (Gert Sibande, Ehlanzeni and Nkangala) in Mpumalanga; 25 facilities in two districts (Uthungulu and Sisonke) in KwaZulu-Natal; 11 facilities in two districts (Greater Sekhukhune and Bohlabela) in Limpopo; and 27 facilities in two districts (Chris Hani and the Nelson Mandela Metropolitan Area) in the Eastern Cape. Discussions with provincial staff have culminated in agreements to expand QAP assistance to additional facilities within the next year. With the appointment of a new provincial QA coordinator in April 2006, QAP resumed its program of assistance in Bophirima district of the North West province; 14 facilities in two sub-districts have been targeted for QAP support.

In response to USAID directives, QAP's technical assistance has focused on increasing the uptake of services related to HIV counseling and testing, the prevention of mother-to-child transmission of HIV (PMTCT), HIV and tuberculosis (TB) service integration, antiretroviral (ARV) treatment, and palliative care and support activities for persons living with HIV/AIDS (PLWHA). This is being achieved through the provision of technical support and assistance to health facility staff in operationalizing national guidelines and protocols for specific HIV programs. QAP staff train and mentor district managers, facility-based health staff, and community-based organization (CBO) staff to use data to review the performance of current systems (case management, laboratory, pharmaceutical, information systems, planning and evaluation, etc.), identify gaps, and develop strategies to improve performance. QAP staff makes monthly or quarterly visits to all facilities and Local Service Areas participating in the program. **Box 1** illustrates the kind of support that QAP provides to the assisted facilities.

Box 1. Facility Results in South Africa: Driefontein Health Center in Mpumalanga Province

Driefontein Health Center is situated in the Gert Sibande district, within Mpumalanga province, serving a community of approximately 50,000 people. Within the province, the HIV sero-prevalence rate amongst pregnant women is 30.8%, indicating a dire need for improvement and strengthening of the PMTCT program. Through the leadership of Mrs. Maria Fakude, the provincial QAP Coordinator, in collaboration with the Department of Health QA Coordinator, the quality of the PMTCT program has improved significantly. By promoting HIV counseling and testing for all pregnant women at their first antenatal visit, the HIV testing rate has improved from 23% in October 2005 to 78% in March 2006. In addition, the emphasis on compliance with guidelines for facility staff has led to an increase in the administration of Nevirapine to all HIV-infected pregnant women and their babies from 151 to 207 in the first two quarters of 2006, a 25% increase. According to data collected from registers and from patient record audits, all babies born to HIV-infected mothers are now receiving Nevirapine prophylaxis at the health center.

In line with the national PMTCT guidelines, facility staff has been educated about the need to perform clinical staging and CD4 counts on all HIV-infected pregnant women and to refer for ART when appropriate. Through ongoing support and mentoring, the compliance with clinical staging of HIV infected pregnant women has increased from zero at the end of 2005 to 67% in the 2nd quarter of 2006. CD4 count testing has increased from 33% to 100% in the same time period. Facility staff has also been educated about the need to provide opportunistic infection prophylaxis to all HIV-exposed babies at six weeks and to inform mothers about PCR testing of their babies. The initiation of this service has shown some improvement from eight to 28 infants in the first two quarters of 2006.

During a recent assessment of the value added by QAP, the Driefontein Health Center manager said, "Through the monthly support visits QAP has provided guidance, information, and training on national guidelines. This has resulted in improved record keeping, improved compliance with national guidelines, improved management and care of mothers and children and better insight into the care of HIV/AIDS clients and the correlation between TB and HIV. QAP has also influenced improvement in all programs at the facility such as chronic care, family planning and minor ailments."

QAP's results with respect to planned targets are summarized in **Table 8**. QAP far exceeded the set targets in all five HIV/AIDS programmatic areas, making particular gains in the areas of TB-HIV, PMTCT, and ART services (areas where targets were not met in Year Three).

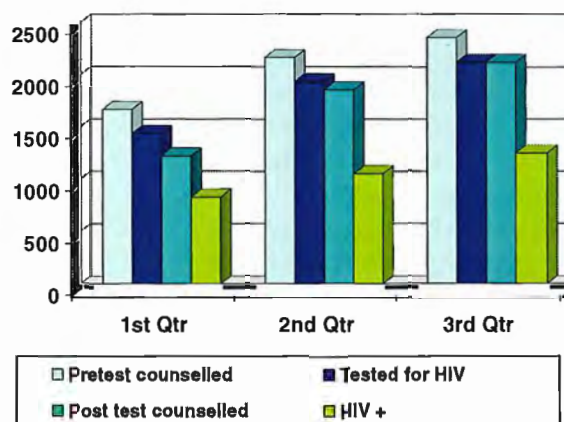
Table 8. South Africa: QAP's HIV/AIDS Service Targets and Achievements, Oct. 2006-Sept. 2006

HIV/AIDS Service Area	Planned Targets (Oct 2005–Sept. 2006)	Accomplished Targets as of Sept. 2006
Counseling and Testing		
# service outlets	100	96
# clients pretest counseled	-	85,676
# clients tested and post-test counseled	18,000	64,853
# clients tested HIV-positive	-	27,997
PMTCT		
# service outlets	100	88
# pregnant women pretest counseled	-	22,424
# pregnant women tested and post-test counseled	20,000	21,438
# pregnant women tested HIV-positive	-	9,907
# women provided with NVP	5,000	8,687
# babies provided with NVP	-	9,046
Basic Health Care and Support		
# service outlets	-	85
# clients provided with basic health care and support	-	24,391
# clients on ART readiness program	-	25,301
HIV-TB		
# service outlets	-	89
# clients provided with HIV-TB services	-	7,095
ART		
# service outlets	5	23
# clients on ART	1500	9,820
# clients screened for TB before ART initiation	-	5,496

Counseling and Testing

QAP is working with the local health departments to ensure that appropriate systems are in place to increase the availability of high quality counseling and testing services. In the past year, QAP supported 96 facilities that counseled over 85,676 individuals, a 29% increase over last year's level. On average, 76% of those who received pre-test counseling accepted an HIV test and received post-test counseling. Of those tested, 43% were found to be HIV-positive. **Figure 10** shows increased uptake of counseling and testing in the QAP-assisted facilities in Limpopo Province.

Figure 10. South Africa: Number of People Provided with Counseling and Testing in Limpopo, 2006 (12 Facilities)



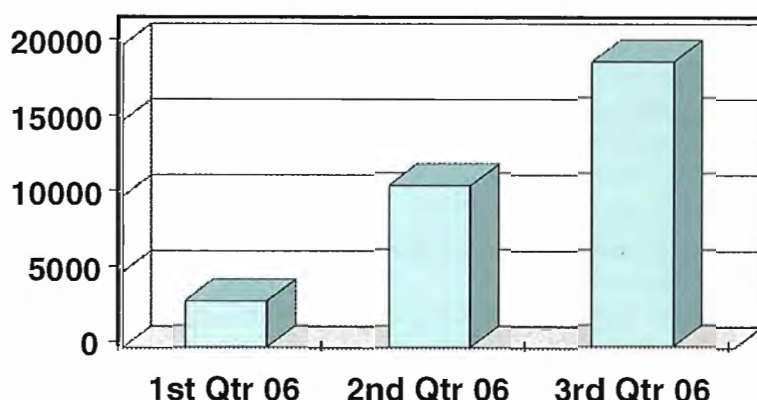
PMTCT

QAP is covering 88 facilities in the country to provide quality PMTCT services. Some 21,438 pregnant women received an HIV test and post-test counseling, out of which 9,907 (46%) tested positive. Of these women, Nevirapine was provided to 88%, demonstrating a marked improvement in compliance with national guidelines among facility staff. The compliance rates with screening for sexually transmitted infections (STIs) and counseling for infant feeding options have increased significantly in participating facilities. Also, the proportion of antenatal care (ANC) clinic attendees accepting counseling and testing is also rising, as is follow-up of babies born to HIV-positive mothers at community health centers.

Palliative Care – Basic Health Care and Support

QAP assisted 85 facilities in improving quality of basic health care and support services to PLWHA. The focus has been to improve the early detection and treatment of opportunistic infections, nutritional support systems, and palliative care and to increase home-based treatment of diarrhea and use of prophylaxis. Over 24,391 individuals have received support through these facilities. During the past year, facilities in the Eastern Cape made particular gains in provision of support to PLWHA (see Figure 11).

Figure 11. South Africa: Number of HIV-positive Persons Receiving Ongoing Counseling and Support, Eastern Cape, 2006



During this reporting period, QAP also supported two community-based organizations (CBOs) that provide home-based care in two provinces in order to improve the continuum of care for PLWHA. While this has been a challenging process, key issues such as communication, integration of services and referral of clients between different levels of care have shown improvement. Ongoing support and mentoring is being provided by QAP staff, both to individual facilities and to the two CBOs.

Palliative Care – TB-HIV

QAP is working with health facilities to improve operational policies and guidelines to increase cross-referrals between HIV and TB facilities. A major challenge to improving TB services for HIV-positive patients is lack of national guidelines and directives to support this program. QAP staff worked in 89 facilities in the past year and supported over 7,095 HIV-positive patients for TB screening, treatment, and follow-up. QAP is also promoting wider HIV screening of TB patients.

Figure 12. South Africa: Referrals of TB Patients for HIV Testing, KwaZulu-Natal, 2006

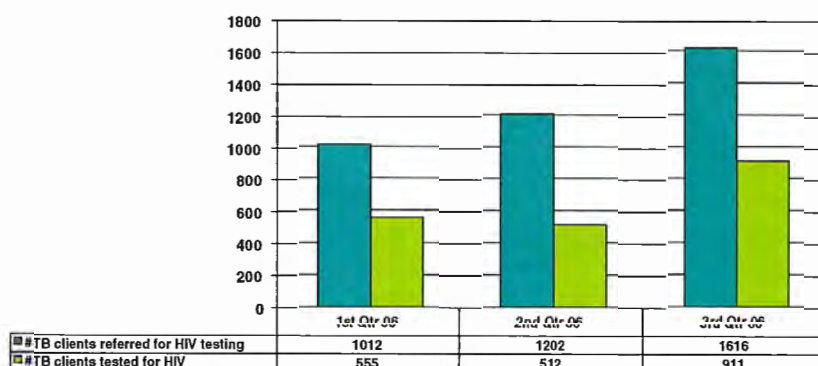


Figure 12 shows the increase achieved this year in the number of TB patients referred and tested for HIV in KwaZulu-Natal. The proportion of TB clients referred who actually were tested increased slightly over last year, to 56%.

ARV Services

QAP is helping the NDOH, local health departments, and other stakeholders in operationalizing national protocols on ARV treatment. We are assisting stakeholders in developing a continuum of care model to ensure that ARV clients receive optimal care at all levels of care. We are assisting facilities to utilize patient records and information systems to ensure that each patient receives quality care. We are also helping facilities develop linkages with CBOs to provide community-based support to ensure patient adherence with ARV treatment regimens. In the past year, QAP worked with 23 facilities that served 9,820 people on ARVs, a 142% increase over the number of patients provided with ART in QAP-assisted facilities last year.

QAP's Value-Added in South Africa

QAP has continued to work closely with the National Department of Health in South Africa to develop and adapt a large number of standards, guidelines, and protocols for various HIV/AIDS comprehensive treatment, care, and support services. QAP staff work closely with the provincial and district staff to provide ongoing mentoring support to ensure that HIV/AIDS services are integrated with the regular health services at the facility level. QAP continues to add value by helping the NDOH make health services at the facility level and health systems at the district level, functional. District level supervision and information systems are being greatly improved to provide ongoing mentoring and support to facility staff. Integration of services at the facility level has also improved, ensuring that PLWHA receive high quality services at different stages of disease and at different levels of the health system.

Tanzania

In Year Four, QAP implemented three major activities in Tanzania: 1) continuing the pediatric AIDS hospital improvement collaborative in the six original hospitals and assisting the Ministry of Health and Social Welfare (MOHSW) to expand the collaborative to 12 new sites in northern regions, 2) concluding the family planning collaborative in 15 facilities in Dar es Salaam region, and 3) supporting the training of PMTCT staff in five regions to use the HIV-infant feeding job aids developed by QAP in Year Three.

Pediatric Hospital Improvement and AIDS Care Collaborative

During the past year, QAP's technical support focused on strengthening the capacity of the six hospitals participating (Amana, Temeke and Mwananyamala Municipal Hospitals, Morogoro Regional Hospital, Tumbi Special Hospital, and Kilimanjaro Medical Center) to use the WHO HIV screening algorithm which was adapted for Tanzania in Year Three and to routinely place HIV-exposed children on cotrimoxazole prophylaxis.

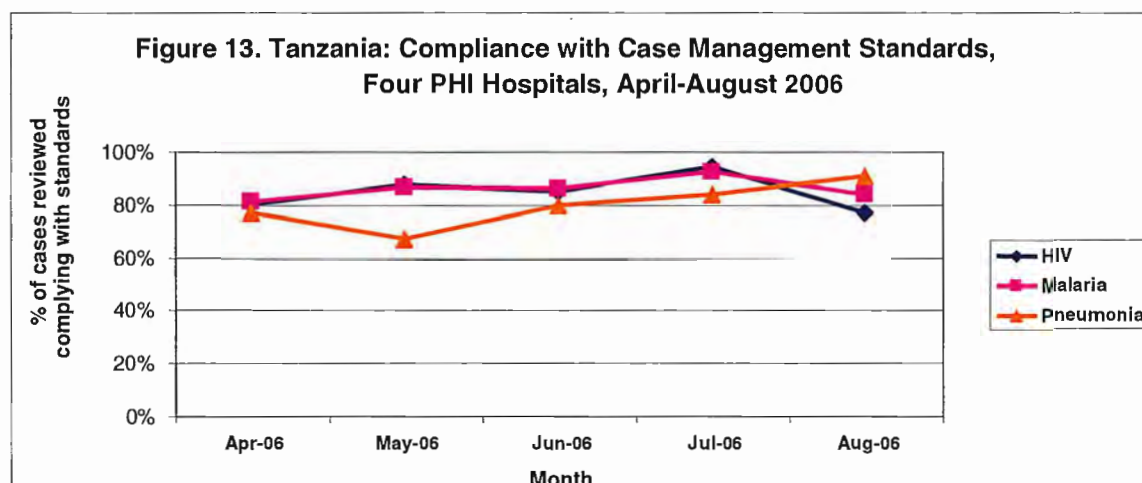
The HIV screening algorithm enables health providers to more readily identify, test, and refer HIV-infected children to HIV Counseling and Treatment Centers. Emphasis was placed on reaching more children by including outpatient, PMTCT clinics, and reproductive and child health clinics as entry points where the HIV screening algorithm could be used. QAP also worked with hospital staff to map community-based organizations providing HIV/AIDS care in order to foster stronger links with such groups for follow-up of HIV-infected children diagnosed and treated in the hospitals.

The collaborative also introduced at the November 2005 learning session, a pediatric admission job aid and critical care pathway for hospitalized children, both adapted from QAP's work in Malawi. The critical care pathway (CCP), a form that tracks each child's care over the duration of hospitalization, and accompanying forms to monitor completion of CCPs in each hospital, were introduced in the fourth learning session in November 2005. The CCP serves as a job aid and case management record, prompting hospital staff to record, each day, medications and therapy administered, physical condition of the child, vital signs, and lab results. QAP worked with the participating hospitals to put in place procedures for routinely monitoring a sample of CCPs for compliance with case management guidelines. By the fifth learning session in April 2006, sites began reporting compliance data (see **Figure 13**).

Based on the positive results of the PHI collaborative in these hospitals, the MOHSW asked QAP for assistance in extending the pediatric AIDS and hospital improvement work to 12 hospitals in the Arusha and Tanga regions of northern Tanzania. In their first learning session, led by the MOHSW with support from QAP in December 2005, the new teams were oriented to the Referral Care Manual, ETAT and QI concepts, how to apply the baseline facility assessment tool, and improvements in pediatric patient flow that were developed in the original sites. During their first action period, these sites implemented ETAT training for pediatric staff and made infrastructure changes to facilitate new patient flow patterns and create suitable spaces for care of pediatric emergencies.

P1 P2 P3 NAME		Date of Birth		M/F		Date of Admission		Hosp No.		PAEDIATRIC CCP	
WGT	DATE	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
DRUGS: oral Sina given											
FLUIDS: rate/type											
TREAT											
Oxygen Status Y/N											
Blood Transfusion											
OBSERVATIONS: Please do at least once DAILY USE FIRST COLUMN TO RECORD FINDINGS ON ADX'S SIGN											
Chest exam Y/N (x1, x2, x3)											
Heart exam Y/N											
Cena score (0,1,2,3,4,5)											
Vaccines Y/N (x1, x2)											
Biomarkers Y/N (x1, x2)											
Defecation Y/N											
Dehydration (0, none, severe)											
Pulse/JVP/RR/SpO2 (x1, x2, x3)											
Oxygen Y/N											
Cyanosis Y/N											
Chest crackles/wheezes Y/N											
Sputum (x1, x2)											
Liver size (cm)											
VITAL SIGNS: RR											
PR											
Blood glucose (mmol)											
Temperature (°C)											
40											
39											
38											
37											
36											
Lab results: PCV											
Mos (x1, x2, x3)											
Blood culture											
CSP											
Progress (Jawed, full, none)											
Explained to Parents Y/N											

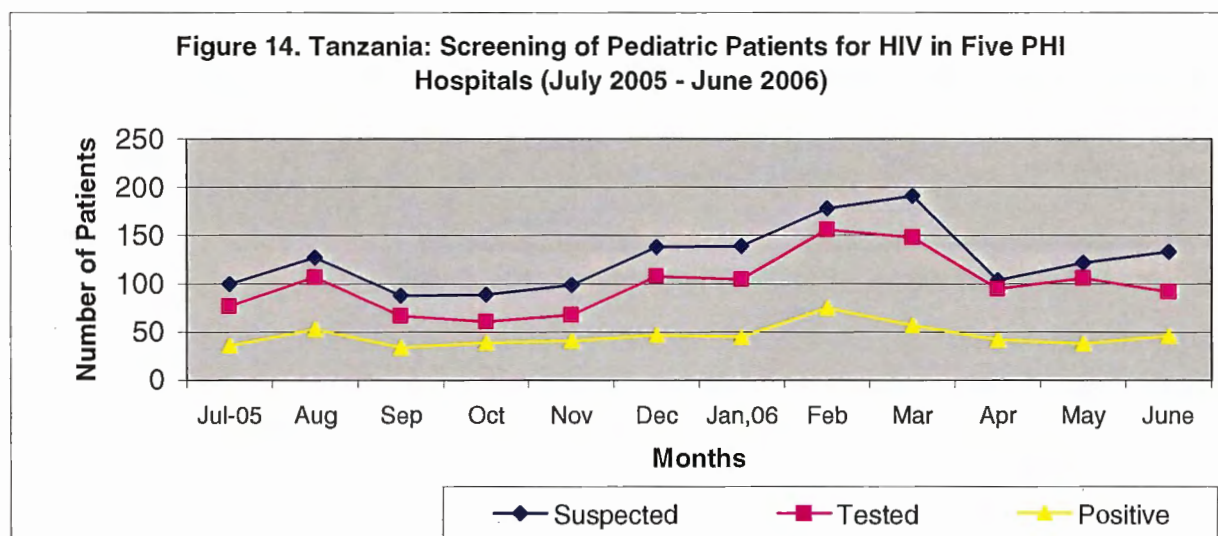
Critical care pathway introduced in Tanzania in Year Four.



QAP and MOHSW IMCI staff strengthened facility QI teams through training and on-site coaching as well as monitoring the progress of implementation of improvement activities. The initial sites continued to strengthen their triage process and management of children with emergency conditions, and over the year reduced to 6% the proportion of admitted children not triaged according to guidelines. Quality improvement changes made by these hospitals included introducing pediatric side laboratories for children to take care of basic laboratory tests, meetings between PHI teams and AIDS treatment center staff to improve coordination of care, and stronger advocacy with hospitals' Health Management Teams to take into account pediatric care needs in main budgets and procurement plans. The latter efforts have enabled the procurement of oxygen concentrators, oxygen cylinders, laboratory supplies, drugs and other medical supplies needed to care for critically ill children.

The introduction of the HIV screening algorithm has contributed to improvements in the detection of HIV infection and improved management of children with HIV infection. At a national level, out of the approximately 50,000 clients commenced on ARV treatment, 12% are estimated to be pediatric, a bit short of the 20% target set by the MOHSW. Data collected from five original collaborative sites (presented in **Figure 14**) show a total of 1508 children were suspected to have HIV infection based on the

screening algorithm. Of these, 1190 were tested, 553 were found to be HIV-positive, and 527 (95% of those HIV-positive) were referred to treatment centers for ART and cotrimoxazole prophylaxis, subject to eligibility. Irregular supply of HIV testing reagents contributed to fluctuations in the numbers of children tested from month to month.



