ASSESSMENT OF DRC’s INTEGRATED HEALTH SERVICES PROJECT

DISCLAIMER
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### ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AC</td>
<td>Administrative council</td>
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<tr>
<td>ACBEF</td>
<td>Association Congolaise Pour le Bien Être Familial (Congolese Association for Family Wellbeing)</td>
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<tr>
<td>ACT</td>
<td>Artemisinin-based treatment (for malaria)</td>
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<td>AIDS</td>
<td>Acquired immune deficiency syndrome</td>
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<td>AMTSL</td>
<td>Active management of the third stage of labor</td>
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<td>ANC</td>
<td>Antenatal care</td>
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<td>ARV</td>
<td>Antiretroviral drugs</td>
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<td>AZT</td>
<td>Azido-thymidine</td>
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<td>BASICS</td>
<td>Basic Support for Institutionalizing Child Survival</td>
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<tr>
<td>BCC</td>
<td>Behavior change communication</td>
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<tr>
<td>BDOM</td>
<td>Bureau Diocésain des Oeuvres Médicales (Diocesan Office of Medical Interventions)</td>
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<tr>
<td>CA</td>
<td>Cooperative agreement</td>
</tr>
<tr>
<td>CDC</td>
<td>U.S. Centers for Disease Control and Prevention</td>
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<tr>
<td>C-IMCI</td>
<td>Community-based integrated management of childhood illnesses</td>
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<tr>
<td>CODESA</td>
<td>Comité de Développement et Santé (Health and Development Committee)</td>
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<tr>
<td>COGE</td>
<td>Comité de Gestion (Management Committee)</td>
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<tr>
<td>COPE</td>
<td>Client-Oriented, Provider Efficient (a participatory, auto-evaluative quality improvement approach developed by EngenderHealth)</td>
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<td>CORDAID</td>
<td>Catholic Organization for Relief and Development Aid</td>
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<td>CRS</td>
<td>Catholic Relief Services</td>
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<tr>
<td>CPR</td>
<td>Contraceptive prevalence rate</td>
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<td>CREDES</td>
<td>Centre de Recherche D’Étude et de Documentation en Économie de la Santé</td>
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<tr>
<td>CYP</td>
<td>Couple years of protection</td>
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<tr>
<td>DHS</td>
<td>Demographic and Health Surveys</td>
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<tr>
<td>DOTS</td>
<td>Directly observed treatment strategy short-course</td>
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<tr>
<td>DPT</td>
<td>Diphtheria, polio, and tetanus</td>
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<tr>
<td>DRC</td>
<td>Democratic Republic of Congo (also DR Congo)</td>
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<tr>
<td>ECC</td>
<td>Église du Christ au Congo (Protestant Church of Congo)</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>FANC</td>
<td>Focused antenatal care</td>
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<td>FBO</td>
<td>Faith-based organization</td>
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<td>FED9</td>
<td>9th European Development Fund</td>
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<td>FEDECAME</td>
<td>Fédération des Centrales de Distribution de Médicaments Essentiels (Federation of Essential Drug Procurement Agencies)</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>NTLP</td>
<td>National Tuberculosis and Leprosy Program</td>
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<td>ORS</td>
<td>Oral rehydration salts</td>
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<td>PARSS</td>
<td>Programme d’Appui à la Réhabilitation du Secteur Santé (Health Sector Rehabilitation Support Project of the World Bank)</td>
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<tr>
<td>PCR</td>
<td>Polymerase chain reaction</td>
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<tr>
<td>PEPFAR</td>
<td>President’s Emergency Plan for AIDS Relief</td>
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<td>PHC</td>
<td>Primary health care</td>