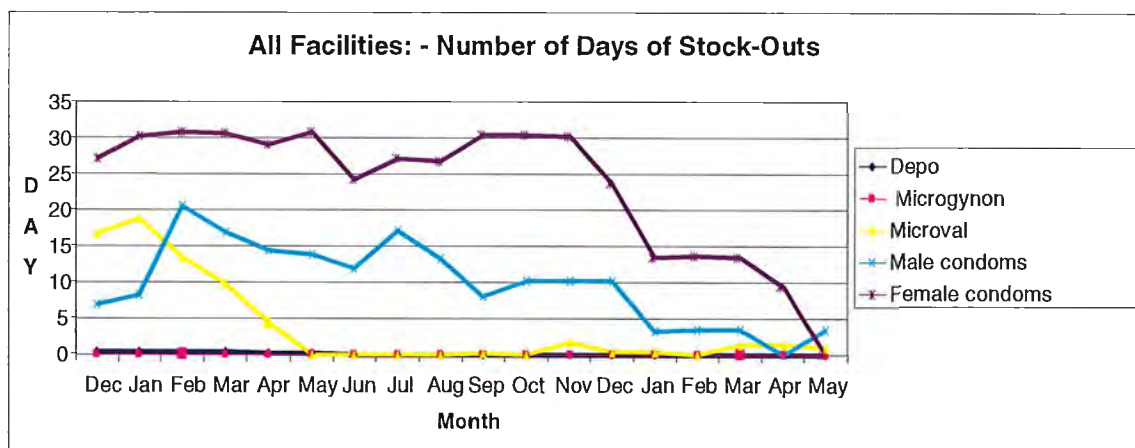
Family Planning Collaborative

Initiated in Year Three with core funding, the family planning (FP) collaborative expanded in Year Four with field support to include six new facilities, raising to 15 the total number of facilities participating in Dar es Salaam region. Three learning sessions were held at which old and new teams shared ideas for addressing quality aspects of family planning services, including increasing client privacy; reducing stock outs and increasing method mix; improving knowledge and skills of service providers; improving client counseling and screening for medical eligibility; and reducing missed opportunities for FP and HIV services within each facility. To address the problem of lack of FP job aids and counseling materials, QAP worked with the MOHSW to develop and field test an All Methods Brochure. Other FP stakeholders were involved in the review stages of the brochure, which the MOHSW has now adopted.

The collaborative held its final learning session in July 2006, at which teams developed plans for continued advocacy and resource mobilization for FP capacity development, monitoring of compliance with FP standards, and sharing of lessons learned and experiences. Major achievements of the collaborative included: reduction of FP commodities stock-outs through tracking of FP methods dispensed and timely requisition of supplies (see Figure 15); improved client counseling and screening for medical eligibility using WHO criteria; increase in client access to preferred method of FP; increase in the number of referrals from the under five clinic attendees; improved patient privacy; improved record management; and a slight increase in the number of new users of FP in the facilities. Despite the improvements made, some constraints within the service provision environment made it impossible to achieve the objective of reducing missed opportunities for FP services. The proportion of total Reproductive and Child Health Services clients who were new or continued FP users remained stagnant.

During the final learning session of the collaborative, attended by senior officials of the MOHSW and the Dar es Salaam Regional Health Office, all tools developed in the collaborative for baseline FP services assessment, monitoring of compliance with standards, health talks, exit interviews, and data collection and consolidation were shared, along with the results achieved by the participating teams.

Figure 15. Tanzania: Reduction in Stock-outs of Contraceptives in Collaborative Sites, Dec. 2004-May 2006



Infant Feeding Counseling in the Context of HIV/AIDS: Job Aids and Training Program

Building on the strong reception to the HIV and infant feeding job aids and counseling materials produced in Year Three, in Year Four, QAP collaborated with national PMTCT partners, sub-contractor COUNSENUTH, USG cooperating agencies, and other donors to support training of trainers and implementation of whole-site training of service providers on appropriate counseling for the prevention of mother-to-child transmission of HIV. QAP supported activities in five regions that have resulted in the training of more than 600 providers who care for pregnant women, mothers, and infants in over 300 sites.

To date, QAP has made available more than one million print materials for use in PMTCT services and pre- and post-natal units in Tanzania. The infant feeding job aids and counseling materials have contributed to reducing HIV transmission by more effective counseling of women about safer feeding practices, including exclusive breastfeeding, reduction in mixed feeding, and use of appropriate complementary foods. In Year Four, the MOHSW made the decision to officially adopt the counseling job aids and the corresponding training package for management, mid-level, and frontline service providers involved in PMTCT and infant feeding. The materials will be reissued in 2007 with the branding of the National AIDS Control Programme.

QAP'S Value-Added in Tanzania

QAP has worked very closely and in collaboration with existing MOHSW systems and processes in Tanzania, adding value to the ministry's efforts to improve the quality of care for children with HIV infection, improve access to and quality of family planning services, and prevent mother-to-child transmission of HIV. Empowering hospital and health center quality improvement teams to document, analyze, and take actions based on data about performance according to standards, and the strong involvement of the IMCI and Quality Assurance units of the MOHSW and collaboration with other MOHSW partners (EngenderHealth, EGPAF, and COUNSENUTH) in planning and implementing QI activities are important building blocks for sustaining quality assurance in the Tanzanian health system. Ultimately, the focus of QAP's work in Tanzania has been on strengthening health systems, which will lead to improved health services utilization for targeted health problems, in line with MOHSW and USAID Mission strategic objectives.

Benin

QAP has worked with the Ministry of Health of Benin since February 2005 to support an essential obstetric care collaborative in two *Zone Sanitaires*, Pobe-Adja Ouere-Ketou (PAK) and Aplahoue-Dogbo-Djakotome (ADD). Fifteen facilities participate in the collaborative: three regional hospitals (Zou

Collines, Mono-Couffo and Oume/Plateau), two district hospitals (Pobe and Aplahoue-Djakotomey-Dogbo), and ten peripheral facilities (CSC/CSA), five from each zone.

In the second half of 2005, QAP assisted the MOH to conduct two rounds of supportive supervision and to hold the third learning session in January 2006. The main focus of the learning session was to review progress in the four technical focus areas of the collaborative: compliance with ANC norms, adequate completion of the partograph, active management of the third stage of labor, and selected aspects of routine newborn care. Key partners, notably UNFPA, UNICEF and the ACQUIRE Project (IntraHealth), participated in the learning sessions and provided support to both districts in areas of need identified by the collaborative. IntraHealth trained providers in AMSTL, and UNFPA provided selected items of equipment.

Throughout the year, the 10 peripheral facilities reported increases in most of the process indicators being monitored. Notable improvements were seen in the proportion of partographs adequately completed and the proportion of deliveries with AMTSL (see **Figures 16 and 17**). Improvements were also evident in facilities. Staff put up screens or curtains in consultation rooms and delivery wards to improve client privacy and posted job aids to remind providers how to manage post-partum hemorrhage and AMTSL.

Figure 16. Benin: Completion of the Partograph According to Standards in 10 Peripheral Facilities, Oct. 2004-Mar. 2006

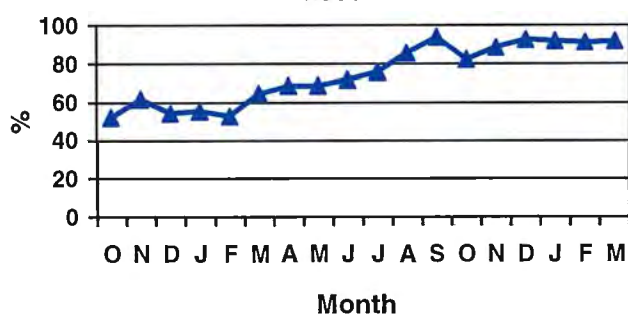
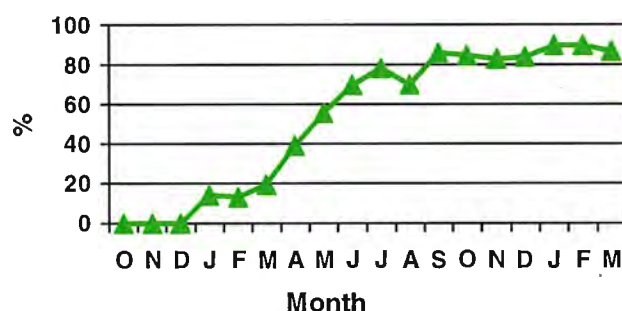


Figure 17. Benin: Practice of AMTSL in 10 Peripheral Facilities, Oct. 2004-Mar. 2006



Although considerable progress was made in the first year of the project, there were a number of ongoing management challenges. The project coordinator who had been located in Cotonou in order to work closely with the MOH Family Health Directorate (and at their request) found that the counterpart was available for supervisory visits only infrequently. A lack of transport too¹ made supervision difficult, and site visits were conducted much less often than had been originally planned. In the first six months of 2006, the QAP project coordinator left, and it took several months to find a suitable replacement. During that time, few formal collaborative activities were conducted, although some teams continued to monitor their activities independently. In June 2006, QAP staff visited the collaborative sites to assess progress and assess the feasibility of investing additional core funds to strengthen newborn health and linking community and facility care. This visit confirmed some progress in maternal health, but reviews of a number of records highlighted the need to regularly audit self-reported data to verify the validity of results reported. A decision was made to continue work in the two same districts but to focus more on ADD district, where the presence of other NGOs, such as Plan International, provides the possibility of leveraging resources in order to achieve greater impact at the community level.

¹ A vehicle for which the procurement was initiated over a year ago is still awaited.

QAP's Value-Added in Benin

Throughout the past year QAP has worked closely with the MOH in developing the collaborative activities. Although there have been some weaknesses as described above, there is now widespread recognition of the importance of addressing quality in the delivery of EONC services in Benin. In the national strategy for the reduction of maternal and neonatal mortality, published this year, the need to improve service quality features as one of the key priorities. Benin has achieved considerable progress in developing a wider range of policies and protocols to address EONC but much less has been achieved in terms of program implementation. The collaborative model, with its potential for scale-up and rapid improvement, is ideally suited to the current environment. The national strategy identifies the collaborative approach as one of the effective strategies for achieving quality improvement at scale, and the MOH has asked that QAP build national capacity to conduct collaboratives before project completion. The new national strategy highlights the importance of addressing newborn health and of linking facility and community care. These are major preoccupations for the MOH and are key themes which will be addressed by the collaborative in the coming year.

Uganda

For the past year, the Quality Assurance Project has provided technical assistance to the Ugandan Ministry of Health's Quality of Care (QoC) Initiative, launched in November 2005. The main objective of this Initiative is to develop a sustainable quality improvement system for HIV/AIDS service delivery using the continuous quality improvement (CQI) model. Under the overall aegis of the QoC Initiative, 57 health facilities, including national and regional referral hospitals, district hospitals, and health centers, were selected for participation in an antiretroviral treatment improvement collaborative. The collaborative was developed with the intention of increasing the number of sites in subsequent years, until all facilities providing antiretroviral medicines are included. Sites were selected from all over the country, with more than 90% of Uganda's old 56 districts represented. All activities of the collaborative are coordinated and directed by the MOH. QAP's role is to help strengthen the capacity of existing MOH structures at the national and sub-national levels and provide technical assistance in implementing HIV/AIDS quality improvement programs at participating health facilities.

Much of QAP's efforts this first year were devoted to facilitating the creation of a leadership and technical structure to support quality improvement activities in the districts. A Steering Committee for the Initiative was established and has met several times this past year. This committee, made up of members from the MOH, USAID, the Regional Center for Quality in Health Care (RCQHC), and QAP, provides strategic leadership to all QoC activities. The committee has helped to strengthen coordination and collaboration between MOH partners and stakeholders, including WHO, CDC, USAID, RCQHC, John Snow Inc.'s DELIVER Project, Joint Clinical Research Center, and Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), among others. A core technical team made up of technical staff from the MOH, the private sector, other HIV/AIDS providers, and QAP/Uganda was created and received quality improvement training to be able to provide technical leadership for the QoC Initiative. This team developed key monitoring indicators to be used in the collaborative and has been also been responsible for building capacity of regional coordination teams and supporting them in coaching facility teams. The regional coordination teams are made up of providers with experience in ART who have received further training in quality improvement. Members of the regional teams work together with core team members to plan and facilitate learning sessions and conduct monthly site visits.

The first learning session was held as a series of regional sessions in January 2006. The second round of learning sessions was held in April 2006. Through June 2006, more than 280 coaching visits were made to the facilities. All participating health facilities have established quality improvement teams that work to improve key monitoring indicators, identify areas for improvement, test ways of improving these areas using the CQI model, and track improvements over time. After the first learning session, teams collected and analyzed baseline data and carried out systems analysis of patient flow. These data were presented by sites during the second learning session. This exercise alone has led to palpable improvements, including

reduced congestion by spreading clinic days from 1 to 5 days in some cases, increased use of patient records, improved documentation and storage of patient records, and better logistics management. In some instances, site teams have reorganized existing human resources for better efficiency.

Baseline data were collected retrospectively for the six months prior to site involvement in the Initiative. The core team developed 27 improvement objectives divided into five categories: patient assessment and screening; patient treatment with ART; prevention of opportunistic infections, referral and follow-up of patients; and health facility preparedness. To reduce the burden on staff, sites were asked to monitor only one indicator per category. Members of the core and regional teams visited teams to reinforce indicator definitions and validate data collected. While many weaknesses were revealed, data showed that the majority of patients on ART actually met eligibility criteria (98%) and there has been drop in death rates, from 5% to about 1% of patients on ART. Improvements have been noted in two indicators: the average percentage of valid patient contact information rose from 19.8% in the June-December 2005 period to an average of 51.3% in January-April 2006 (see **Figure 18**), and the percentage of eligible patients who were actually started on ART rose from 38.4% in June-December 2005 to 60% in January-April 2006 (see **Figure 19**). While these results are preliminary, the trends are encouraging.

Figure 18. Uganda: Percentage of Patients with Valid Contact Information, Four Sites, June 2005-April 2006

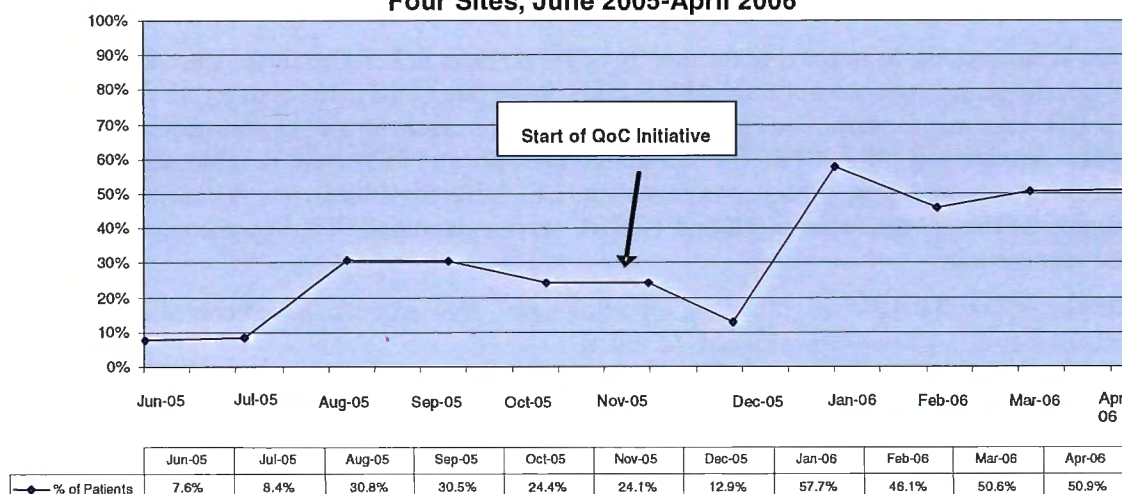
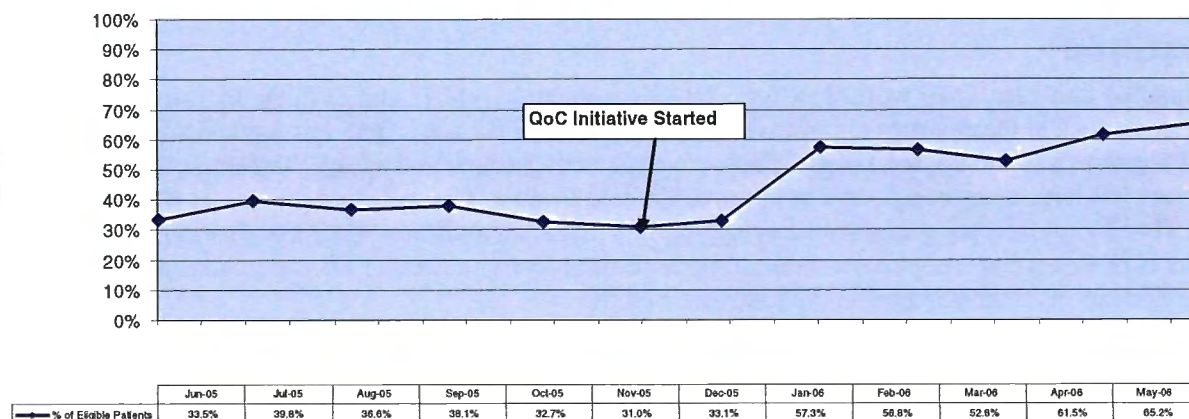


Figure 19. Uganda: Percentage of Eligible Patients Started on ART, Nine Facilities, June 2005-May 2006



QAP's Value-Added in Uganda

With the introduction of ARV medication, HIV/AIDS becomes a chronic disease requiring treatment for life. Best practices for care and treatment have been developed or are currently in the process of being developed. In Uganda, rapid implementation of these practices at all health facilities is a recognizable challenge. Ensuring that all HIV/AIDS patients on ART are given care in accordance with these best practices is even more challenging. QAP began providing technical support to the MOH after training had already been conducted to provide accreditation to at least one site in every health district to allow them to provide ARVs. However, no funds were available for follow-up support after training, or even regular supervision by the AIDS Control Programme, despite the recognized need to ensure that quality is maintained during the process of scaling up ART treatment. The QoC Initiative is responding to the need for continual, on-the-job support and supervision of MOH personnel at participating sites. In addition, quality improvement has never been implemented on such a large scale before in Uganda, nor in this manner that seeks to build capacity at all levels within the MOH to sustain quality assurance activities. The real value of QAP in Uganda is its focus on creating a sustainable culture of quality improvement in healthcare, where personnel from national to health center levels feel inspired and have the tools to identify areas for improvement, initiate changes, and demonstrate improvement, not just in the area of HIV/AIDS, but potentially in other high burden disease areas as well.

Lesotho

QAP has been working on improving the quality of TB services in Lesotho since April 2005. During Year Four, the project worked in five Health Service Areas (out of 18 in the country) to strengthen TB and TB-HIV case management, focusing on: development of treatment and care guidelines; training of health care providers in TB and TB-HIV screening, treatment and follow-up; development of referral mechanisms to ensure follow-up care and treatment of co-infected patients; and increasing the involvement of the private sector in TB and TB-HIV service provision. The key accomplishments during the past year include:

- Introduced new TB-HIV recording and reporting tools. New registers have been adapted, printed, and circulated to all public health care facilities.
- Developed curricula for the PMTCT partnership on TB treatment of pregnant women and neonates.
- Trained 19 TB coordinators on counseling and testing.
- Trained 35 public and private practitioners on TB-HIV management.
- Trained 16 private doctors who are currently participating in the TB program. More than 700 patients have been put on treatment through these providers. The private providers are receiving free drugs and other support from the National Tuberculosis Program.

QAP also assisted the Government of Lesotho along with other partners to draft a response to the Global Fund for AIDS, Tuberculosis and Malaria (GFATM) on poor utilization of funds in Lesotho.

Swaziland

During the past year, QAP worked in three TB diagnostic units and 22 clinics in the Manzini Region (one of four regions in the country) to improve early detection of TB cases. QAP has worked with National TB Program (NTP) to update TB guidelines covering both children and adults. Training of health care workers has been a key component to improve TB case finding, TB case management, as well as ensuring that TB-HIV co-infected patients receive appropriate treatment and care. QAP has also provided support to the NTP to develop systems for monitoring multi-drug-resistant (MDR) TB and management of MDR-TB. The key accomplishments in the past year include:

- Provided technical support to the NTP on preparing a response to the GFATM about issues related to management of resources.

- Assisted the Ministry of Health and Social Welfare in restructuring the NTP program. The new NTP management structure has been better able to respond to the growing TB epidemic in the kingdom.
- Assisted the NTP to revise its national guidelines for TB. In addition, QAP helped the NTP to establish joint TB-HIV working committees at the central and regional levels, to improve access to counseling and testing among TB patients and to strengthen diagnosis, treatment, and follow-up of HIV patients with TB co-infection.
- Provided support to the NTP in improving access to quality microscopy services.
- Worked with the NTP to revise TB registers to better monitor co-infected patients.
- Trained over 30 healthcare workers on TB case management.

QAP's Value-Added in Lesotho and Swaziland

The TB programs in both Lesotho and Swaziland are quite weak, and TB-HIV coordinated activities are almost non-existent. QAP is helping the two countries to develop operational strategies, based on our experiences in Russia, South Africa, and Cambodia strengthening TB and TB-HIV programs, including laboratory services, record keeping and reporting, provider compliance with national guidelines, and patient adherence with treatment regimens. QAP is also assisting the two programs to improve infection prevention and control strategies to reduce secondary TB/MDR TB infections in facilities. This is critical in light of the emergence of extreme drug-resistant (XDR) TB in Southern African.

Eastern Europe

Russia

In Year Four, QAP continued technical assistance for a demonstration HIV/AIDS treatment, care, and support improvement collaborative involving multiple teams in four territories of Russia: Krasnogvardeiski Raion in St. Petersburg, Engels City in Saratov, Togliatti City in Samara, and Orenburg City in Orenburg. The HIV/AIDS collaborative includes a special focus on HIV-TB detection and treatment. In January 2006, QAP began a new collaborative to improve family planning information and services for PLWHA in four Russian cities.

Treatment, Care, and Support for PLWHA

During Year Four, interdisciplinary teams in each region continued to test, implement, institutionalize, and scale-up improvements as well as identify new priorities, such as developing and implementing regional ARV treatment readiness plans. The key results achieved with QAP assistance are summarized below by focus area of the collaborative.

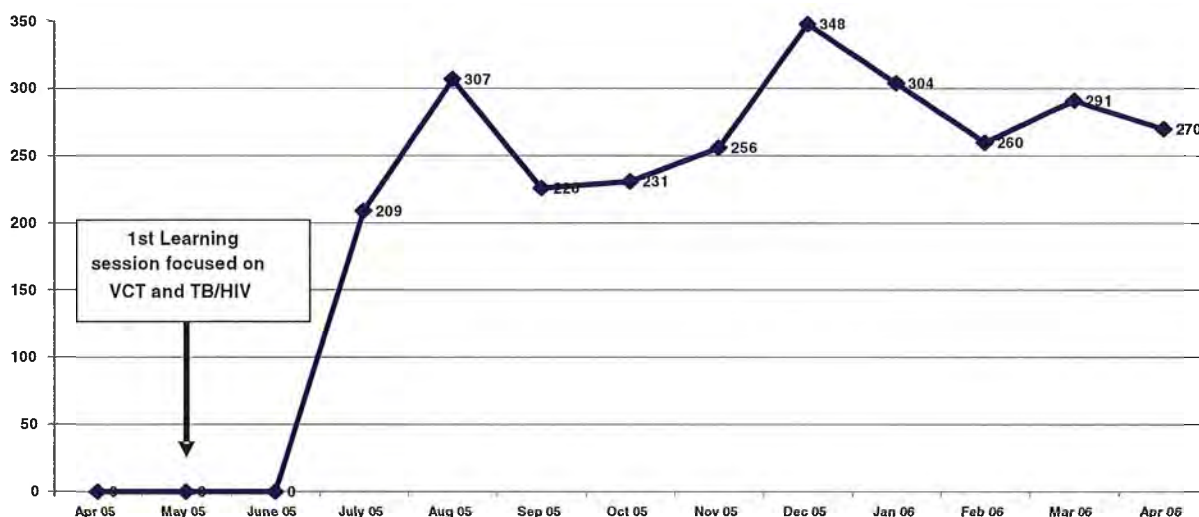
Improvement of Services for HIV and TB Co-infection

In Year Four, following two round tables on HIV-TB co-infection that QAP held in October 2005 and March 2006, project teams made TB screening more accessible for HIV-positive clients, increased counseling on HIV-TB co-infection, developed and implemented algorithms for TB preventive treatment in HIV clients, and spread the improvements made in screening and preventive treatment of TB among HIV-positives to additional facilities in St. Petersburg, Orenburg Oblast, Saratov Oblast, and Samara Oblast.

- Based on the work of the QI team in Orenburg, the Orenburg AIDS Center determined that a new position for a TB specialist was necessary. The team worked with the AIDS Center and oblast authorities to find financing for the position. The AIDS Center has allocated, renovated, and equipped offices for tuberculin testing and sputum collection. An algorithm of information exchange between the AIDS Center, City TB Dispensary, and Oblast TB Hospital was developed by the HIV-TB team and approved by the Steering Committee. Since starting work in December 2005, the TB specialist is now seeing over 120 patients per month at the AIDS Center.

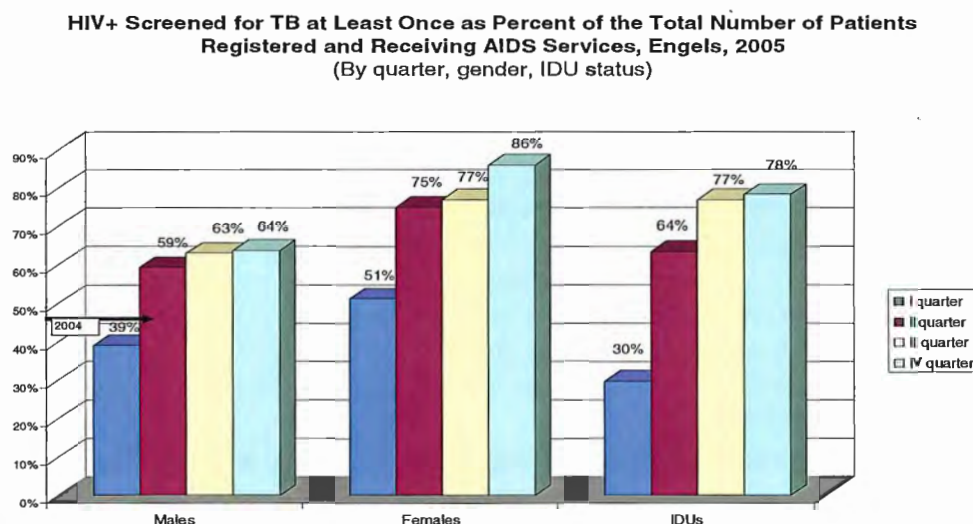
- In December 2005, the AIDS Center in Togliatti set up an office for tuberculin testing and trained nurses to execute TB testing and interpret results. To further promote TB screening among the target group, the AIDS Center is working with the NGO “Parents Against Drugs” for their outreach workers to refer patients for TB screening at the AIDS Center.
- Larger numbers of HIV-positive individuals are also receiving counseling about HIV-TB co-infection. Following VCT training for staff, on average, 250 patients a month are now counseled about HIV-TB co-infection in Togliatti (see **Figure 20**).

Figure 20. Russia: Number of HIV-positive Individuals who Received Counseling on TB-HIV Co-infection, Togliatti, Samara Oblast, April 2005-April 2006



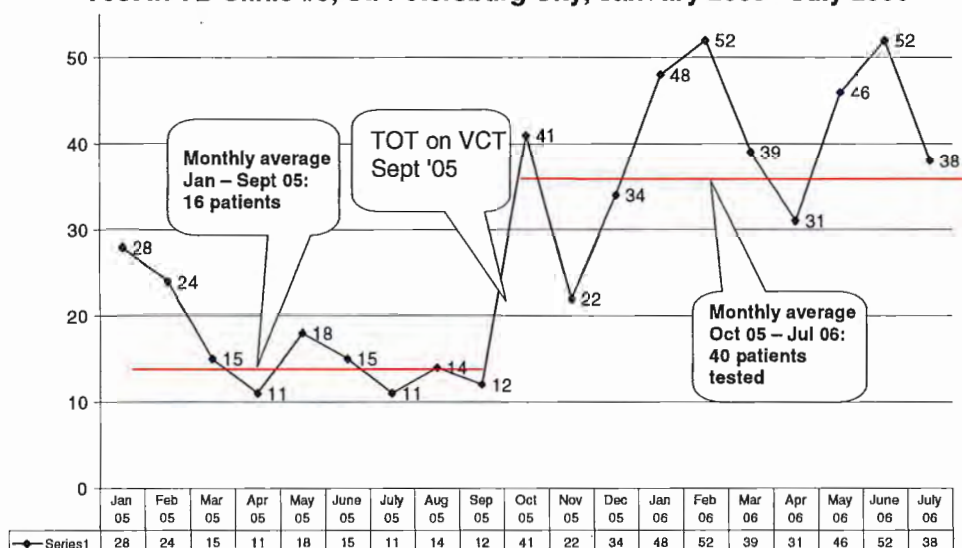
- Specialized HIV-TB wards have been introduced to deliver more comprehensive care to co-infected patients. In 2005, the HIV-TB team in Engels proposed that specialized wards be allocated for patients with HIV-TB co-infection, based on their analysis of epidemiological data. The team developed an algorithm of information exchange between TB and AIDS services. These suggestions were approved by the Coordinating Committee and institutionalized by Order #109 issued by the Saratov Oblast Ministry of Health in January 2006. This order obligates all TB dispensaries in Saratov Oblast to allocate four to six beds for in-patient treatment of patients with HIV-TB co-infection. In Orenburg, a separate ward was created at the Oblast TB hospital in July 2006 to treat patients with co-infection.
- The HIV-TB coordination organized and tested by the collaborative team in Engels was evaluated and finalized by oblast officials to serve as the basis for Order #128 on *Improving TB care delivery to HIV clients* issued by the Saratov Oblast Ministry of Health in February 2006. This order effectively extends the HIV-TB care delivery model (which includes yearly TB testing for HIV-positive patients) developed by the Engels team to all municipalities in the oblast and is a good example of an intentional spread initiated by local authorities. **Figure 21** charts the increase achieved in Engels in 2005 in screening HIV-positive patients for TB.
- The use of Isoniazid Preventive Therapy in HIV-positive patients who have not tested positive for TB is also beginning to spread. Three HIV-positive patients in Togliatti and 19 in Engels were started on TB preventive treatment in the first half of 2006.

Figure 21. Russia: Active Screening of HIV-positive Patients for TB in Engels, Saratov Oblast, 2005



- In August 2004, only 12 patients with HIV-TB co-infection were registered at St. Petersburg TB Dispensary #5, and none was receiving ART. Due to improved detection, counseling practices, and trainings facilitated by QAP and the collaborative HIV-TB team, 31 patients with HIV-TB co-infection are now registered at TB Dispensary #5 and 22 of them are receiving ART. **Figure 22** shows increases in the number of TB patients receiving HIV counseling and testing in Dispensary #5.

Figure 22. Russia: Number of TB Patients Receiving HIV Counseling and Test in TB Clinic #5, St. Petersburg City, January 2005 - July 2006



Improved Access and Better Coordination of Care

- A major technical intervention supported by QAP this year was a series of regional trainings to improve the quality of HIV counseling and testing. Following a training of trainers in VCT led by the Healthy Russia Foundation, collaborative teams in each region integrated schedules for VCT training into local health plans and budgets, including determining which specialists needed priority training. From May to September 2006 each region conducted four VCT trainings for local health providers. In total, 67 providers were trained in St. Petersburg, 57 in Engels, 34 in Togliatti, and 80 in Orenburg.
- In Orenburg, following VCT trainings and official informational letters on standard pre- and post-test counseling and data collection, the number of patients receiving voluntary counseling and testing for HIV at the Oblast Drug Rehabilitation Hospital has been steadily increasing, with an average of 450-470 patients per month now receiving voluntary testing for HIV.
- Sites have also reduced HIV test turn-around-time. In less than one year, the turn-around time of HIV tests in Engels has been reduced from 8-10 to 3-4 days. In Orenburg, turn-around time for HIV tests at the Oblast Drug Rehabilitation Hospital has also been steadily reduced; now at least 50% of tests are returned within 48-96 hours.
- HIV-TB services are being decentralized to improve access for patients. In St. Petersburg, the HIV-TB team decided to introduce services at the primary care level. The team developed a scope of work for a TB Specialist at the TB Dispensary to work with HIV-positive clients and an algorithm of information exchange and referrals which were approved by an order of the Health Department of the Krasnogvardeiski District Administration in September 2005. Under this order, the AIDS Center Infectious Disease Specialist sees HIV clients in Polyclinic # 17 once a month, while the TB Dispensary Specialists receives patients in Polyclinic #103 every other week. In Togliatti, the new model of HIV-TB care includes X-ray screening at the primary care level; on average, 200 HIV-positive patients are now screened for TB each month.
- The role of primary care in follow-up of HIV patients has also been further developed. In Engels, the collaborative team worked with AIDS Center staff to redesign the system to deploy a mobile team of an AIDS Center Infectious Disease Specialist and nurse to receive patients at Polyclinics # 1 and #2 once a month to provide consultations and collect blood samples for routine follow-up testing (e.g., CD4, viral load, and blood biochemistry). Blood samples for HIV follow-up testing are now drawn in all polyclinics of Engels five days a week.
- The case management model implemented in Engels of Saratov Oblast was adapted to St. Petersburg and Orenburg, and case manager positions created by local authorities and funded by municipal budgets. In Orenburg, this model was modified to create a social worker position at the AIDS Center beginning in January 2006. The new services have proven popular, with 370 patients signing up for the social worker's services as of August 31, 2006. In St. Petersburg, two case managers started to receive patients in July 2006 at the Youth Drug Rehabilitation Center.
- Following on learning sessions in December 2005 and in June 2006 that addressed ART scale-up, health officials, lead specialists, and providers from all project sites reviewed the status of preparedness for large-scale provision of ART, further elaborated regional plans utilizing inputs from colleagues and various experts, and agreed on measures to track progress on patient enrollment into ART. All sites have developed algorithms to enroll patients into ART that also outline mechanisms of data transfer and care coordination.

Institutionalization and Scale-up of Improvements

An important result of the work of teams in all four regions has been the development of normative documents (*prikazy*), allocation of local budgets, and creation of new official positions to support and spread the improvements generated through the collaborative.

- In Orenburg, the care coordination team prepared documents justifying a social worker position at the AIDS Center to improve coordination between medical and social services and NGOs. In November

2005, the Oblast Ministry of Health signed Order #725 on improving medical and social services for PLWHA. In January 2006, the AIDS Center filled the position for a social worker with its own budget.

- Following testing at pilot facilities, the Orenburg Oblast Ministry of Health institutionalized new practices for pre- and post-test counseling, algorithms of care delivery to PLWHA, and information exchange through Order #76, which regulates HIV/AIDS care provided at the AIDS Center, Oblast Drug Rehabilitation Hospital, Oblast TB hospital, City TB Dispensary, Pirogov Clinical Hospital, City Clinical Hospital #4, City Perinatology Center, and City Infectious Disease Hospital.
- In June 2006, the Head of the Krasnogvardeiski Raion (St. Petersburg) administration approved an Action Plan to combat HIV infection in the raion. The plan was developed by joint efforts of medical and social services of the raion and is funded out of the municipal budget.
- The ART organizational model developed and tested by Saratov/Engels teams has been replicated in five cities of Saratov Oblast at the initiative of the Oblast Ministry of Health. Subsequent to the regional order, similar municipal orders to organize ART for PLWHA in Engels, Balakovo, Balashov, and Saratov were developed and approved. The orders stipulate rules and criteria for ART administration and ARV drug provision, list facilities authorized to provide ART, and outline the algorithm of ARV drug provision by authorized facilities.

Integration of Family Planning and HIV Services

This new activity was launched in January 2006 as an improvement collaborative aimed at serving the needs of HIV-positive families by improving access to and quality of family planning services for PLWHA in four sites (Krasnogvardeiski District, St. Petersburg; Saratov City and Balakovo City, Saratov Oblast; and Togliatti, Samara Oblast). The primary participating organizations are centers for reproductive health and family planning, maternity houses, and women's consultation clinics, but the collaborative will also strengthen ties with polyclinics, social services, drug rehabilitation services, AIDS Centers, and NGOs. QAP is drawing on training materials and best practices from the USAID-funded Maternal and Child Health Initiative.

Building upon initial QA trainings, teams in all sites have analyzed current systems for provision of contraceptive services to HIV-positive women. Areas that teams identified for improvement include insufficient knowledge of family planning counseling, underdeveloped referral systems, lack of confidentiality, low quality of HIV pre- and post-test counseling, and limited access to health care for most-at-risk populations. Improvements introduced to date by the collaborative include:

- Trainings on modern family planning methods were held in Saratov and Balakovo, with trainings to follow in the other sites.
- In Balakovo, the collaborative team convinced city health authorities to procure intrauterine devices (IUDs) and offer them free of charge to HIV-infected women at the City Maternity House. In addition, the city health committee has directed city women's clinics to secure resources to make IUDs available for free for HIV-positive women.
- In St. Petersburg, the Youth Drug Rehabilitation Center has started to refer adolescents, via its helpline, for youth-friendly family planning services at the Youth Consultation "Rzhevka". Along with free family planning services and counseling, "Rzhevka" offers HIV testing and free condoms.

QAP's Value-Added in Russia

QAP is the leading organization in Russia working on organizing the system of HIV/AIDS treatment, care, and support. While many other programs, including federal programs, Global Fund, UNAIDS, and others are working on inputs of ART, equipment, and training of personnel, QAP's efforts have been focused on coordination between vertical services such as TB clinics, AIDS Centers, and drug treatment clinics and on improving access to care by increasing the role of primary care in testing and medical follow-up for HIV-positives. QAP is complementing the efforts of the Global Fund and regional

programs through support for teams that are developing practical plans for large-scale provision of ART. Over the past year, ART has become widely available in the regions where QAP is working, yet HIV-positive persons are not coming in for regular medical follow-up or to be put on ART. We have initiated operations research to identify factors constraining the demand for ART; its results will assist not only QAP-supported teams but other programs as well. Finally, the success of QAP-supported demonstrations has led regional governments to request QAP assistance in scaling up improvements in the system of HIV/AIDS treatment, care, and support and TB-HIV services throughout St. Petersburg City and Orenburg Oblast. QAP's work in Year Four has established a solid foundation for more integrated and higher quality HIV/AIDS services in the four project regions and set the stage for transitioning from this demonstration collaborative to spread collaboratives in Year Five which will scale up the improvements developed in the demonstration to the entire region.

Latin America and the Caribbean

Nicaragua

In Year Four, QAP technical assistance to the Ministry of Health (MINSa) expanded to a new local integrated health system (SILAIS), Rivas, and more significantly, to a new technical area, HIV/AIDS. In 2005, MINSa requested QAP assistance in the development of quality standards for HIV/AIDS prevention, diagnostic, and treatment services and to help integrate voluntary counseling and testing for HIV within the family planning program, emphasizing PMTCT. The addition of Rivas brought coverage of QAP assistance to a total of 15 of the 17 SILAIS in Nicaragua. In the past year, QAP also began working with ProMujer, an NGO that provides low-interest loans for microenterprise development and offers gynecological services, family planning, and utero-cervical cancer prevention to its 14,000 clients. QAP also continued providing technical support to 10 *Empresas Médicas Previsionales* (EMPs) that deliver health services financed through the Social Security system.

While quality assurance processes for essential obstetric and newborn care and acute pediatric care have become well institutionalized in the SILAIS and individual facilities assisted by QAP, results in Nicaragua this year were affected by a national strike of physicians which lasted from November 2005 through May 2006. Monthly monitoring of quality indicators was disrupted in a number of facilities, particularly in hospitals. Quality monitoring and improvement activities were reinitiated beginning in June 2006, but in some facilities, residual bitterness over the strike has diminished enthusiasm for QA activities. QAP staff is working to overcome these obstacles.

Pediatric Hospital Improvement

The pediatric hospital care improvement collaborative initiated in 2003 continued in 14 SILAIS hospitals (out of the 22 maternal and child hospitals in Nicaragua). Participating hospitals include: Bluefields, Chinandega, Estelí/San Juan de Dios, Jinotega, Madriz, Matagalpa (September 2003); Boaco, Puerto Cabezas, Granada, León, Nueva Segovia (August 2004); and Juigalpa, Masaya, and Estelí/La Trinidad (January 2005). In early 2006, the private provider (EMP) AMOCSA, which operates five clinics providing health services in the Social Security system, joined the collaborative. Clinical areas emphasized in the collaborative include care of the newborn (both with and without complications), management of the severely malnourished child, nutritional recuperation, perinatal mortality surveillance, and pediatric emergency care.