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<td>PEV</td>
<td>Programme Élargi de Vaccination (Expanded Program of Immunization)</td>
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<tr>
<td>PLWHA</td>
<td>Persons living with HIV/AIDS</td>
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<tr>
<td>PMP</td>
<td>Performance monitoring plan</td>
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<tr>
<td>PMTCT</td>
<td>Prevention of mother-to-child transmission (of HIV)</td>
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<td>PNLMD</td>
<td>Programme National de Lutte contre les Maladies Diarrhéiques (National Diarrheal Disease Program)</td>
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<tr>
<td>PNLP</td>
<td>Programme National de Lutte contre Le Paludisme (National Malaria Program)</td>
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<tr>
<td>PNLS</td>
<td>Programme National de Lutte contre le SIDA (National AIDS Program)</td>
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<tr>
<td>PNLT</td>
<td>Programme National de Lutte contre la Tuberculose (National TB Program)</td>
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<tr>
<td>PNSA</td>
<td>Programme National de Santé des Adolescents (National Adolescent Health Program)</td>
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<td>PNSR</td>
<td>Programme National de la Santé de la Reproduction (National Reproductive Health Program)</td>
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<tr>
<td>PNTS</td>
<td>Programme National de Transfusion Sanguine (National Blood Safety Program)</td>
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<tr>
<td>POPPHI</td>
<td>Prevention of Post-Partum Hemorrhage Initiative</td>
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<tr>
<td>PPP</td>
<td>Public-private partnership</td>
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<tr>
<td>PPPY</td>
<td>Per person per year</td>
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<td>PRONANUT</td>
<td>Programme National de Nutrition (National Nutrition Program)</td>
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<td>PSI</td>
<td>Population Services International</td>
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<tr>
<td>RBM</td>
<td>Roll Back Malaria</td>
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<tr>
<td>RH</td>
<td>Reproductive health</td>
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<tr>
<td>SANRU</td>
<td>Santé Rurale (Projet Santé pour Tous en Milieu Rural)</td>
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<td>SDP</td>
<td>Service delivery point</td>
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<td>SNHR</td>
<td>National Rural Water Service</td>
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<td>SNIS</td>
<td>Système National d’Information Sanitaire (National Health Information System)</td>
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<tr>
<td>SRSS</td>
<td>Stratégie de Renforcement du Système de Santé (Health System Strengthening Strategy)</td>
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<tr>
<td>STI</td>
<td>Sexually transmitted infections</td>
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<td>TA</td>
<td>Technical assistance</td>
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<td>TB</td>
<td>Tuberculosis</td>
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<td>TOT</td>
<td>Training of trainers</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>TT</td>
<td>Tetanus toxoid vaccination</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNC</td>
<td>University of North Carolina</td>
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<td>UNDP</td>
<td>United Nations Development Program</td>
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<td>UNICEF</td>
<td>United Nations Children's Fund</td>
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<td>UNFPA</td>
<td>United Nations Fund for Population Activities</td>
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<tr>
<td>USAID</td>
<td>US Agency for International Development</td>
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<tr>
<td>USG</td>
<td>US Government</td>
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<tr>
<td>VCT</td>
<td>Voluntary counseling and testing</td>
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<td>WB</td>
<td>World Bank</td>
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<td>WHO</td>
<td>World Health Organization</td>
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<td>WVI</td>
<td>World Vision International</td>
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EXECUTIVE SUMMARY