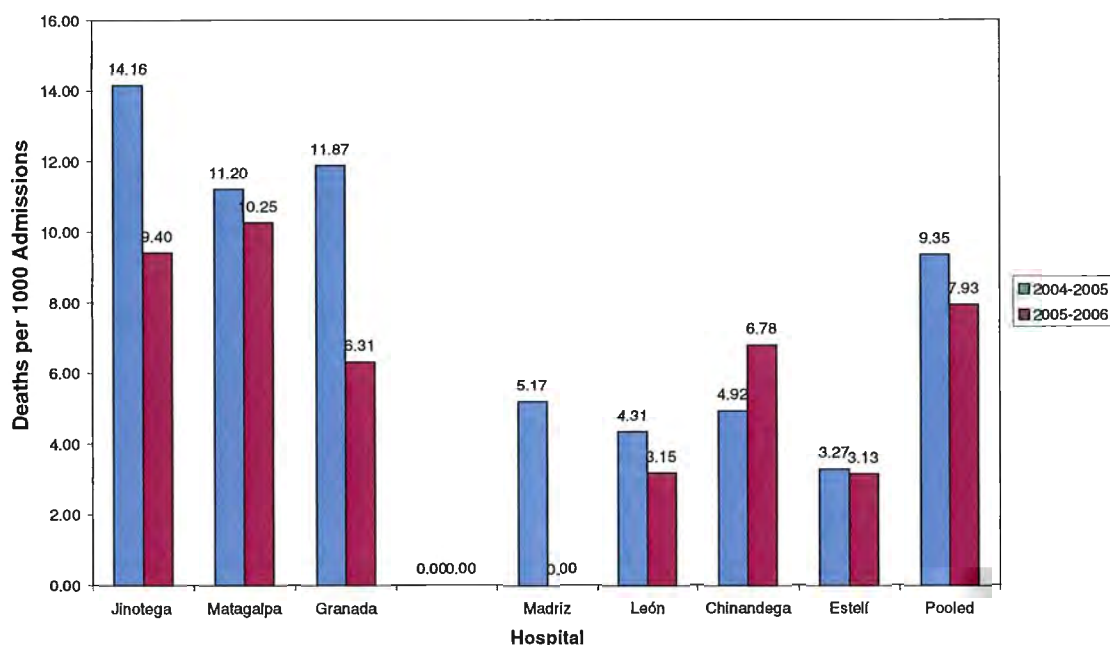
During the physicians' strike, monitoring of compliance with standards was carried out less frequently in some hospitals. Monitoring data for compliance with pediatric care standards that have been reinforced through the collaborative during the past year did not show improvement. The indicators that have been the least stable are those related to management of diarrhea, meningitis and severe malnutrition. Key problem areas for health personnel include inadequate patient monitoring during rapid rehydration, monitoring intake and output, taking vital signs at the correct frequency, nutritional counseling, and

nutritional support for severely ill children. A shortage of human resources and lack of oversight by managers have also been obstacles to achieving further improvement, factors exacerbated by the physicians' strike. Nevertheless, progress was made in the past year in the standardization of antibiotic use and classification of severity in the management of meningitis. In the area of nutritional rehabilitation, QAP assistance in the past year focused on training and helping hospital staff to apply the PROCOSAN nutritional counseling approach and provide more individualized counseling to mothers and caretakers of sick children, including appropriate use of nutritional rehabilitation formulas. QAP staff adapted a pediatric emergency care job aid used in emergency wards in the U.S. to Nicaraguan treatment protocols. QAP assistance has also focused on improving client focus in pediatric care, including improving interpersonal treatment and creating play areas for hospitalized children. Four hospitals (Madriz, Chinandega, RAAS, and Estelí) have organized play areas for children and psychosocial support.

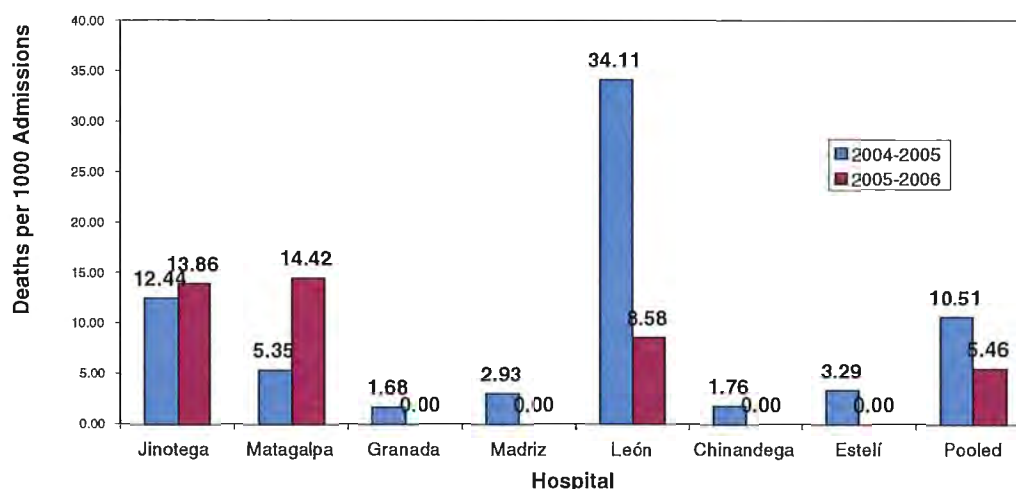
Two in-service training centers were created and are functioning very well in the Chinandega and Estelí hospitals to build staff competency in management of acute pediatric illnesses through short rotations. UNICEF and PAHO have designated funds to support MINSA in establishing such training centers in all hospitals in the country, with QAP technical support.

In general, there is some evidence of impact of the PHI collaborative in standardizing case management of the most common childhood illnesses treated in hospitals. As may be seen in **Figure 23**, case fatality rates for pneumonia have declined in PHI hospitals between the July 2005-June 2006 period and the July 2004-June 2005. Some hospitals (Madriz and Estelí/San Juan de Dios) have actually seen no pediatric deaths from pneumonia in the latter period. Declines in case fatality have also been seen in diarrhea, as shown in **Figure 24**. Four hospitals (Estelí, Madriz, Chinandega, and Granada) saw no deaths from diarrhea in the July 2005-June 2006 period.

Figure 23. Nicaragua: Pneumonia Case Fatality Comparison of Year Three and Year Four Data



**Figure 24. Nicaragua: Diarrhea Case Fatality
Comparison of Year Three and Year Four**



Essential Obstetric and Newborn Care

During the past year, all 14 QAP-assisted SILAIS participated in the EOC Collaborative, including 127 health center teams and 15 hospital teams. Technical support from QAP for collaborative teams included technical training in the management of obstetrical complications for primary and secondary level providers in five SILAIS and the development and dissemination of a job aid on the management of obstetrical complications. Three EOC clinical training centers have now been established (in Chinandega, Madriz, and León) to provide in-service, competency-based training for medical and nursing personnel from the municipal health centers in their respective SILAIS.

The quality standards and indicators for antenatal care, delivery care, and immediate care of the newborn that have been promoted through the collaborative have been officially incorporated into the new MINSA perinatal clinical record, are part of required reporting for hospitals, and have been included within the management agreements with municipal health centers and hospitals.

Table 9 documents the substantial gains achieved in the quality of essential obstetric care across the participating SILAIS, as evidenced by pooled compliance with key process standards. For each year, values shown are averages of monthly values for compliance with standards across the SILAIS reporting data.

Table 9. Nicaragua: Compliance with Key EOC Process Standards in 14 SILAIS, 2003-2005

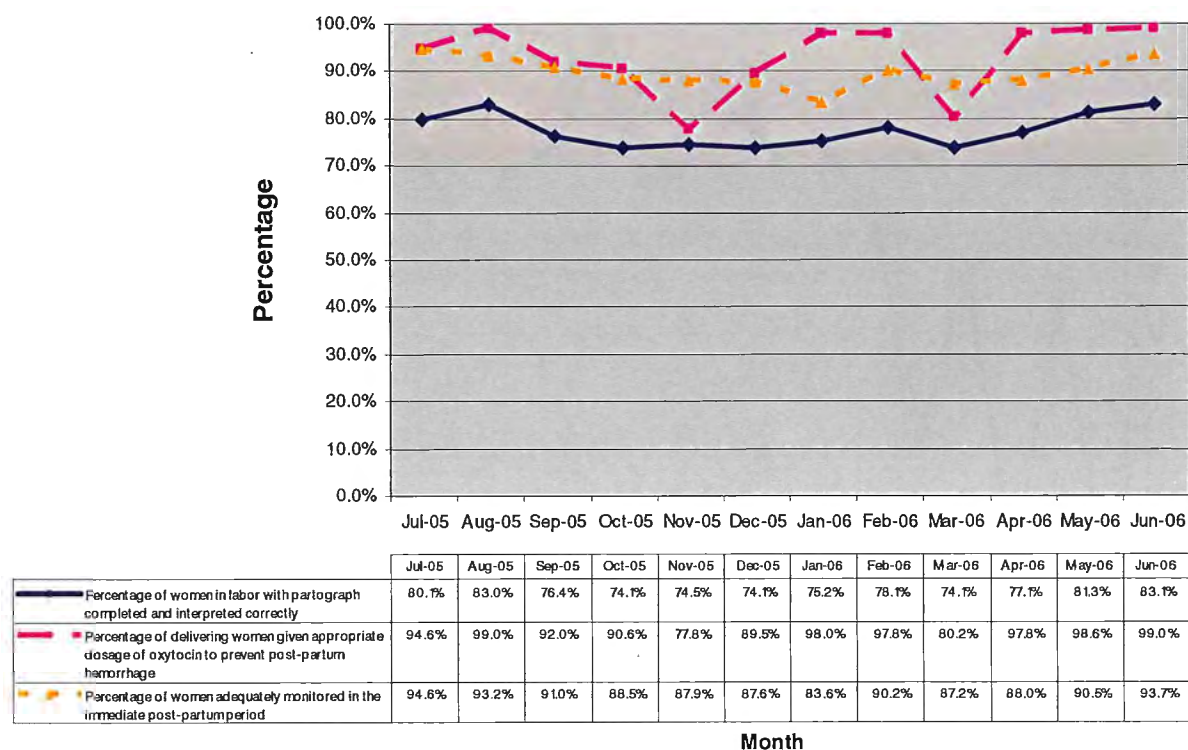
Indicator (%)	2003	2004	2005
Use of partograph for labor monitoring	40	77	87
Administration of oxytocin as part of active management of the third stage of labor	69	99	100
Postpartum monitoring according to standards	44	75	85
Appropriate management of obstetric complications	56	82	87

During July and August 2005, simplified measurement methods to assess the competence of skilled birth attendants were field tested in all 20 hospitals in the country that attend births and in 44 health centers, covering a total of 1,358 medical and nursing personnel. The results of the study, reported to the Ministry

of Health in early 2006 and formally published in June, calculated a global competency score across all types of personnel and technical areas of 62%. The primary areas of knowledge deficiency identified were labor monitoring, use and interpretation of the partograph, management of the newborn (both with and without complications), management of pregnancy-induced hypertension, and prevention of sepsis. The weakest skill areas identified were manual extraction of the placenta, bimanual uterine compression, and neonatal resuscitation. These skill and knowledge gaps will be the focus of in-service training activities in the coming year and will be reinforced by the creation of clinical training centers in additional SILAIS, with support from UNICEF, PAHO, and UNFPA.

The physicians' strike also affected monitoring of EOC indicators and results in the first half of 2006. Some SILAIS (such as the five whose results are shown in **Figure 25**) were able to maintain gains made in prior years, while others saw declines in performance of tasks such as labor and post-partum monitoring.

**Figure 25. Nicaragua: Trends in Compliance with EOC Standards
Boaco, Chinandega, Madriz, RAAN, and Rio San Juan SILAIS
July 2005-June 2006**



In addition to support to public facilities, QAP also worked with MINSA authorities in seven SILAIS to provide technical support in quality assurance and improvement to 10 private medical care organizations (EMPs) providing services in their respective catchment areas. This assistance has the dual objective of strengthening the governance role of SILAIS authorities and improving quality of EOC in the private sector. As is seen in **Table 10**, improvements in care have been achieved in the initial EMPs assisted.

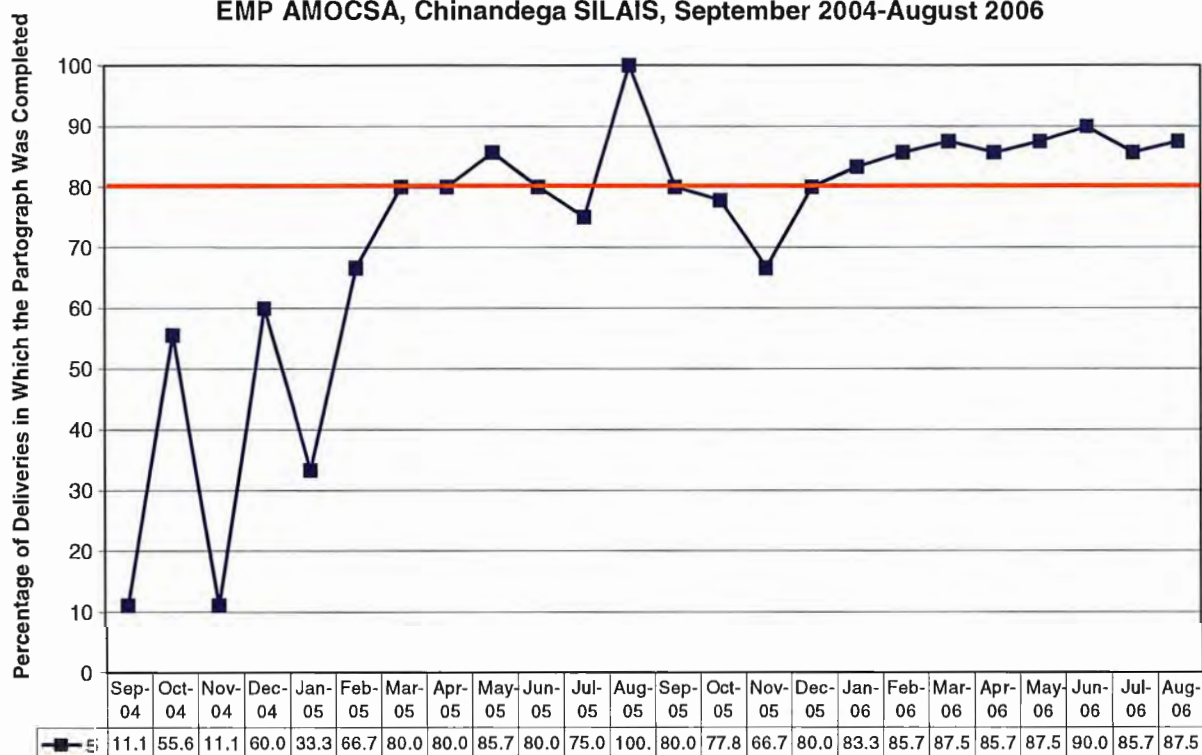
The main EMPs in Chinandega—AMOCSA, Sacuanjoche, and La Consulta—have maintained high levels of quality with respect to the application of oxytocin to prevent hemorrhage and post-partum monitoring but experienced difficulties in sustaining routine use of the partograph during the physicians' strike. AMOCSA has been successful in sustaining use of the partograph, as seen in **Figure 26**. The

EMP Esmensa in Nueva Segovia has not demonstrated improvements in quality of essential obstetric care despite its participation in monitoring quality indicators since August 2005. SILAIS authorities are working with the departmental office of the Social Security Institute to bring pressure on this EMP to improve its performance.

Table 10. Nicaragua: Compliance with Key EOC Process Standards in Four *Empresas Médicas Previsionales*, 2004-2005

Indicator (%)	2004	2005
Use of partograph for labor monitoring	52	81
Administration of oxytocin as part of active management of the third stage of labor	38	83
Postpartum monitoring according to standards	35	66
Appropriate management of obstetric complications	88	98

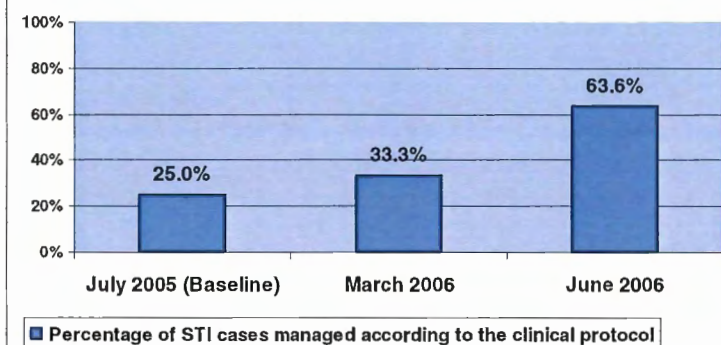
Figure 26. Nicaragua: Incorporation of Routine Use of the Partograph in the EMP AMOCSA, Chinandega SILAIS, September 2004-August 2006



Assistance to the NGO ProMujer

In the past year, QAP worked with ProMujer, a member of the USAID-supported Nicasalud Federation of NGOs, to establish quality standards, update its gynecological and obstetric care clinical protocols, and introduce mechanisms for measuring client satisfaction. Quality improvement teams were established in ProMujer's four clinics in Managua, León, Chinandega, and Masaya, and ProMujer has created a position of national quality supervisor. Quarterly monitoring of quality indicators by these teams have already begun to show solid gains in compliance with the new standards (see **Figure 27** for STI care) and in client satisfaction. Two new clinics are scheduled to open in the second half of 2006, and QAP will work with those facilities from the outset to establish quality improvement activities.

Figure 27. Nicaragua: Improvement in Case Management of Sexually Transmitted Infections, ProMujer



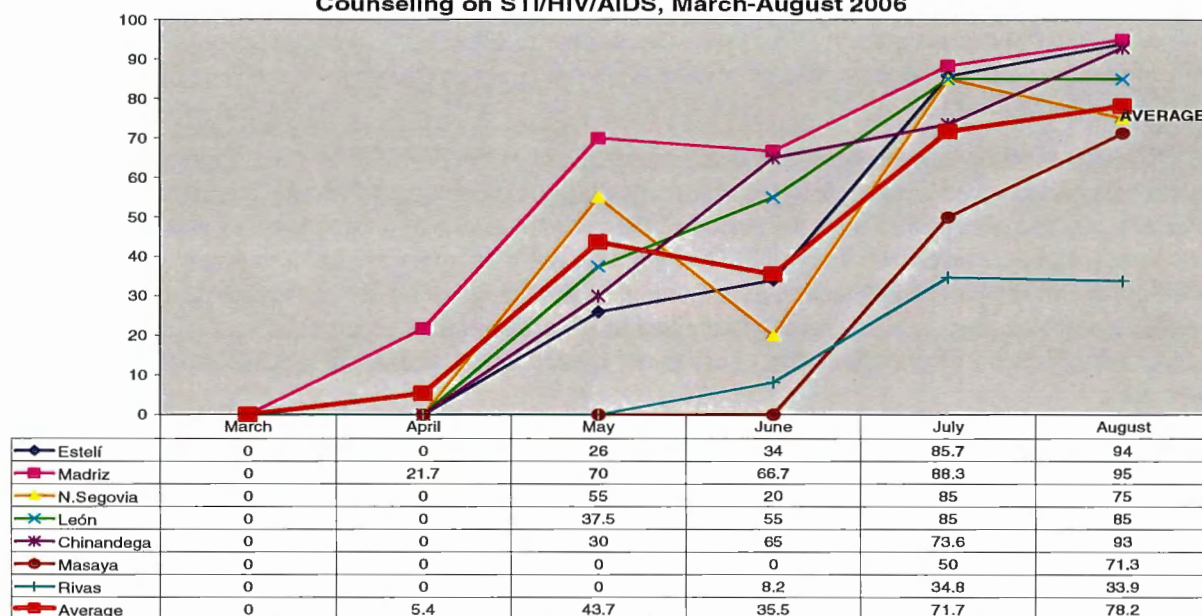
HIV/AIDS and PMTCT

During 2005, MINSA, working with a series of USAID implementing partners (QAP, PASMO, PASCA, DELIVER, Nicasalud, IRH) and UNICEF, identified the need for integrating counseling related to HIV/AIDS and other sexually transmitted infections (STI) in the Ministry's existing program for family planning counseling, with the goal of increasing voluntary counseling and testing (VCT) among pregnant women in order to improve the identification of

pregnant women who are HIV-positive and to reinforce HIV preventive behaviors. Following on this process, MINSA, through its Directorate for Quality Control and Assurance, which has assumed leadership for the organization of STI-HIV/AIDS services as of 2006, requested that QAP intensify and focus its technical assistance on developing a model of care that incorporates strategies for the prevention of vertical transmission from mother to child at both the primary and secondary levels of care.

To design this technical assistance, QAP conducted a rapid assessment of existing HIV/AIDS services, including integrated FP-STI-HIV/AIDS counseling, referral for HIV testing and ART, and PMTCT. Based on the findings, QAP supported MINSA to design quality services to identify, treat, and follow-up persons infected with HIV and develop a network of laboratory services to support HIV testing. An HIV testing algorithm was developed, and beginning in April 2006, QAP began working directly with six SILAIS to train personnel to process HIV lab tests and to introduce testing and counseling of pregnant women to prevent vertical transmission of HIV. Discussions to reduce stigma and discrimination towards PLWHA were held with personnel in 11 hospitals, and multi-disciplinary teams to support HIV counseling and testing were created in 10 hospitals. As of September 2006, QAP is supporting the roll-out of PMTCT services in eight hospitals and 59 health centers in eight SILAIS: Estelí, Madriz, Nueva Segovia, León, Chinandega, Rivas, RAAN, and RAAS. **Figure 28** shows initial results in seven SILAIS.

Figure 28. Nicaragua: Percentage of Pregnant Women who Received Counseling on STI/HIV/AIDS, March-August 2006



QAP's Value-Added in Nicaragua

QAP's team in Nicaragua is well recognized by its counterparts for its professionalism and technical leadership. The learning methodologies and job aids developed by QAP have helped to develop service provider capacity in clinical areas that are a priority for the Ministry of Health. The concepts QAP has promoted in Nicaragua, of defining quality, monitoring compliance, and undertaking ongoing improvement activities, have become accepted at the national level and in SILAIS throughout the country, as a routine part of health services management and delivery. The QA results that have been widely disseminated in Nicaragua have helped to engage numerous technical cooperation agencies in co-financing quality assurance activities. Finally, the project's work with EMPs has served to promote the integration of the private sector in local health systems and bolstered the steering role of SILAIS authorities.

Ecuador

QAP's assistance in Ecuador during Year Four contributed to three main results: 1) strengthening the institutionalization of continuous quality improvement in obstetric and child care in over half of the provincial health systems in the country; 2) expanding the practice of active management of the third stage of labor, and 3) planning for a new collaborative of provincial referral hospitals to improve the quality of care for obstetrical complications.

With QAP assistance, the Ministry of Health of Ecuador has entered a stage of maturity in the institutionalization of quality assurance, integrating it into its regular organization and functions. A continuous quality improvement program for maternal and child health services has been firmly established in 13 (65%) of the country's 22 provinces; the 13th province, Esmeraldas, began improvement activities in Year Four. At the central level of the MOH, the chief of the maternal health program plays a leadership role fostering QA throughout the organization, and several senior officials participate in a Steering Group for the EOC Collaborative, including one full-time staff member who maintains and updates a national data base of quality of care indicators. Within each participating province, the official in charge of the MCH program is the provincial QA facilitator who also coaches CQI teams and liaises on QA with the central level.

Some 114 teams in 45% of the country's health areas (76 out of 169) are now participating in the EOC improvement collaborative, measuring and periodically reporting data on 18 quality indicators encompassing prenatal, delivery, and post-partum care, immediate newborn care, management of obstetrical complications, and integrated management of childhood illness. Even though only one new province joined the collaborative in Year Four, the number of CQI teams expanded considerably (by 63%), signaling a stronger degree of engagement of health facilities and areas in ongoing improvement activities. (See **Table 11**.)

While the extent of development of the various components of the EOC model (i.e., improvement of clinical care processes, clinical training, cultural adaptation, community promotion) varies among provinces, most have achieved over the period of the collaborative a minimum level of performance in non-complicated deliveries (see **Table 12**). Evidence-based EOC practices, such as antenatal care screening, use of the partograph, active management of third stage of labor, immediate post-partum and immediate newborn care, are now widely practiced in the collaborative's participating facilities with levels of compliance with standards that consistently exceed eighty percent in regular monthly monitoring.

A critical area of best practice scale-up this past year was the institutionalization of active management of the third stage of labor in Ecuador. According to the Ministry's maternal mortality epidemiological surveillance system, post-partum hemorrhage was the leading cause of maternal deaths in 2005, accounting for 31.8% of maternal deaths. Active management has been effectively spread at the operational level in Ecuador through the EOC collaborative. When the collaborative started, AMTSL was

Table 11. Ecuador: Expansion of CQI Activities

Province	# CQI Teams Year One	# CQI Teams Year Two	# CQI Teams Year Three	# CQI Teams Year Four	# Facilities with CQI Teams		
					Hospitals	Health Center	Other health services
Azuay	2	6	6	5	5		
El Oro	2	10	10	11	8	3	
Bolívar	2	4	4	7	5	2	
Tungurahua	2	8	8	11	7	4	
Cotopaxi	1	6	6	6	3	3	
Imbabura	2	4	4	4	3	1	
Morona Santiago	1	7	7	7	6	1	
Guayas	2	0	0	0	0	0	
Carchi			5	5	3	2	
Loja			10	14	8	6	
Orellana		3	3	19	2	2	15
Chimborazo		6	7	9	7	2	
Manabí				16	11	5	
Total	14	54	70	114	68	31	15

**Table 12: Selected Indicators from the EOC Collaborative, July 2003-June 2005
(Pooled Data from All Provinces and Facilities Reporting)**

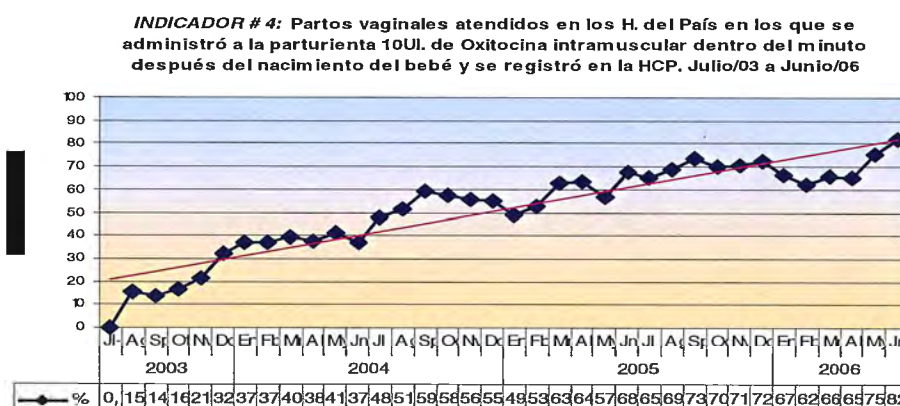
<i>Percentage of reviewed cases that complied with quality standards</i>	<i>July 2003</i>	<i>Jun 2005</i>	<i>Jun 2006</i>
Percentage of prenatal consultations in which all standard tasks were performed	0%	72%	75%
Percentage of deliveries in which the partograph was correctly used	44%	85%	88%
Percentage of normal deliveries in which oxytocin was administered to prevent postpartum hemorrhage	17%	68%	82%
Percentage of newborns for whom the standard tasks were performed	25%	84%	82%
Percentage of normal deliveries in which standard, immediate postpartum tasks were performed	21%	82%	85%

Source: Quality of care database of the Ministry of Health, 2006

rarely practiced in MOH hospitals; by the end of Year Three (June 2005), the collaborative has elevated its practice to 63% of normal deliveries in the participating provinces. By June 2006, this level rose to 82% of deliveries in the facilities participating in the collaborative (see **Figure 29**). The positive experience of hospitals in half the country in applying active management served as a “bottom-up” force for policy change which culminated in April 2006 in the official publication of an Addendum to the National MOH Norms to incorporate active management of third stage of labor into the country’s official norms and to update its guidelines on the use of oxytocin, immediate procedures in case of post-partum hemorrhage, and laboratory tests based on international evidence. QAP is now working with the MOH to build on this momentum with a focused “spread” collaborative to introduce active management in the other 11 provinces where it is not being routinely practiced, including Ecuador’s two largest cities.

While the results for correct management of normal deliveries are very encouraging, quality of care for obstetric and newborn complications continues to challenge public hospitals in Ecuador, where attending staff are often medical interns. Because a large share (69%) of maternal deaths occur in hospitals, the MOH launched in July 2006, with QAP assistance, a new demonstration collaborative in six provincial hospitals, to identify best practices for standardizing care for obstetrical and newborn complications. Progress was also made in developing sustainable mechanisms for building competency of public sector personnel in essential obstetric and newborn care. QAP worked with the MOH to develop 8 training

Figure 29. Ecuador: Percentage of Deliveries in Which Oxytocin Was Administered to Prevent Hemorrhage in Health Facilities Participating in the EOC Collaborative, July 2003-June 2006



modules (total training time of 32 hours) and establish teaching centers in provincial hospitals, to support in-service training to upgrade the skills of personnel who manage obstetrical complications in public hospitals. Two centers have been established to date, and with funding from the United Nations Fund for Population Activities (UNFPA), training of trainers has begun to establish centers in the coming year in six more provincial hospitals. QAP has also signed an agreement with the Central University of Ecuador to work with faculty to introduce competency-based training in management of obstetrical complications and the essential obstetric care system concept in pre-service training for professional midwives.

Finally, the MOH has adopted the “Manual for humanization and cultural adaptation of delivery care” as an official strategy for public facilities that attend births. This manual was developed by QAP, Family Care International (FCI), and the MOH Provincial Health Office of Tungurahua based on the cultural adaptation interventions piloted last year in Tungurahua. QAP has begun a new operations research study to measure the impact of adapting delivery practices to users’ preferences on user satisfaction and demand for institutional deliveries in four provinces with indigenous and Afro-Ecuadorian populations.

QAP’s Value-Added in Ecuador

QAP is an active participant in national policy discussions related to maternal health and has been a driving force behind the adoption of evidence-based maternal health policies and standards in Ecuador. The maturity and expansion of continuous quality improvement processes within MOH facilities in over half of the country has led the MOH to transform them into national policies, which further ensures their institutionalization and sustainability beyond the life of the EOC collaborative itself. A good indicator of the extent of institutionalization of QA activities in Ecuador is the fact that QAP maintains only two full-time staff members in its Quito office, and a few part-time occasional consultants in provinces. Most of the QA activities are run by the Ministry of Health institution itself. QAP also works very effectively with other technical cooperation agencies, including the United Nations Development Program, UNFPA, and FCI to undertake joint activities at the provincial level related to essential obstetric care.

Honduras

Over the past several years, QAP has provided technical support to the Secretariat of Health of Honduras (SSH) to develop and institutionalize CQI processes aimed at maternal and child health services, first in two health regions and then expanding to five of the 20 departmental health regions created under the 2004 health sector reorganization. At the same time as the reorganization, QAP was invited by USAID to become part of its health sector reform program, to work with new decentralized healthcare networks that were managed by municipal and non-governmental entities in selected municipalities in Copán, Lempira,

and Comayagua, as part of the Government's effort to reform the health sector by separating payer and provider functions. At that time, QAP was given the mandate was to support the networks in establishing CQI systems that would ensure high quality services that were responsive to users' needs, as well as to help the departmental health offices of the SSH to provide effective oversight to the networks to assure quality. Based on positive results this year in both areas of work, in January 2006, USAID expanded QAP's scope of work to encompass broader technical support for health sector reform activities and for strengthening reproductive, child, environmental, and community-based health services, including incorporating quality improvement activities within these components of USAID's health sector assistance to Honduras. The geographic scope of QAP assistance has also expanded to include technical activities in all 20 departmental health regions.

Support for Health Sector Reform Initiatives

QAP assistance to decentralized providers in the past year has been concentrated in four of the poorest departmental health regions. Support was provided for the organization and the training of two new decentralized providers: "Inmaculada Concepción" which manages the emergency clinic in San Manuel Colohete in the departmental region of Lempira, and the Communal Association "Madres Felices" (MAFE) that manages the clinic of Taulabé in the departmental region of Comayagua. QAP also continued to provide assistance to the Municipality of Santa Rita de Copán (MANCORSARIC), the provider that manages the emergency clinic of El Jaral in the departmental region of Copán. MANCORSARIC is now preparing to extend its network to include an additional nine facilities in its area of influence. Table 13 details the reach and number of beneficiaries of these decentralized providers.

Table 13. Honduras: Coverage of Decentralized Provider Networks Assisted by QAP, 2006

Department	Municipality/ Communities	# Health Facilities	Beneficiary population	Type of Provider	Payment Mechanism	Total Funding (Lempiras)
Copan	Santa Rita/Otuta, Río Amarillo Copan Ruinas/ Virginia, Las Flores, Cabañas/ Río Negro	6	75,000	Commonwealth MANCORSARIC	Production and Per capita	6,945,787
Comayagua	Taulabé	3	25,444	Communal Civil Association "Madres felices" (MAFE)	Production and per capita	4,618,709
Lempira	Colohete	4	12,230	Comunal Civil Association "Inmaculada Concepción de Colohete"	Production and per capita	3,525,044
Totals:	10	18	132,136			15,089,540

At the national level, QAP worked with the SSH's Extension of Coverage Unit to develop the quality indicators to be included in contracts between the departmental health regions and decentralized providers and to develop a system for monitoring quality of services provided by these entities. At the local level, QAP has helped to strengthen the capacity of these decentralized providers for managing their networks and for implementing continuous quality improvement processes focused on maternal and child care. Interventions that the providers have introduced to increase coverage and quality include payment of incentives to traditional birth attendants for referrals, creation of clubs of pregnant women clubs, design of training and supervision tools for both clinical and preventive services, and providing additional services like dental care and lab work in the same facility. In this effort, QAP has worked closely with the World Bank-funded Health Sector Reform Program (PRSS). This year, MAFE and Inmaculada

Concepción signed contracts with the SSH that specify expectations for quality and the indicators that will be used to measure compliance with quality standards.

Under the decentralized service delivery scheme, every two months the Extension of Coverage Unit of the Departmental Health Regions carries out a measurement of compliance with quality standards and makes the corresponding payment to the decentralized provider, based on the percentage compliance and according to contract stipulations. **Table 14** shows the results of the first four measurements for these two new decentralized providers. The results thus far are very encouraging to the SSH and suggest that these decentralized providers are achieving the objectives established in the health sector reform: increasing access and quality.

Table 14. Honduras: Quality Ratings Achieved by Decentralized Provider Networks Assisted by QAP, 2005-2006

Provider	Monitoring by the Extension of Coverage Unit							
	1st measurement		2 nd measurement		3rd measurement		4th measurement	
	Quality	Overall	Quality	Overall	Quality	Overall	Quality	Overall
MAFE	80	66.6	79.2	71.2	98	91	100	93.2
Inmaculada Concepción	68	79	76.35	86.25	75.6	81	93	88.44

Quality Assurance Institutionalization

Technical support to the Secretariat of Health's National Quality Assurance Unit (UNGC) and assistance to the five priority Departmental Health Areas for the institutionalization of CQI in maternal and child health (MCH) services continued to be the core of QAP's technical assistance program in Honduras during Year Four. QAP worked closely with the head of the UNGC, Dr. Rosario Cabañas, to monitor implementation of quality improvement plans and provide supportive supervision to the SSH quality improvement coordinators in the departmental health offices in Comayagua, La Paz, Lempira, Intibucá, and Copán. The departmental coordinators, in turn, provided training and support to facility-based improvement teams, except in the region of Lempira, where there is no coordinator and the process relies greatly on QAP's local consultant. QAP also supported the UNGC in organizing the first National Congress on Quality Assurance in August 2006. The congress was attended by more than 100 delegates from facility-based quality improvement teams, decentralized healthcare providers, universities, and other technical cooperation agencies.

In the five regions, there are now five hospitals, eight maternal and child health clinics, and 49 health centers with a doctor that are regularly monitoring and reporting on quality indicators. The hospitals and maternal clinics monitor 16 quality indicators on childbirth care, prenatal care, and care for children under five years. In the five regions, there is now a total of 70 SSH supervisors who have been trained in quality improvement methods who support and advise improvement teams. **Table 15** shows this QA structure by region.

QAP also worked with the SSH and USAID to create a mechanism for direct funding of QA activities in the five departmental hospitals through formal management agreements between the hospitals and the departmental health office. Under these agreements, the departmental region agreed to finance plans for the improvement of each hospital, in an amount of up to US\$ 21,000 for the two referral hospitals (West and Comayagua) and up to US\$ 18,000 for the other hospitals (La Paz, La Esperanza, and Gracias). The hospitals, through their quality committees and improvement teams, have agreed to comply with a set of 16 quality indicators in childbirth care, management of obstetrical complications, newborn care, family planning, and case management of pneumonia and diarrhea in children under five years. The improvement teams of the hospitals have prepared two quarterly improvement plans to date.

Table 15. Honduras: Quality Assurance Structure in the Five Departmental Regions Assisted by QAP, 2006

Departmental Region	# of SSH Supervisors Trained in CQI	# of Facilities Reporting Quality Data	# of Quality Improvement Teams	# of Users Committees
Copan	11	H=1; CMI=1; CMO=12	19	9
Comayagua	20	H=1; CMI=4; CMO=11	20	1
Lempira	14	H=1; CMI=2; CMO=11	19	7
Intibucá	16	H=1	1	
La Paz	9	H=1; CMI=1; CMO=15	21	1
Total	70	60 (H=100%; CMI=100%; CMO=82%)	80	18

H = Hospital; CMI = MCH Clinic; CMO = Health Center with Physician

The amount of funds actually provided to each hospital is determined based on the results of quality monitoring carried out quarterly by the departmental region. The first external quality monitoring of the hospitals' performance, conducted in July 2006, produced the ratings and award amounts shown in **Table 16**.

Table 16. Honduras: Results of the First Quality Monitoring of the Five Departmental Hospitals Assisted by QAP, July 2006

Hospital	Results from the Monitoring Plan	Results from the Monitoring of Indicators	Budget Assigned	Total Budget Earned
Comayagua	100%	64.48%	80,000.00	57,700.00
Lempira	89%	68.00%	60,000.00	43,320.00
Intibucá	95%	76.30%	60,000.00	48,024.00
Copán	64%	78.80%	80,000.00	60,640.00
La Paz	95%	67.8%	60,000.00	43,944.00

Teams are gradually improving their performance on the quality indicators, although improvement in the management of obstetrical complications and case management of severely ill children continues to lag behind other services, as may be seen in **Table 17**.

In response to these results, the hospitals have prepared new improvement plans oriented towards weaknesses, particularly management of sepsis in pregnant women and diarrhea in children. Improvements that are being carried out in the hospitals include: the redesign of intake forms for emergency care, regular monitoring of key drugs in pharmacies, procurement of equipment, standardization in the taking of vital signs, workshops to reinforce the use of norms when handling complications, enhancements to physical plant, improvement of the supervision process, and design of orientation plans for new personnel. To improve the care process, the teams have developed various tools to guide the management of emergency cases. This experience led the UNGC to call for a national meeting of all departmental hospitals to redesign a unique and standardized format to be used at the national level. The five hospitals are also implementing a "Client Service" strategy that has improved orientation of the client in the hospital, provided better information, and created a better channel for handling complaints and requests. The success to date of the hospital agreements as a mechanism for spurring focused improvements in service quality has motivated the SSH and USAID to extend them to the nine maternal and child clinics in the five health regions beginning in January 2007.

Table 17. Honduras: Compliance with Quality Standards in the Five Departmental Hospitals Assisted by QAP, July 2006

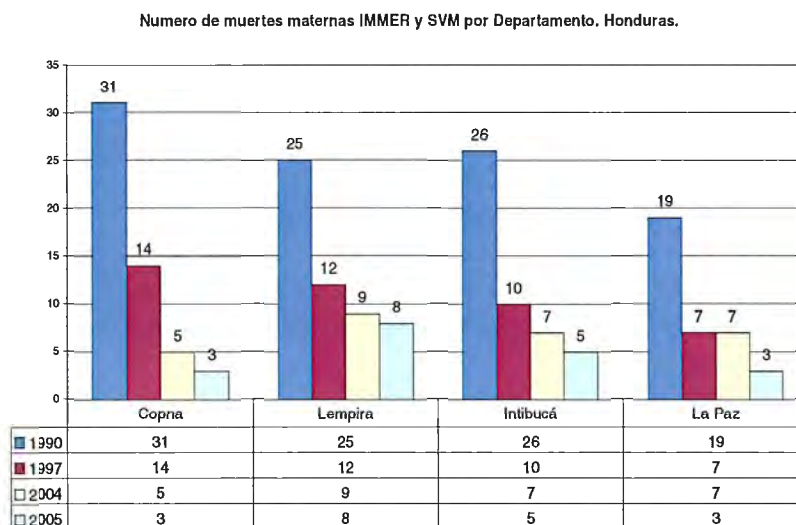
Indicator	Monitoring Results by Hospital				
	Comayagua	Lempira	Intibucá	Copán	La Paz
Inputs for care	100	100	100	90	90.5
Use of the partograph	44.8	100	43	30	89
Active management of the third stage of labor	100	100	100	100	100
User satisfaction	100	100	93.3	66.6	100
Immediate post-partum care	88.4	100	40	93	93
Family planning counseling	100	100	93	30	89.65
Management of obstetrical hemorrhage	100	0	71.4	22	62.5
Management of pre-eclampsia	50	0	50	50	66.6
Management of puerperal sepsis	0	0	0	0	
Immediate care of the newborn	42.3	100	93	70	0
Management of newborn with asphyxia	95.7	100	100	80	100
Management of child under 5 years with pneumonia	20	0	44	10	0
Management of child under 5 years with diarrhea	0	100	0	0	10
Referrals	100	100	100	82	
Total	64	68	76.3	74.12	67.8

Progress was also made in improving quality at the level of ambulatory care facilities (health centers with physician), particularly for prenatal care. Use of the LISEM instrument (a form which accompanies the woman throughout her pregnancy up through the post-partum period) to guide key activities that should be performed at each visit has reached 93% of prenatal consultations in ambulatory facilities in the five regions by June 2006. One of the innovations introduced in these facilities to increase the proportion of pregnant women for whom all key services are provided is to hold monthly “circles of pregnant women”, meetings in the facilities during which additional services (e.g., dental exams, lab tests) are provided that are not always offered during routine prenatal care visits.

In facilities that attend deliveries, correct use of the partograph reached 81% of deliveries in May 2006, active management of the third stage of labor was practiced in 100% of deliveries, compliance with post-partum monitoring was 87%, and immediate evaluation and care of the newborn met standards in 88% of cases. Management of obstetrical complications has been more difficult to improve. Correct management of hemorrhage was at 0% when the year started and has reached 38% of cases in June 2006. Pre-eclampsia was managed according to standards in 75% of cases in June 2006, and endometritis was correctly managed in 80% of cases. Diarrhea and pneumonia in children under five years were managed correctly in 81% of cases in June 2006.

Figure 30 shows data on maternal mortality in the areas of focus. Data from 1990 and 1997 are from studies on maternal mortality. Data from 2005 and 2006 come from the SSH maternal mortality surveillance system. Even though the two data sources are not directly comparable, they do indicate that there is a progressive reduction of maternal deaths in the country.