The USAID/Kinshasa-funded Integrated Health Services AXxes Project was assessed in March and April 2009 by the Global Health Technical Assistance Project to understand the outcomes, achievements, constraints, and gaps of this three-year, $42 million comprehensive integrated primary health care (PHC) project implemented in the Democratic Republic of the Congo (DRC) by a consortium of faith-based implementing partners (IPs) including CRS (Catholic Relief Services); WVI (World Vision International); ECC (the Church of Christ in the Congo); and IMA (Interchurch Medical Assistance), the lead partner. USAID/Washington, USAID/Kinshasa, and independent PHC specialists visited health facilities and communities in three health zones (HZs) in the Kasai provinces, interviewed USAID, project, other donor, and Ministry of Health (MOH) staff, and reviewed project documents.

The AXxes Project covers a population of 7.2 million people in 4 provinces and 57 health zones served by 929 health facilities. Strategically, it follows the government of the DRC (GDRC) Strategy for Reinforcing the Health System (SRSS) policy of providing an integrated minimum package of activities. Project Component A aims to increase access to, quality of, and demand for multisectoral, integrated PHC services. The project is also designed to increase the capacity of the HZ and referral system (Component B) and management of national and provincial health programs (Component C).

The assessment team concluded that in general the AXxes Project has made good use of its resources to implement a multidimensional and challenging initiative. Despite insufficient resources to sustain and expand coverage of all elements of the ambitious program to all targeted health areas (HAs), and despite significant obstacles, the project has in a relatively short time successfully made the transition from humanitarian relief to development-oriented assistance. The solid experience, respect, and connections of the IPs have enabled them to navigate the difficulties more effectively than organizations less well-recognized in the DRC. The strategic decision to support the official GDRC PHC strategies and systems, while causing some delays and other problems, has allowed the project to put in place systems fundamental to integrated PHC delivery that favor sustained increases in access to quality PHC services, thus maximizing the return on investment. The project management team has recognized many of the fundamental quality problems found in nearly all aspects of the project and is addressing them in Year 3 activities. Most can be resolved with intensive and consistent formative follow-up and supervision and by sustained technical assistance (TA) at all levels. The project has leveraged substantial supplemental resources to augment USAID funding. The AXxes project compares favorably with other donor PHC projects in the DRC in terms of delays at project start-up, cost per HZ covered, quality of care improvements at the health facility level, training of personnel, strengthening of provincial management systems, and community mobilization.

Severe economic, geographic, infrastructure, and management constraints inherent in the macroeconomic and governance realities of the DRC and of the donor community undermine the efficiency and effectiveness of all donor programs. Among them are severe poverty; costly, dangerous, and unreliable transportation; continuing insecurity in some areas; widely dispersed implementation zones; and high staff turnover caused by low morale. Such problems cause logistical delays, drug stock-outs, financial management inefficiencies, low health service utilization rates, and quality of care issues. Although the project has developed creative strategies to address many of these problems, they need to be considered in any future program strategies, budgets, staffing patterns, and schedules.

National, provincial, and zone-level health management systems are supported within AXxes through short- and long-term TA on strategic and operational planning; systems design,
implementation, and monitoring and evaluation (M&E) of technical and systems components; strategy and policy development; standardization of tools (including treatment protocols, algorithms, and behavior change communication [BCC] materials); and related training. AXxes is one of only a few donor partners to be invited to sit at the table with government officials in many national health policy and strategy forums.

The project focuses its central level TA on increasing the capacity of the PHC (5th) and Fight Against Disease (4th) divisions of the MOH as well as the following national programs: the Expanded Program of Immunization (PEV); the National Nutrition Program (PRONANUT); the Program for Integrated Management of Childhood Illness; the National Programs Against HIV/AIDS (PNLS), Tuberculosis (PNLT), Malaria (PNLP), and Diarrheal Disease (PNLMD); and the National RH (PNSR) and Blood Safety (PNTS) Programs. Assessment team field visits confirm that, for most technical areas covered by the project, national policies, guidelines, protocols, algorithms, and information tools are appropriate, and health provider knowledge of them is generally high.

Similarly, the project follows, and has contributed to, evolving pharmaceutical supply, health care financing, supervisory, and data management systems. Operational problems continue to plague each of these to varying degrees, either in general or in certain provinces and HZs. This suggests a need for more sustained technical support and follow-up at all levels. It is crucial to strengthen TA to the provinces so as to further operationalize technical policies, strategies, and systems initiatives (drug management and information systems) so that quality is improved.

Project training and technical support has significantly increased HZ management capacity. Monthly and annual action planning and activity-specific micro-planning are routine. Administrative councils are functioning in almost all HZs. Reinforcement of public-private partnerships (PPPs) in HZs where local faith-based organizations (FBOs) have a significant role has also been important. However, the planning process would be improved by more attention to analysis of results and increased input by HZs into the budgetary process.

To achieve basic HZ functionality the project has renovated 218 health facilities and provided them with logistical and technical supplies and equipment. Each HZ receives an average of $160,000 annually to cover recurrent costs. Current funding is not performance-based, but this should be considered to stimulate improved access to services, especially preventive and community-based services.

By the end of Year 2, approximately 70% of HZs had adopted an “episodic” cost recovery system designed to recoup 60% of the value of medicines received, but a high proportion of HCs were unable to meet their cost recovery targets, many returning less than 20% to the drug depots. In response, AXxes has reduced the cost recovery objective from 60% to 30%. Reintroduction of fee-for-service seems to have significantly suppressed utilization rates. Consideration should be given, possibly as a pilot exercise, to a sliding fee scale reflecting ability to pay, with one category designated for indigents who clearly cannot pay and have life-threatening conditions.