Figure 30. Honduras: Trends in Number of Maternal Deaths by Priority Department, 1990 to 2005



QAP's Value-Added in Honduras

QAP's effectiveness in Honduras contributed to the decision by USAID to expand QAP's program to four new components in 2006, adding work in support for health sector reform efforts of the SSH; community-based maternal and child health; family planning; and environmental health. USAID and the SSH have asked that QAP integrate the continuous quality improvement process in all of these program areas. The QA structures and processes that have been incorporated into the routine operations of the five focus departmental health regions and their facilities have created a model that can be replicated in the remained of the country. QAP's close working relationship with the SSH National Quality Unit and the health sector reform program of the World Bank have extended the impact of QA strategies beyond the five USAID-assisted regions.

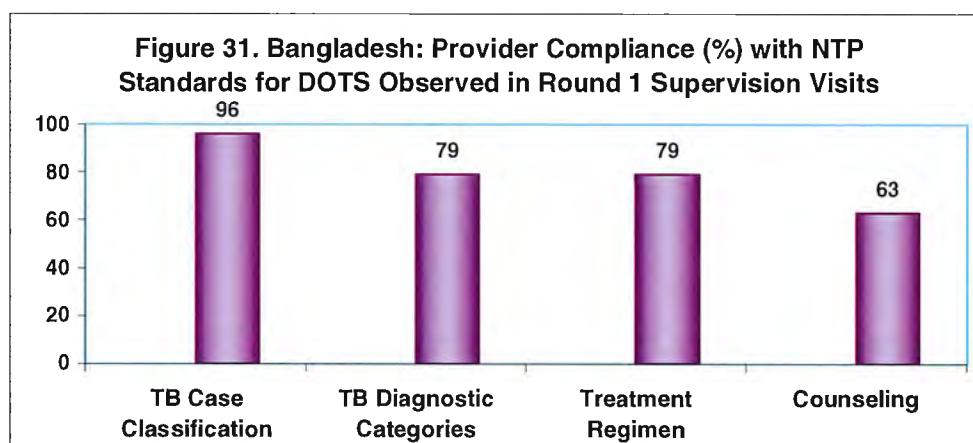
2.3 Short-Term Technical Assistance

Bangladesh: Improving Quality of TB Case Management through Supervision

Based on findings from a 2004 OR study responding to a request from the National TB Program (NTP), QAP developed a Quality Supervision and Monitoring (QSM) strategy for expanding access to and improving the quality of directly observed treatment. QAP organized a three-day training in late 2005 on quality of care and its integration with supervision and monitoring for 148 district supervisors/managers (both government and NGO) from across the country. The course was facilitated by NTP, WHO, and QAP and included a manual, *Improving Quality and Strengthening Monitoring and Supervision of DOTS: A Curriculum for District-Level Supervisors*.

The QSM strategy is now piloted in four sub-districts (*thanas*) in each of the six districts, reaching 24 service delivery facilities. A day-long orientation was conducted for the district- and sub-district-level supervisors along with administrative heads of the 24 QSM pilot sites. For evaluation purposes, QAP conducted a baseline assessment in January–May 2006 (prior to implementation) of the QSM intervention facilities and six comparison facilities. The baseline showed that while a gap existed between provider knowledge and skills/practice (the overall knowledge score was 84%, versus a skills score of 76%), the intervention and comparison sites were roughly comparable in terms of provider assessments and TB service.

Supervisors began implementing the QSM intervention in June 2006. They conducted Round 1 visits between June 18 and July 20, reviewing the status of key DOTS indicators in each facility, including case detection rate, proportion of TB cases that are smear-positive, sputum conversion rate, and treatment success rate. They found virtually the same levels for all DOTS indicators as were found in the baseline. Importantly, they also observed provider compliance with service delivery and found that provider counseling skills were the greatest weakness (**Figure 31**). The findings prompted district supervisors to address some of the gaps, including filling vacant positions, developing community mobilization activities, training laboratory technicians, orienting staff on appropriate infection prevention practices and equipment maintenance, and strengthening counseling and communication with patients.



Cambodia: Developing Public-Private Partnerships for TB Control

QAP support for TB activities in Cambodia began in 2004 with an OR study to document the quality and extent of TB services provided by private sector providers. The findings sparked national policy change to allow greater private sector involvement in TB control and prevention. In Year Four, QAP assisted the USAID bilateral Health Systems Strengthening Project to design and implement, on a pilot basis in one operational district in Battambang Province, a public-private partnership (PPP) model for TB prevention and control. In the last year, over 94 private providers signed Memoranda of Understanding with the National TB Program to refer TB suspects to public TB DOTS facilities. Under the program, both public and private providers received training and communication materials to ensure availability of quality TB screening, treatment, and follow-up services. The number of TB suspects referred from private providers to public facilities is rising, and based on the PPP model is being scaled up to four new provinces.

Peru: Institutionalizing QA in a Private Healthcare Delivery Organization

QAP continued to provide short-term technical assistance to private, non-profit provider Max Salud to develop a CQI system in its four-clinic network in Chiclayo. In late 2005, USAID/Peru announced the close-out of support for Max Salud, so in February 2006 QAP and the Max Salud QA managerial group planned the transition to a completely self-managed QA program. A new Max Salud QA Coordinator, Dr. Luis Castañeda, worked with QAP to ensure a smooth internal transition. By the end of Year Four, QAP was providing technical assistance entirely by email and phone, while the Max Salud QA program continued, enthusiastically managed by Dr. Castañeda and the QA managerial team and with strong support from Max Salud's Executive Director. In July 2006, Max Salud launched the QA program in its new clinic in Cajamarca.

Uganda and Zimbabwe: Adapting Jobs Aids to Improve Infant Feeding Counseling for HIV-positive Women

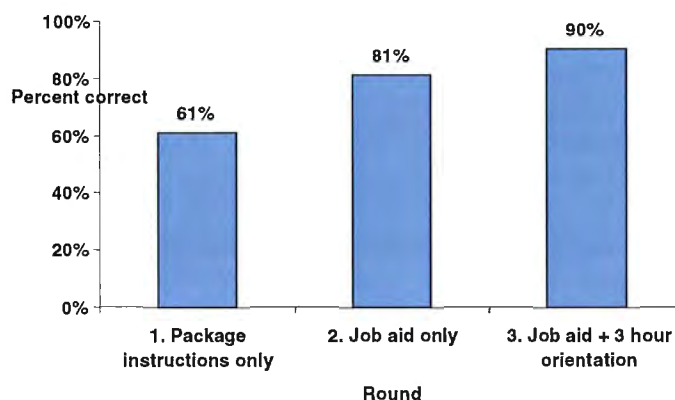
Our HIV and infant feeding training and counseling materials program in Tanzania attracted continued international interest during Year Four. Having shared results and materials with international organizations and donors through meetings and email, QAP was invited to provide technical assistance to PMTCT and infant and young child feeding programs in Uganda (with PEPFAR funding) and Zimbabwe (with EGPAF and UNICEF support). In each country, QAP worked with local partners to review national policy in light of the updated UNICEF-WHO guidelines on HIV and infant feeding and to adapt the Tanzanian job aids for local use. We helped organize local technical review of the messages and illustrations in the Tanzanian materials and then worked with MOH nutritionists, PMTCT specialists, health communication specialists, and graphic artists to craft locally appropriate versions. We trained graphic artists in Uganda and in Zimbabwe in the techniques needed to create attractive and effective illustrations and designs. We helped local teams finalize the draft sets of materials and provided guidance in field testing. As a result, the MOH in each country worked with local PMTCT partners and other stakeholders to: 1) develop the job aids in other languages (seven in Uganda and three in Zimbabwe), 2) develop additional complementary materials, and 3) identify funding to support several initial training activities. In Uganda, QAP funded the printing of 1000 copies of each of five materials (Question and Answer Guide and four infant feeding options brochures), which are being used to train local health workers in the new national guidelines.

Zambia: Job Aid and Orientation for Malaria Rapid Diagnostic Test

Building on earlier work with WHO, QAP collaborated in 2006 with WHO and the Zambia National Malaria Control Center to develop a job aid and orientation for use with malaria rapid diagnostic tests (RDTs). The objective was to enable volunteer community health workers (CHWs) to use RDTs safely and effectively. QAP led formative research comprising interviews and focus groups with 33 CHWs in Luangwa District in January and February. Based on that research, we developed and pilot-tested a draft job aid. In late June–early July, we systematically tested the job aid in Chongwe and Chibombo Districts. This test compared CHW performance in using an RDT under three levels (“rounds”) of preparation: In round 1 CHWs used only the manufacturer’s instructions (translated into the local language); in round 2 they used only the job aid; and in round 3 they used the job aid and had a three-hour orientation. Sample size calculations recommended observing 23 CHWs per round (69 total) to detect a difference of +/- 20% in performance between rounds. The actual test observed 32 CHWs in round 1, 23 in round 2, and 26 in round 3. Between rounds 1 and 2, the percentage of steps performed correctly increased from 61% (9.8/16) to 81% (13/16). Performance increased to 90% (14.4/16) in round 3 (**Figure 32**). Improvements were statistically significant for rounds 1 vs.

2 and rounds 1 vs. 3 ($p \leq 0.01$), but not for rounds 2 vs. 3 ($p = 0.23$), probably because the sample was too small to detect a 9% difference. These initial results suggest that the job aid with a short orientation can enable CHWs to perform RDTs safely and correctly. Tests are planned in 2007 to determine whether improved performance lasts after six and 12 months. QAP plans to work with WHO to make the job aid plus orientation package available on the Internet for malaria control programs that employ CHWs as part of implementing artemisinin combination therapy.

Figure 32. Zambia: CHW performance with Paracheck Pf Malaria RDT
(Percent of steps performed correctly by round)



2.4 Global and Regional Activities

Health Systems Strengthening/Mainstreaming

The Health Systems Strengthening (HSS)/Mainstreaming Initiative puts the combined knowledge and experience of USAID's health system strengthening projects at the service of USAID's large bilateral projects and improves their capacity to achieve USAID's health impact objectives. QAP is one of three Global Health projects chosen to take part in this initiative because of its ability to improve implementation at the local level and help countries achieve and demonstrate health impact results. In the past 18 months, QAP has participated with the other two HSS partners in developing and testing new Health System Assessment instruments in Angola and Benin, contributing to the quality assurance and other modules of the assessment methodology. QAP also participated in the Routine Health Information Network (RHINO) Third International Workshop in Chiang Rai, Thailand, providing perspectives on monitoring quality of care at community and primary care facilities. QAP again provided assistance to the Child Survival and Health Grants Program (CSHGP) Mini-University and in the review of Detailed Implementation Plans.

As part of efforts to expand the use of the improvement collaborative approach by program implementers worldwide, QAP began collaboration in Year Four with the CORE Group to plan a community-based maternal and child health collaborative; it will be implemented in FY07 by a CORE member organization with QAP technical assistance. This will be the first community-focused collaborative and also the first implemented by a CORE member.

Newborn Care Initiative

Newborn care is increasingly an integral component of QAP's PHI and EOC collaboratives, with newborn care activities underway to varying degrees in five African and Latin American countries. In Nicaragua and Niger, newborn care activities are being integrated into EONC and PHI collaboratives, while in Benin they are also being integrated with PMTCT services. Although collaboratives have emphasized the quality of care for mothers and older children under five years, with increasing awareness of the importance of newborn health, countries have begun to increase the range and complexity of newborn activities. Teams in the EOC collaborative in Honduras, Ecuador, and Nicaragua monitor readiness (the availability of equipment and supplies) to provide newborn care and compliance with routine newborn care standards. Nicaragua has also integrated PHI standards (including care for the sick newborn) into the Mother and Baby Friendly Health Units certification process and adapted the perinatal record to include monitoring of newborn care.

In view of collaborative successes in Latin America, USAID allocated additional core funds to QAP to determine whether the collaborative approach might also be used for strengthening newborn care. USAID requested that the funds be used in Africa, which has the highest rates of stillbirth and neonatal death, and in a context where PMTCT services were also available. The funds were also assigned for the strengthening of the home-hospital continuum and for the development of an integrated model of EONC/PMTCT care.

Responding to these criteria, QAP allocated most of the additional funding to revitalize and strengthen the newborn health component of the Benin EOC collaborative and build in a strong newborn component in the nascent Niger EONC collaborative. Benin was chosen as the major recipient of the funds because its collaborative was already active at primary and secondary levels and because of an extant national PMTCT service. By funding two geographically close programs with the same management structure, QAP was able to leverage both countries' resources. For example, Benin staff has provided training support to Niger teams, while the Niger team provided QA and collaborative training to Benin staff. These countries are also sharing training and monitoring tools and provider job aids.

This year in Niger, essential newborn care (ENC) has been one of two main technical priorities. Consensus on national standards was achieved in March 2006, and these standards were then used to develop provider job aids, training curricula, and monitoring and evaluation tools. Regional teams were trained and coached in ENC. Care for newborn complications will be introduced next year. In Benin, progress has been slower owing to delays caused by loss of the project coordinator. Plans were developed, however, to strengthen quality of essential maternal and newborn care at the facility level. In addition, the Benin EONC collaborative will have a major community component that will be carried out in collaboration with Plan International.

Improving the Care of Orphans and Vulnerable Children

Countries and organizations receiving PEPFAR funds have raised concerns about the quality of services provided to orphans and vulnerable children (OVC). The USG has begun to develop strategies to ensure quality OVC care and has requested QAP assistance. In FY06, QAP provided assistance to OGAC in developing a process and tools for achieving standards of care and quality improvement in programming for this particularly vulnerable population. This effort began with participation in a series of meetings with interested OGAC and partner representatives and then a presentation by the QAP Director at a global USG staff meeting in March 2006 in Namibia. Further assistance was provided for the development by PATH of a facilitation guide for this process. QAP involvement will continue in FY07 as the process and tool are tested and implemented in PEPFAR-supported countries. QAP will pursue this collaboration energetically, convinced this in an area susceptible to significant improvements through QA.

Following on the success of its study of the program evidence base for the feeding of infants of HIV-positive women, QAP started plans to study the evidence base for issues and programs for OVC in low-prevalence (but highly concentrated) HIV-epidemic countries.

Operations Research

Operations research studies completed, in process, or under consideration by the end of Year Four are listed in **Table 18**. Highlighted numbers indicate studies completed in Year Four. For those completed studies whose results were not presented in last year's Self Evaluation, key results are summarized below.

Table 18. Status of Operations Research Studies as of June 30, 2006

	Location	Study Name	Status (Yr Done)
OR Studies Completed or In-Process during Year Four			
1	Global	HIV and infant feeding: Compilation of program evidence	Completed (Yr 3)
2	Multi-country	Collaboratives documentation and evaluation	Underway
3	Benin	Safe motherhood studies: Results from Benin	Completed (Yr 2)
4	Ecuador	Safe motherhood studies: Results from Ecuador	Completed (Yr 2)
5	Jamaica	Safe motherhood studies: Results from Jamaica	Completed (Yr 2)
6	Rwanda	Safe motherhood studies: Results from Rwanda	Completed (Yr 2)
7		Measuring the competence of SBAs	Completed (Yr 2)
8	Benin, Ecuador, Jamaica, Rwanda	Timeliness of hospital care for obstetric emergencies	Completed (Yr 4)
9		Quality of obstetric care in 14 hospitals	Completed (Yr 4)
10		Comparing methods to identify hospital birth attendants	Completed (Yr 4)
11		Factors predicting partograph performance	Data analysis
12	Bangladesh	Rapid assessment of tuberculosis system	Completed (Yr 3)
13	Cambodia	Treating TB in the Private Sector	Completed (Yr 3)
14	Ecuador	Scale-up of CQI in Free Maternity Program	Completed (Yr 3)

15	Ecuador	Develop maternal health questions for ENDEMAIN national health survey	Completed (Yr 4)
16	Ecuador	Generating demand for quality of maternal care	Underway
17	Ecuador	Validity of self-assessments in EOC collaborative	Underway
18	Jamaica	Impact of PMTCT mother-child pairs program	Completed (Yr 3)
19	Jamaica	Improving process of maternal mortality surveillance	Completed (Yr 4)
20	Kenya	Evaluation of cost and effect of IMCI CBT	Completed (Yr 4)
21	Laos, Philippines	Proper application of malaria Rapid Diagnostic Tests	Completed (Yr 3)
22	Nicaragua	Mother and baby friendly program as focused accreditation success	Report in preparation
23	Nicaragua	Improved measures of SBA competency	Completed (Yr 4)
24	Niger	Evaluation of PHI malaria collaborative	Underway
25	Russia	Situational analysis of TB-HIV co-infection	Completed (Yr 4)
26	Rwanda	HIV stigma study	Data analysis
27	Rwanda	ARV adherence study	Data analysis
28	Rwanda	Human resources assessment to scale-up HIV/AIDS care	Summary report in preparation
29	South Africa	Effectiveness of TB DOTS supporters	Completed (Yr 3)
30	South Africa	Accreditation and regulatory options	Completed (Yr 3)
31	South Africa	Functional analysis of Soweto PMTCT programs	Draft report in review
32	South Africa	Rapid assessment of ART	Report in editing
33	Tanzania	Counseling job aids and take-home materials on infant feeding for PMTCT	Report in preparation
34	Tanzania	HIV stigma study	Data analysis
35	Zambia	HIV/AIDS workforce study	Completed (Yr 2)
36	Zambia	Health worker performance-based incentives study	Report in editing
37	Zambia	Development and testing of malaria RDT job aids	Underway
Potential OR Studies under Consideration			
1	Global	Review of evidence on protecting HIV orphans and vulnerable children in low and concentrated HIV-prevalence areas	
2	Tanzania	Evaluation of national scale-up of infant feeding counseling materials	
3	Tanzania	Validity of sequential self-assessments in PHI collaborative	
Dropped Studies			
1	Multi-Country	Quality of TB care and lab services	Dropped
2	Eritrea	Nurse motivation and appreciative inquiry	Dropped
3	Eritrea, Jamaica	Low-cost measures of quality of care for maternal complications	Dropped
4	Jamaica	Community follow-up of obstetric emergencies	Phase 2 not funded
5	Kenya	Improving client purchases of anti-malarials	Dropped
6	Zambia	HIV health worker training study	Dropped

10. Multi-Country: Comparing methods to identify hospital birth attendants. This methodological analysis took advantage of the data collection instrument used to record provider performance during labor and delivery (OR study #9). The individual providers attending each observed case were recorded using two methods. In theory, both methods should have identified the same providers for any case, but they did not 54% of the time. Combining both methods of provider identification was clearly superior to either method alone. This result underscores the difficulty in correctly identifying all attending providers (particularly where several providers participate) and the need train data collectors carefully.

19. Jamaica: Improving the process of maternal mortality surveillance. This study was completed and two journal articles were prepared for submission last year, one on underreporting in the current maternal deaths surveillance system and the other on recent trends in maternal mortality in Jamaica. The study identified all deaths of women of child-bearing age in Jamaica during 1998–2003 and then determined which of those deaths related to pregnancy using extensive investigation and interviewing. The results were compared to official statistics covering the same period to estimate underreporting and to findings reported for 1981–83, 1986–87, and 1993–95 to reveal trends. Some results: Approximately 20% of maternal deaths were not reported. Underreporting was associated with not having a post-mortem, dying in the first trimester, and ineffective surveillance in some regions. A longer interval from pregnancy termination to death increased the odds that the death would not be reported as pregnancy-related, increasing from 3.5 in the first seven days to 6.05 between 7–41 days postpartum. Declines in direct obstetric deaths since the 1980s are probably associated with improved surveillance, improved access to referral obstetric care, and use of selected clinical protocols. During the 1990s indirect deaths from HIV/AIDS, cardiac disease, sickle cell disease, and asthma increased, offsetting the decline in direct deaths. These trends may typify countries where most births occur in hospitals.

20. Kenya: Evaluation of cost and effectiveness of the IMCI CBT. This field test of the revised IMCI computer-based training (CBT), conducted in Kenya in June–July 2005, compared the cost and effectiveness of the CBT to the standard classroom training. Both the standard and computer-based trainings call for a follow-up one-year preceptorship. The standard course lasts 11 days with morning lectures and afternoon clinical practice; the CBT study course lasted six days with morning CBT sessions and afternoon clinical practice. Forty-nine clinicians who had not received prior IMCI training were randomly assigned to the CBT or standard course. Each trainee took a written pre- and post-tests and was judged by expert observers for compliance with IMCI standards in the case management of two simulated cases of childhood illness. No attempt was made to measure performance at the conclusion of the one-year preceptorship. Some results: The CBT and standard course trainees were statistically equivalent in the post-test, in the gain from pre- to post-test, and in scores for compliance with IMCI standards in the case management of the simulated cases. The per trainee budgeted cost was \$230 less for the CBT course, 29% less than the standard course and 12% less than the training program with the preceptorship, rendering the CBT course more cost-effective than the standard one.

22. Nicaragua: Mother and baby friendly program as focused accreditation success. The Baby Friendly Hospital Initiative has become the world's largest focused accreditation program, fostering appropriate breastfeeding in over 19,000 Baby Friendly certified hospitals in 150 countries. The initiative is having problems with sustainability, but the Nicaragua Mother and Baby Friendly program is a notable exception, having grown in size and impact since its 1993 inception. A 1999 assessment concluded that the Nicaragua program was the likely cause of substantial improvements in infant feeding practices. The present study sought to determine whether the Nicaragua program has continued to have an impact on breastfeeding practices, and if so, what factors caused its success. Extensive interviews were held with staff at hospitals and health units and other key individuals throughout the country, and many documents and secondary data sources were reviewed. A physician's strike delayed study completion for six months. Some results: The Nicaragua program emphasizes both mother and baby and has expanded in recent years beyond hospitals to certify universities, health centers, health posts, health districts, and municipalities. The program enjoys the support of the Ministry of Health, which carries out certification

and re-certification, and of national laws supporting breastfeeding. Self-assessment is widely used by health units to identify and correct problems, both within facilities and in the communities they serve. The findings will be reported in an international conference organized by UNICEF/Nicaragua in October 2006, along with new UNICEF guidelines for baby-friendly programs.

23. Nicaragua: Improved measures of SBA competency. QAP shortened and refined the skilled birth attendant knowledge test and consolidated the skills evaluations used in the four-country safe motherhood study. During July–August 2005, QAP worked with the Ministry of Health (MINSa), UNICEF, CARE, and PAHO to apply the revised instruments in a large-scale evaluation of SBA competency throughout Nicaragua: 1,358 medical and nursing personnel who attend deliveries took the knowledge test, and 584 the skills evaluations. The Spanish report was completed in June 2006 and presented to MINSa for dissemination within Nicaragua. The English report is in preparation. Some results: The study found serious and widespread competency shortcomings. The lowest knowledge scores related to infection prevention (14% correct), pregnancy-induced hypertension (51% correct), immediate newborn care (52% correct), labor monitoring/partograph (60% correct), and sepsis (65% correct). Higher knowledge scores related to hemorrhage (79% correct) and active management of third stage of labor (73% correct). Interestingly, scores on the knowledge tests related to manual removal of the placenta, bimanual uterine compression, and immediate newborn care were higher than the corresponding skill scores. Responding to these findings, MINSa is moving to establish national norms for birth attendant competency.

28. Human Resources Assessment for HIV/AIDS Services Scale-up (Rwanda). Rwanda has committed to scale up its health services for prevention, care and treatment of HIV/AIDS, including treating 100,000 with ART by 2007, but faces acute health workforce shortages. This study assessed the increase in health personnel needed to meet Rwanda's goals. Data collection and draft reports were completed in the first half of 2005, and preliminary results were reported in last year's Self-Evaluation. The final assessment (presented as three reports reflecting the study's phases) was completed this year, along with further policy analysis. One result of the study is that it will be virtually impossible to achieve the Rwanda scale-up target of 100,000 ART clients by 2007 under reasonable assumptions about workforce, HIV prevalence, and VCT uptake rates. To increase the likelihood of achieving the target, Rwanda should consider using lower-skilled workers to perform many HIV/AIDS-related tasks currently performed by doctors, high-level nurses, and high-level laboratory technicians. Another issue that needs to be monitored and managed is the demand for and throughput of programs (VCT, PMTCT, and CD4 count monitoring) that channel clients into ART services. The workforce should be balanced among the various programs to minimize the overall unmet need.

33. Tanzania: Counseling job aids and take-home materials on infant feeding for PMTCT. This intervention study aimed to improve the quality of counseling to and infant feeding practices by HIV-positive and HIV-negative mothers to be more in line with updated WHO guidelines. It developed pictorial job aids that are now used to counsel mothers of any HIV status on infant feeding options, related take-home materials for the mothers, and a counselor training course. This study evaluated the impact of the intervention on a cohort of 59 mothers and infants, 30 in the intervention and 29 in the comparison group, both HIV-positive and HIV-negative. In-depth home interviews and observations were carried out with all mothers, and a second set of home interviews was carried out with a subset. A final report is in revision. Some preliminary results: Intervention counselors used the job aids with all their clients and were enthusiastically positive about them. Mother's knowledge in the intervention group was much greater than in the comparison group. For example, 93% of the intervention mothers gave a correct operational description of exclusive breastfeeding compared to 14% of the comparison mothers; most intervention mothers (83%) said the recommended duration of exclusive breastfeeding was six months for HIV-negative mothers and HIV-positive mothers who chose to breastfeed, whereas most of the comparison mothers (93%) thought the recommended duration was shorter. Counseling quality also increased in the intervention group: 87% of the intervention mothers said they had received counseling on how to care for their breasts, compared to only 7% of the comparison mothers; 97% of intervention

mothers received a counselor demonstration (of breastfeeding or replacement feeding, depending on the mother's preference), while none of the comparison mothers did.

Computer-Based Training

The generic IMCI CBT produced at the end of Year Three was field-tested in Kenya in June and July 2005 by ARTT International, a QAP subcontractor, in cooperation with the Kenya Ministry of Health and WHO. As reported above, the study found that the effectiveness of CBT course was essentially the same as that of the standard 11-day course, but budgeted costs per trainee for the entire training (course plus follow-up) were 12% less (about \$230 less per trainee) for the CBT than for the standard course. This result of equivalent effectiveness but lower costs confirmed the findings of a previous study in Uganda that used an early version of the CBT program. The study report was completed in August 2006 and submitted to WHO and the Ministry of Health of Kenya.

The revised version of the Spanish IMCI was delivered to QAP by subcontractor Dragonfly Communications in November 2005 and then sent for review to Bolivia's Ministry of Health and QAP's consultant in Bolivia. Final revisions were prepared by the MOH and shared with QAP in April 2006. Completion of the product has been delayed by Dragonfly's dissolution.

At the same time, the Bolivia MOH expressed interest to QAP in documenting and evaluating the impact of the tuberculosis CBT developed by QAP and the MOH in 2003. The TB CD-ROM, tailored to the Bolivia national program, has been used throughout Bolivia and reproduced beyond the original 1500 copies QAP had provided. Following a visit by Jorge Hermida in February 2006, a short survey was sent to several Departmental Secretariats of Health (SEDES) to inquire as to their use of the TB CBT. SEDES in Oruro, Cochabamba, Potosi, Santa Cruz, and several networks from La Paz answered. All have been using the CBT to train doctors, nurses, and auxiliary nurses since early 2004. Even though the National TB Program published and distributed a guide for the use of the CD-ROM, there have been wide variations in the duration of training among the SEDES, ranging from a few hours to a week. While further follow-up to the use of the TB CBT in the National TB Program is not possible due to recent changes in USAID programming in Bolivia, QAP is developing a proposal with the John Snow, Inc., Services Quality of Care activity to introduce quality directly observed treatment for TB services with NGOs. This effort will involve in-service training using the CBT and continuous team-based process improvement and will include evaluation of the effectiveness of the TB CBT.

Technical Leadership

The project continues to exert technical leadership in the field of quality assurance internationally, demonstrating USAID's commitment to improving developing country healthcare systems through leadership in applying QA approaches, especially adapting the improvement collaborative methodology. During Year Four, the project published six OR reports, a technical report, and an evaluation report (see **Table 19**). All were published electronically on the project website, and most were distributed in hard copy to limited audiences.

Five articles were submitted to peer-reviewed journals during Year Four. Manuscripts on the findings from the national assessment of skilled birth attendant competence in Nicaragua and the demonstration phase results of the LAC EOC collaborative were not accepted by *The Lancet* for its maternal mortality series. The Nicaragua article is being revised for submission to the *Bulletin of the World Health Organization*. An article on the development of culturally sensitive breastfeeding counseling tools in the Tanzania's Kilimanjaro Region was accepted by the online journal *Implementation Science*, published by BioMed Central. The principal investigator of the Jamaica maternal mortality surveillance study has submitted two articles based on the study for publication. Work progressed on two other journal articles: one on the results of the four-country study on timeliness of care for obstetrical complications (third delay study) and the other on the pediatric hospital improvement collaboratives in four countries.

Table 19: QAP Technical Publications, 7/1/05–6/30/06

Operations Research Reports (Date Published)
Furth, R, R Gass, and J Kagubare. 2006. Rwanda Human Resources Assessment for HIV/AIDS Scale-up. Phase 3 Report: Staffing Implications and Scenarios for HIV/AIDS Services Scale-up (June 2006).
Burkhalter B and L Jennings. 2006. Comparison of two methods for determining provider attendance during normal labor and delivery: Results from Benin, Ecuador, Jamaica, and Rwanda (April 2006).
Furth, R, R Gass, and J Kagubare. 2006. Rwanda Human Resources Assessment for HIV/AIDS Scale-up. Phase 2 Report: Sample Site Data Collection and Analysis (March 2006).
Edson W, B Burkhalter, S Harvey, M Boucar, S Djibrina, J Hermida, P Ayabaca, M Bucagu, S Gbangbadé, and A McCaw-Binns. 2006. Safe motherhood studies—Timeliness of in-hospital care for treating obstetric emergencies: Results from Benin, Ecuador, Jamaica, and Rwanda (March 2006).
Burkhalter B, W Edson, S Harvey, M Boucar, S Djibrina, J Hermida, P Ayabaca, M Bucagu, S Gbangbade, and A McCaw-Binns. 2006. Quality of obstetric care observed in 14 hospitals in Benin, Ecuador, Jamaica, and Rwanda (March 2006).
Furth, R, R Gass, and J Kagubare. 2005. Rwanda Human Resources Assessment for HIV/AIDS Services Scale-up: Phase 1 Report: National Human Resources Assessment (October 2005).
Other QAP Reports (Date Published)
Boguslavsky V. 2005. Situational Analysis of the TB-HIV Co-Infection in Russia and Four QAP Project Regions: Samara, Saratov, Orenburg, and St. Petersburg. <i>Technical Report</i> (July 2005).
Viteri, MA. 2005. Evaluation of the Latin American and Caribbean Maximizing Access and Quality Exchange. <i>Evaluation Report</i> (July 2005).

Stephen Kinoti contributed, with Linda Tawfik, a background paper for “Working Together for Health,” the 2006 World Health Report on the healthcare workforce. The paper focused on the toll HIV/AIDS has taken on Africa’s healthcare workforce. The report summary is available at <http://www.who.int/bookorders/anglais/detart1.jsp?sesslan=1&codlan=1&codcol=24&codcch=2006>.

QAP staff also made six presentations to USAID, donor and cooperating agencies, and host country officials during Year Four, and QAP work was presented at 10 international and regional conferences. QAP had an especially strong showing at the May 2006 Global Health Council (GHC) conference, with sponsorship of one skill-building workshop, two panels, and two round table discussions. QAP reports and CD-ROMs were distributed to GHC participants at URC’s conference booth. Additional details are reported in **Table 20**.

Management of the Project Website and Collaboratives Extranet

Additional changes were made to the home page design of the project website (www.qaproject.org) and to the coding of internal pages to make the website fully compliant with accessibility standards set forth in the Americans with Disabilities Act and required under USAID branding and marking regulations.

Ya-Shin Lin traveled to Rwanda in July 2005 to train local QAP staff and facility-based teams participating in the PMTCT-VCT collaborative in the use of the Collaborative Extranet and to begin posting previously collected data and improvement reports. The manufacturer of the Instant Intranet Builder software used to create the Extranet was contracted through two small, fixed-price purchase orders to make further enhancements to the Extranet site’s look and functionality in response to feedback from users in Rwanda. During the year, 15 of the 16 original PMTCT sites entered data on the site for one or more indicators. Although additional indicators were added and team pages created for the expansion sites, only a few of the 21 expansion sites that became active in the PMTCT collaborative at the beginning of Year Four used the Extranet, most likely because of the planned closure of the PMTCT collaborative in August 2006. Extranet pages were created for the Nicaragua PHI collaborative, which will begin using the Extranet to display hospital team data in Year Five.

Table 20: QAP Technical Presentations at Briefings and Conferences, 7/1/05-6/30/06

Briefings and Presentations for USAID and Cooperating Agency Staff	
6/06: Larissa Jennings presented on QAP's experience with monitoring compliance with EOC indicators at a technical meeting sponsored by the Prevention of Postpartum Hemorrhage Initiative (POPHI) held at PATH. The meeting's purpose was to discuss the strengths and weaknesses of two indicators related to active management of the third stage of labor that the Initiative has proposed to be routinely collected from current projects of all cooperating agencies.	
6/06: Maina Boucar and Kathleen Hill presented to the Office of U.S. Foreign Disaster Assistance on "Rapid Expansion of Nutritional Recuperation Services for Children in Government Facilities during the Nigerien Food Crisis and its Aftermath" reporting on the progress to date of the OFDA-funded addition to the Niger PHI collaborative to institutionalize nutritional recuperation services within MOH facilities.	
6/06: David Nicholas, Maina Boucar, Apolline Uwayitu, Victor Boguslavsky, Kim Ethier, Festus Kalokola, and Rachel Jean-Baptiste conducted a briefing at USAID on the results from HIV/AIDS-related improvement collaboratives in Rwanda, Russia, Tanzania, and Uganda.	
4/06: David Nicholas made a presentation on the collaborative approach at the annual meeting of the CORE Group.	
11/05: David Nicholas discussed improvement collaboratives with members of the CORE Group through its Elluminate webconference series.	
10/05: Bart Burkhalter gave a talk to students at the Bloomberg School of Public Health at Johns Hopkins University on "Operations Research in QA: Past Shoulders, Present Costs, Future Speculations."	
Conference Presentations	
President's Emergency Plan for AIDS Relief, Third Annual Field Meeting, 6/06, Durban	Rachel Jean-Baptiste was invited to present the poster, "Promotion of Continuous Quality Improvement Initiatives During Rapid Scale-up of a National ART Program: The Case of Uganda." Deborah Ash was invited to present the poster, "An Innovative Training Strategy Using Job Aids to Support Infant Feeding in the Context of HIV/AIDS," presenting QAP's work in Tanzania. Donna Jacobs presented the poster, "Effective Strategies for Continuous Quality Improvement in PMTCT" on QAP's work in South Africa. Victor Boguslavsky was invited to attend the meeting as part of the official delegation from Russia.
Global Health Council, 6/06 Washington, DC	Jorge Hermida, Kathleen Hill, and Lani Marquez led the pre-conference workshop, "Implementing Best Practices in Essential Obstetric Care Using the Improvement Collaborative Approach." David Nicholas presented the paper, "The Collaborative Approach to Improving ART in LDCs," as part of A panel organized by QAP, "Knowing Is Not Enough: Applying Classic Improvement Strategies to Anti-Retroviral Therapy." James Heiby moderated the panel, which also included presentations by Bruce Agins on HIV-QUAL work in Thailand and by Pierre Barker on IHI's HIV/AIDS improvement collaborative in South Africa. As part of the QAP-led panel, Strengthening PMTCT Through Innovative Infant Feeding Counseling Tools, Peggy Koniz-Booher described how the counseling job aids were developed and tested in 2004 with the technical support of URC/QAP and USAID. WHO's Dr. Constanza Vallenias presented "WHO HIV and Infant Feeding Guidelines and Counselling Tools: Toward Global Utilization." Sebalda C. Leshabari, Muhimbili University College of Health Sciences-Tanzania/University of Bergen-Norway, presented "Operations Research to Test an Integrated Set of HIV/IF Job Aids," presenting the finding of the QAP OR study in Tanzania. Stephen Kinoti led the roundtable discussion, "Reducing Pneumonia Case Fatality in Malawi through Pediatric Hospital Improvement (PHI)." Ya-Shin Lin led the roundtable discussion, "Improving Pediatric Hospital Care," presenting the results of PHI collaboratives in four countries.
Gender, Child Survival, and HIV/AIDS: From Evidence to Policy, 5/06, Toronto	Peggy Koniz-Booher gave the plenary address, "HIV and Infant Feeding: An Update on Evidence, Recommendations and Challenges," at this international conference sponsored by York University.

Third Latin American Congress on Quality of Health Care, 3/06, Mexico City	Jorge Hermida made a plenary presentation at this joint meeting of the Latin American Congress on Quality of Health Care and the 4th National Conference of the Mexican “National Crusade for Quality” (<i>Cruzada Nacional por la Calidad</i>) on the experience of the Latin American EOC Collaborative (reducing maternal mortality is a main objective of the Mexican Government and its QA Program). During the Congress, the Latin American Society for Quality in Health Care (<i>Sociedad Latinoamericana para la Calidad en Atención de la Salud - SOMEASA</i>) was formally founded and its constitution approved. The mission of this international NGO is to promote QA in health in the region, with operational links to the International Society for Quality Assurance in Health. QAP was elected a member of its first Executive Board.
HIV/OVC Meeting, 3/06, Windhoek	David Nicholas presented a conceptual framework for looking at and thinking about quality and how to improve it within programming for orphans and vulnerable children, especially those affected by HIV/AIDS.
Third International RHINO Conference, 2/06, Chiang Rai, Thailand	Thada Bornstein made a plenary presentation entitled “Quality of Care” to explain QAP’s approach to quality monitoring at the third international meeting of the Routine Health Information Network (RHINO). The meeting’s theme was “Information for Action: Facility and Community Focus.”
American Anthropological Association Annual Meeting, 12/05, Washington, DC	Steve Harvey presented a paper on QAP’s work on the cultural adaptation of obstetric care in Tungurahua, Ecuador.
American Public Health Association Annual Meeting, 12/05, Philadelphia, PA	Mary Drake presented the paper, “Maximizing Opportunities—Collaborating for Rapid Scale-up of Quality Family Planning Services” describing Tanzania’s family planning collaborative. Stephen Kinoti presented the posters, “Scaling up Pediatric HIV/AIDS Care in Tanzania” and “An Innovative Model for Capacity Development to Implement and Expand Effective Pediatric Emergency Care,” describing the coaching support system developed in Malawi with registrars from the College of Medicine. Rebecca Furth of Initiatives Inc. made the oral presentation, “Human Resources Implications of HIV/AIDS Scale-up: The Case of Rwanda.”
International Union Against Tuberculosis and Lung Disease (IUATLD), 10/05, Paris	QAP staff led a post-graduate course on quality improvement entitled, “Quality Improvement and Treatment Adherence.” Neeraj Kak led the workshop with a presentation on quality improvement in TB. Refiloe Matji made a presentation on strategies to improve treatment adherence. Sadia Parveen presented lessons from QAP’s support in Bangladesh for expanding public-private partnerships in TB and improving supervision. Kim Ethier and Olga Chernobrovkina presented preliminary results from the Russia HIV/AIDS collaborative in the area of TB/HIV co-infection.
International Society for Quality in Health Care Conference, 10/05, Vancouver	Mandy Rose presented the paper, “Improving Pediatric Hospital Care: Affordable, Feasible, Essential.” Steve Harvey presented two papers: “Using client perspectives on quality of care to improve cultural adequacy of obstetric care and promote hospital-based childbirth in Ecuador” and “Upgrading volunteer community health worker skills in malaria diagnosis: A job aid for malaria rapid diagnostic tests (RDTs).”

3 MONITORING – Tracking of Performance

Last year’s Self Evaluation described our approach to results monitoring, which we establish in each field-based activity to build in routine tracking of compliance with standards in each QAP-assisted service delivery program. It also described the various mechanisms we use to monitor contract performance at the country and project levels, including monthly and quarterly reviews of contract activities. In Year Four, we continued to use these approaches to support local teams in 12 countries in monitoring quality as part of institutionalizing QA. This work tracks both country level and overall contract progress toward completion of planned activities and achievement of expected results.

In response to last year's feedback from the USAID Performance Evaluation Committee, we focus here on progress made this year in addressing two critical aspects of performance monitoring: validating self-assessed/self-reported data and sustainability and institutionalization of quality monitoring within routine operations.

Improving Validity of Self-Reported Data

Our approach relies on self-reported data to make the quality monitoring process feasible and sustainable in developing country health systems. In place of external evaluators, we train provider teams to collect data on quality indicators and track those indicators (often in visual displays or run charts) to show change over time. Externally led assessments, while more rigorous, are much more costly and not sustainable in most health systems. While recognizing the trade-off between statistical rigor and sustainability, it is also important to keep in mind that the purpose of facility-level quality monitoring is to allow teams to measure their own progress toward improvement—that is, to show trends rather than demonstrate statistical significance.

While QAP has found that extracting data from records and relating numerators and denominators is difficult at first for many health providers, especially in Africa, we have also seen that teams can learn to audit records for compliance with standards and can, with practice and coaching, gain proficiency in calculating and charting results. Coaches provide critical support to the quality monitoring process by reviewing data with teams, discussing any discrepancies, correcting misunderstandings about how indicators are calculated, and helping teams to gain confidence in their ability to collect and use quality data.

During this past year, we took several steps to strengthen the validity of performance monitoring data:

- Niger's PHI collaborative reformulated its indicators and revised data collection tools to focus on average adherence with case management standards, as opposed to proportion of cases treated according to all case management standards, an "all or nothing" measure. This change made the calculations easier and provided a more sensitive gauge of progress with a continuous rather than dichotomous variable.
- CQI facilitators, supervisors, and quality improvement coaches in Ecuador, Honduras, Nicaragua, Niger, and South Africa accepted responsibility for reviewing clinical records during site visits to verify reported indicator values.
- Coaches in Niger give written feedback to teams on any errors in data reporting and on areas for improvement. Teams report that they find written feedback motivating.
- More extensive baseline surveys were carried out in Niger (on EONC) and in Uganda (on ART) at the start of these two new collaboratives to draw a broad picture of how facilities are doing vis-à-vis standards of care. Routine monitoring will focus on only a sub-set of indicators. For example, in Uganda, facility teams were asked to choose, for their monthly monitoring of progress, only one indicator from each of five categories of indicators (27 indicators in all) that were developed by the collaborative core technical team. In Niger, Lot Quality Assurance Sampling was used in the baseline assessment to minimize the number of records needed to determine which areas most need improvement.
- In Rwanda, discussions at learning sessions of trends in the quality of data across teams helped to identify "system" problems—those that several teams were facing due to faulty processes at higher levels of the system.
- As part of implementing a "service strategy," quality teams in Nicaragua regularly and publicly post quality monitoring data in health facilities. This practice raises client awareness of health workers' efforts to improve quality and clients' expectations of quality service and acceptable interpersonal treatment.

- In Nicaragua, national and hospital-level teams in the PHI collaborative are tracking case fatality for severe diarrhea and pneumonia and correlating those rates with compliance with standards data as an indirect measure of the validity of performance monitoring data.

Validity of self-reported data was a main topic of discussion at the Collaboratives Learning Week held in June 2006. Staff shared approaches and problems they had experienced with validating data and made these recommendations:

- Simplify data collection tools to reduce errors.
- Correlate the indicators and look for discrepancies in data (to find errors).
- Supervisors and coaches need to audit data reported by teams during site visits sampling records from which data were taken.
- Measure process indicators monthly when a new practice is first introduced and less frequently once processes stabilize.
- Feed anomalies back to the team and have coaches use problems they find with data to motivate teams to improve their data reporting accuracy.

The new OR study on validity of self-reported data launched in Ecuador this year (discussed in section 2.1), the new one to be launched in Tanzania, and the ongoing OR study on the impact of the PHI collaborative in Niger are all expected to inform the development of systematic yet practical methods and tools for ongoing verification of the validity of data collected and reported by facility teams.

Institutionalizing Monitoring of Compliance with Standards

Institutionalization of continuous quality improvement methods in QAP-assisted countries progressed significantly during Year Four, especially in Latin America.

- The Honduras Secretariat of Health now has a Quality Coordinator position in each Departmental Health Region to monitor and support the work of CQI teams in public facilities in the region, including regular audit of compliance with standards. As part of health sector reform activities, new institutional processes for monitoring quality of care have also been introduced: formal management agreements are now being signed between regional health directorates and hospitals that transfer funds to the hospitals for quality improvement activities, based on compliance with standards. The regional health directorates conduct a quarterly external assessment of compliance with 16 indicators by each hospital and disburse funds to the hospital based on attainment of standards, as determined by the assessors' record review. A similar process is in effect whereby the Extension of Coverage Unit of the regional health directorate conducts a bimonthly assessment of compliance with standards by decentralized healthcare providers. Payments to these providers for health services provided are affected to a certain extent by the provider's demonstrated level of compliance with standards. These processes are the direct product of QAP assistance to the Secretariat.
- The indicators that QAP has promoted in Nicaragua for monitoring the quality of critical care processes for mothers and neonates have been incorporated into MINSA's official registers and reporting forms. The Directorate for Quality Control and Assurance (*Dirección de Control y Aseguramiento de la Calidad*) is responsible for promoting compliance with standards at the local level, which is measured by the quality monitoring indicators developed with QAP assistance. In each region (SILAIS), the coordinator for maternal and child health programs is responsible for reviewing facility-reported compliance data.
- In Ecuador, the MOH actively monitors data on compliance with essential obstetric care and child care standards reported by each province. A full-time MOH data analyst enters monthly reports from each province on compliance with key standards of care into a national database. The central level also provides feedback to the provinces on the data reported.

- In Niger, partograph forms used to provide delivery care did not have any place for health workers to record key elements of active management of the third stage of labor and essential newborn care, practices being scaled up there through the EONC collaborative. So as not to introduce a different form into the health system, QAP found a simple and low-cost solution: provide locally produced rubber stamps to improve the form, providing check-off reminders that will be seen during each delivery (see image at right).
- In Rwanda, the Ministry of Health's new National Policy on Quality of Healthcare calls for regular self-assessment of the quality of healthcare provided and client satisfaction by each health facility as well as periodic evaluation of the quality of health facility performance and verification/validation of the performance data collected from health facilities by district supervisors.

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respiration normale :	oui () non ()	A-1-ili crié oui ☐ non ☐		
ictère :	non () oui ()	Coloration Normale oui ☐ non ☐		
fente palatine :	non () oui ()			
Imperforation anale :	non () oui ()	Collyre oui ☐ non ☐ Vit K1 oui ☐ non ☐ Vaccins BCG ☐ POLD ☐ HB ☐ Soins ombilicaux oui ☐ non ☐		
complications à la naissance :				
Observations et thérapeutique :				

4 QUALITY – On-time Delivery and Lack of Defective Services and Products

Quality of Technical Assistance, Research, and Written Reports

In Year Four, QAP continued to demonstrate the robustness of the improvement collaborative methodology and its ability to produce measurable increases in compliance with critical standards of care for HIV/AIDS, maternal and neonatal health, life-threatening illnesses in young children, malaria, and tuberculosis. Our results in Niger, Rwanda, Nicaragua, Ecuador, and Honduras this year provide compelling evidence of the effectiveness of this approach for scaling up best practices. As noted last year, the large number of sites covered in these countries, the improvements documented in diverse systems of care, and the evidence of spread beyond initial sites attest to the effectiveness of the collaborative approach and the quality of QAP technical assistance that fostered these results. Through conference and special presentations and briefings (see Technical Leadership section for details), we have generated interest in the collaborative approach among other USAID cooperating agencies and begun plans for new collaboratives in the coming year that will be implemented by other organizations with QAP technical assistance or as joint efforts.

USAID Missions have recognized the value added by QAP to their country portfolios and this past year increased funding to QAP in Honduras, Nicaragua, and Russia. (See **Box 2** for Mission feedback.)

Box 2. Feedback from USAID Mission Staff on the Quality of QAP Assistance and Products

"I just attended a report from an assessment in Kilimanjaro area to assess peds HIV care. Despite all the bad news, one good piece of news they brought back was that the URC infant job aids were at every level facility they visited! Well done."

- Quality of Care & Service
Delivery Specialist,
USAID/Tanzania, June 7, 2006

"Dear friends, This is just a note to say thank you for your absolutely outstanding work and dedication. The most important thing is that the regions highly value collaboration with you in their struggle with HIV/AIDS problems. The progress in thinking and actions in all four sites is extremely impressive."

-- Project Manager,
USAID/Russia, June 28, 2006

In Honduras, QAP's track record of effective technical assistance to the Secretariat of Health, success in institutionalizing QA approaches within regional health services, and innovative proposals for integrating quality within health sector reform initiatives led USAID/Honduras to substantially expand QAP's scope of work in FY06 and increase funding to the project by over 400%. In Nicaragua and Russia, Missions asked QAP to expand work to new technical areas (HIV/AIDS and family planning, respectively).

The results achieved through the PHI collaborative in Niger, one of the poorest and most resource-constrained countries in the world, persuaded another USAID office, OFDA, of the soundness of investing disaster response funds to piggyback onto QAP's ongoing work to establish new nutritional recuperation services in the Nigerien public health system. By leveraging the capacity for improved pediatric care developed among local MOH staff through the PHI collaborative and through strong partnerships with NGOs and UNICEF, QAP is helping the Ministry of Health of Niger to develop long-term capacity for nutritional recuperation of severely malnourished children.

Program materials developed with QAP assistance have received widespread recognition both within and outside the country of production. The high quality of the HIV and infant feeding job aids developed in Tanzania led to QAP assistance in adapting and field testing them this year in Uganda and Zimbabwe. Within QAP country programs, we have also successfully adapted tools and products developed in one country for use in others. Examples of our efforts to leverage USAID investment to benefit multiple countries this year include adaptation of the Tanzania infant feeding job aids for use in Benin and Niger and adaptation of our SBA competency assessment tools for use in Nicaragua and Niger. We also published a manual on cultural adaptation of delivery care with the Ministry of Health of Ecuador and Family Care International, which will be disseminated to health facilities throughout Ecuador. The manual was developed based on the demonstration of cultural adaptation of delivery care in Tungurahua Province in Year Three.

Responsiveness and Timeliness

The staff of QAP, both at headquarters and in field offices, takes pride in being highly responsive to USAID priorities and directives. This year, we worked closely with counterparts and USAID Missions to adjust and/or expand workplans to respond to major shifts and additions in scope of work that were instigated by Missions in South Africa (change in criteria for assisted facilities), Russia (addition of family planning component and phase-out of activities in two oblasts), Honduras (addition of health sector reform, family planning, and maternal and child health components), and Nicaragua (addition of HIV/AIDS component).

We continue to follow very closely all guidance from USAID on branding and marking requirements, and this year completed a thorough review of the structure and individual web pages of the project website to ensure compliance with all accessibility provisions mandated by the Americans with Disabilities Act.

While the project's major annual deliverables to USAID—the annual report and annual workplan—were submitted on time in Year Four, we continued to experience a delay in completing the Spanish version of the IMCI CBT CD-ROM. Our small business subcontractor, Dragonfly Communications, delivered the revised Spanish language product to us in November 2005, four months behind schedule. We submitted the product to the Bolivia's MOH the same week, but did not receive changes from them until April 2006. Since that time, Dragonfly has gone out of business. We are currently in negotiations with the former President of Dragonfly to try to find alternative means of completing the product. Delays in receiving the data from the field test of the IMCI CBT in Kenya from subcontractor ARTT also delayed the launch of the IMCI CBT product. Data were not received until the spring of 2006, 10 months after the field work was completed. We finally published the results of the Kenya CBT field test in August this year and have now developed a manual to orient users to the features of the IMCI CBT product and how it can be integrated within pre-service and in-service training of health workers. Both cases show the trade-off of working with businesses with limited staff/resources, although like the USG we continue to be committed to supporting small enterprise and use them for couriers, travel, and other services.

5 MANAGEMENT – Effective and Efficient Management of Resources

Effective Coordination of Technical Activities

The project continues to exercise the mechanisms described in last year's Self Evaluation to share information, results, and lessons across project activities (i.e., monthly priority-setting meetings, quarterly review meetings, brown bags, and short email updates following trips and major events). These channels help ensure that all staff, including field and subcontractor staff, have a shared understanding of contract priorities and are aware of and able to learn from work at other project sites. In addition, the Project Director and the AID Project Manager meet weekly for three hours to review progress, problems and the latest AID guidance. A project maternal care group and a child care group meet regularly and communicate with interested field sites to discuss new technical advances and to coordinate work among countries.

Increasing Efficiency

Again in Year Four, QAP realized increased use of local resources for our field operations. For the first time in project history, host country national (HCN) labor and benefit costs exceeded headquarters (HQ) staff spending, as follows:

Year 1: 22% of project spending was for HQ salaries and 6% for HCN labor and benefits.

Year 2: 19% of project spending went toward HQ salaries and 10% toward HCN labor and benefits.

Year 3: HQ staff represented 17% of project spending, while HCN labor and benefits comprised 15%.

Year 4: HQ staff represented 15% of project spending, while HCN labor and benefits comprised 17%.

Meriting recognition, in particular, is the QAP Honduras office. As a result of their technical expertise as well as willingness to take on additional work, the field staff expanded from three full-time personnel at the end of Year Three to a current staff of 19. QAP's programs in South Africa, Tanzania, Uganda, Russia, and Nicaragua all expanded their activities and their HCN technical staff in Year Four.

We continue to utilize other locally available expertise whenever possible rather than send external consultants, opting to subcontract with local organizations to provide technical support for specific activities. We continue working with COUNSENUTH in Tanzania for infant feeding training and identified a local printing firm in Uganda to produce Uganda-specific infant feeding job aids.

As an indication of the extent to which project implementation is undertaken at the field level, by established field offices, for the whole of Year Four, field expenditures represented 64% of all project expenditures. Even more interesting is that for the first six months of Year Four, field expenditures represented 60% of project expenditures. For the second half of Year Four, field expenditures represented 67% of project expenditures. We expect this trend to continue through Year Five.

The project continues its electronic dissemination of trip and technical reports, either via email or postings on the QAP website. Reports generated in the U.S. are now entirely produced in-house, with our only call for outsourced print jobs being poster presentations or lamination of job aids. We have also begun expanding use of voice-over-Internet to reduce long-distance charges.

Use and Effective Integration of Subcontractors

In Year Four, the project decreased its use of small businesses and subcontractors as compared to Years Two and Three. Our significant collaborative evaluation activity is largely directed and carried out by a small, woman-owned business, Encompass. While we continue to also rely on small businesses to meet many of our operational needs (travel arrangements, couriers, computer supplies, document translation,

CBT programming, and short-term technical assistance), the demand for these services has decreased, largely because more expenditures take place in the field.

Cost Control

The cost control mechanisms mentioned in the last year's Self Evaluation continue to yield savings. We continue to operate within or under budget and can therefore consistently carry out more activities than originally set forth in annual workplans. The area of most significant cost control making additional funds available for direct project activities is URC's indirect cost savings. URC's indirect rates are among the lowest of AID contractors; nevertheless, URC has achieved cost savings in its indirect costs and has returned funds to all its projects, including QAP.

We continue to require three competitive bids for all purchases exceeding \$500. We closely monitor proposed expenditures requiring either purchase requisitions prior to purchases or, in the case of field offices, monthly expenditure projections that detail expected purchases by description and price.

6 COLLABORATION – Effective Collaboration and Coordination

Close collaboration with national and international implementing agencies is a hallmark of QAP work in our long-term country programs and a feature of the improvement collaborative approach, which brings different organizations together to share what they are learning to improve a specific system of care. In most of our collaboratives, a national level steering committee charged with oversight of the collaborative includes representatives from leading technical cooperation agencies working in that country. We invest in organizing these steering groups in order to develop consensus on goals and strategies and to incorporate best practices of other organizations in the collaborative's technical content. Both in collaboratives and in country technical assistance not involving a collaborative, we strive to leverage the resources USAID has channeled through QAP to achieve the greatest impact for the country by working with other partners and funding agencies.

Examples from our field work in the past year include:

- In Nicaragua, QAP continued to work closely and co-sponsor activities with UNICEF, the Pan American Health Organization (PAHO), CARE, UNFPA, Nicasalud Federation, and Management Sciences for Health. UNICEF, PAHO, and UNFPA have channeled resources into the creation of clinical training centers for EOC and pediatric care in selected SILAIS hospitals to replicate the training center model developed with QAP assistance. In the area of HIV/AIDS, QAP has worked closely with the other three USAID cooperating agencies in Nicaragua—DELIVER, the Pan American Social Marketing Organization (PASMO), and the regional *Proyecto Acción SIDA Centro América* (PASCA)—to jointly advise MINSA on HIV/AIDS standards and indicator development and to design and implement training activities in the local health systems.
- In Russia, QAP worked with American International Health Alliance and the Healthy Russia 2020 Project to implement training workshops on HIV counseling in the four intervention regions. QAP also worked with John Snow, Inc., to apply training and counseling materials developed under USAID's Maternal and Child Health Initiative in the new family planning collaborative. Although QAP directly supports activities in only a few oblasts, we work closely with the Federal AIDS Center and Federal TB Health Care Delivery Center for HIV-infected Patients of the Ministry of Health and Social Development in the design of improvement strategies supported through the collaborative. Federal authorities served as content experts in the HIV-TB Round Table and inter-regional learning sessions held this year, as did representatives from the lead technical agencies supporting AIDS and TB projects in Russia: WHO, CDC, the Open Health Institute, and the Russian Healthcare Foundation. Stemming from this collaboration, QAP was invited to participate in trainings for Global Fund Round Four regions to share specific improvements that have been introduced through the collaborative.

- In Niger, we have partnered with UNICEF and two international NGOs (the faith-based organization, Islamic Relief, and Helen Keller International) to strengthen capacity of regional and district hospitals to offer nutritional recuperation services. The NGOs have experience establishing nutritional recuperation centers as part of disaster relief.
- In Uganda, QAP's work is subsumed under the Ministry of Health-led National Quality of Care Initiative. Our behind-the-scenes contributions have been critical in developing a technical leadership structure for improving the quality of all HIV/AIDS services in Uganda. QAP and the Regional Center for Quality in Health Care helped the MOH to create a steering committee that brings together all key HIV/AIDS partners working in Uganda, including CDC, DELIVER, and EGPAF.

In several countries this past year, QAP's technical inputs leveraged financial contributions from other agencies to fund implementation and scale-up of quality improvement activities. In Ecuador, UNFPA funded all local costs for training facility teams in five provinces in continuous quality improvement and in clinical management of obstetric complications, including the purchase of training mannequins and covering the travel and per diem of QAP trainers. QAP also worked closely with Family Care International and Ecuador's MOH to develop this year the manual on cultural adaptation of delivery care, which grew out of the series of workshops we implemented together in Tungurahua Province in Year Three. In Nicaragua, UNICEF contributed \$25,000 last year to support the PHI collaborative. In Niger, UNICEF is contributing in-kind resources to the nutritional recuperation centers being created with QAP technical support.

At the global level, we continued to provide expertise in quality improvement and specifically in the implementation of collaboratives to members of the CORE Group. We developed a joint request for proposals with the CORE Group to implement a community-level improvement collaborative. The selected proposal, by Plan International, will implement a community-based malaria prevention collaborative in Benin, and QAP will assist the Plan team in Benin in Year Five.

We contributed expertise in quality monitoring and improvement to the Routine Health Information Network (RHINO) conference in Thailand in February 2006 and to a meeting of USG cooperating agencies working in OVC programming in Namibia in March. We also worked closely with the Partners for Health Reform Plus and Rational Pharmaceutical Management Plus projects this year to refine the Health Systems Strengthening Assessment tools and apply them in Angola and Benin. With the new Prevention of Postpartum Hemorrhage Initiative, we shared our experiences with measuring and spreading AMSTL through our EOC collaboratives; we have since incorporated Initiative tools and indicators into our work in Niger and Benin.

We also participated actively in consultative meetings of the STOP-TB Secretariat on strategies for public-private mix and laboratory strengthening in DOTS expansion. We again conducted a training workshop on TB quality improvement at the IUATLD annual meeting in October 2005. With WHO, we continued our long-standing collaboration on pediatric hospital improvement and malaria rapid diagnostic tests. A new malaria RDT activity was carried out jointly with WHO in Zambia in 2006. We also worked closely with the WHO office in Bangladesh to develop the strategy and training course on strengthening monitoring and supervision of DOTS.

7 Opportunities for Improvement and New Directions

While this document focuses on our results and achievements in Year Four, we have identified as part of our Self Evaluation exercise several key results areas that will be priorities in Year Five.

1. Complete and disseminate the findings of field evaluations and cross-country analyses of QAP-supported collaboratives

The international meeting of collaborative teams in June 2006 and the field evaluations of QAP-supported collaboratives initiated in August have begun to generate valuable insights about how to best apply the

collaborative approach in low- and middle-income countries and how to maximize collaboratives' results. These analyses will be completed in Year Five and the results presented in a series of papers for country policy makers and technical cooperation agencies.

2. Document the sustained results of improvement collaboratives and how quality assurance interventions have become institutionalized in focus countries

USAID has invested in promoting the institutionalization of quality assurance through QAP and other projects, and indeed quality assurance has become a mainstreamed health systems strengthening approach. QAP is positioned in several countries to document how improvement activities focused on key health services can be integrated into routine activities and supervised and supported by MOH provincial and district staff without donor support. In Year Five, we will document these experiences and specific examples of quality monitoring tools that have been adopted by Ministries of Health and NGOs. We will also carry out research in Honduras to document the impact of performance-based contracts and decentralized management schemes on health services quality. We will examine these programs from the perspective of their influence on institutionalizing QA functions.

3. Complete and disseminate collaborative guidelines, tools, and training materials to facilitate mainstreaming of the collaborative approach

Work begun in Year Four to define the core principles and steps in developing and managing collaboratives and to create training courses on improvement collaboratives will be completed and applied with NGOs and other cooperating agencies in Year Five. This effort will enable other USAID partner organizations to benefit from QAP's experience in this new field and spread the use of the collaborative approach beyond this project. Publication of the results of field evaluations of QAP collaboratives, a priority in Year Five, will also stimulate interest in the collaborative approach.

4. Continue to expand work to integrate clients and communities in improvement activities and document these experiences

In Year Four, the project strove to increase client involvement in quality improvement and linkages between improvement activities and community organizations/clients in Ecuador, Honduras, Russia, South Africa, and Tanzania. We will continue to strengthen community linkages in Year Five in these and additional countries, particularly to enhance the continuum of care for children and adults with HIV/AIDS. A new collaborative focused on community-level services is planned for Benin in Year Five. We will also step up efforts to document and disseminate the results of these experiences.

5. Develop/produce a monograph on "Assuring the Quality of ART"

Based on our work and that of other organizations, we will synthesize a monograph on assuring the quality of ART. This would include issues, challenges, strategies, practical activities, tools, and indicators and methodology for measuring quality at facility and community levels.

6. Publish results in peer-reviewed journals

Two manuscripts were submitted last year to *The Lancet* on the results of the project's regional EOC collaborative in Latin America and work to improve the competency of skilled birth attendants. While neither was accepted, we will redouble our efforts in Year Five to generate a larger number of quality manuscripts on the results of collaboratives in different clinical areas and countries and on the adaptations of the collaborative approach itself to the conditions in developing country health systems. We will also seek publication in a more diverse body of international health journals to increase likelihood of acceptance.

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