Despite intensive efforts, drug supply and management issues have been the single greatest challenge faced by the AXxes Project and continue to hinder attainment of project objectives. The problems are multiple, interactive, and complex. They are not amenable to simple solutions. The project made the strategic decision to use the national FEDECAME drug management system to channel drug distribution, which strengthened regional drug management capacity. Credit lines were established for each HZ depot, but chronic and serious stock-outs have resulted because HZs had little capacity to work through the regional depot system, depot management systems are below par, and there are inadequacies in the project supply process. A detailed analysis is needed to identify the pressure points that most affect system effectiveness and are most amenable to project interventions.
Project investments in training are much appreciated. Over 24,000 individuals have participated in a training activity. While not always translated into practice, knowledge and understanding of project management and technical components seem generally to be high. Refresher training, post-training follow-up, self-evaluation approaches, and more focused formative supervision are recommended to turn knowledge more consistently into practice and to address staff turnover. Personnel morale issues need to be addressed systematically and creatively.

The AXxes project has successfully put in place a community structure, including community management groups (Comités de Développement de la Santé: CODESAs) and volunteers (relais), that complements and supports the formal health structure. Strengthening the CODESAs should be a priority to complement HZ revitalization, especially development of income-generating activities (IGAs). To help them become more effective, volunteers need additional training, monitoring and support, and materials.

The project’s comprehensive and well-conceived supervision system reaches from the national to the health facility level. It provides regular feedback to staff at all levels. The system now needs to be reinforced to function throughout as an effective quality improvement mechanism.

The AXxes Project has done substantial work to upgrade both routine health (SNIS) and project-related information collection, processing, and use at national, provincial, HZ, and health facility levels. There is a sustained effort to monitor and improve data quality, but it is a continuing challenge. Information use is poorest at the health facility level. At all levels use of data for decision making should be strengthened.

The AXxes Project is distinguished by intensive support at the HZ and health facility levels to improve access to, the quality of, and demand for PHC services. Utilization of curative services is only about 35%. Preventive services (including growth monitoring, vaccinations, pre- and postnatal services, and family planning (FP) counseling) are widely provided at no charge. The project has supported disease surveillance at the HZ level. The MOH has developed many technical policies, but health facility case management does not always conform sufficiently to the official guidelines: there are major technical weaknesses in some programs (PMTCT, FP, nutrition). Well-organized and well-structured BCC initiatives are needed in all technical areas.

FP is one of the weakest AXxes components. The project reported integration of FP activities into 864 HCs of the 929 HAs covered by the end of project Year 2, surpassing project targets, and training of over 1,600 nurses and HZMT members. Comprehensive national policies exist. However, contraceptive prevalence and CYP (couple years of protection) are still low. Only in the hospitals where antenatal care is provided and where FP is addressed after delivery was there any evidence that FP has been integrated. Continuing TA by experienced consultants needs to be incorporated into the program design.

FP needs to be repositioned in the DRC. FP messages could be tied to other issues, such as climate change, poverty, water, economic development, food security, women’s rights and gender, maternal mortality, and education, as well as health. Consideration should be given to introducing a partner organization that specializes in comprehensive FP services.

Gender-based violence and fistula repair are addressed in a few sites through grants to local nongovernmental organizations (NGOs). Future efforts within AXxes should be limited to consolidating and improving the quality of current activities rather than expansion. Gender issues should be incorporated into all training of health professionals.

The AXxes Project has a sound and successful system for antenatal care (ANC) in HCs and hospitals and for postpartum care in hospitals. Training, equipment, and supplies have been provided to HCs, HZs, and GRHs. Continued emphasis on quality improvement is recommended.
as is building up community support of antenatal and postnatal care by introducing “birth plans” in communities.

In the DRC integrated management of childhood illnesses (IMCI) is referred to as a minimum package of activities (MPA) that each functioning HC is expected to provide for children. IMCI-related drugs, including ORS (oral rehydration salts), ACT (artemisin-based treatment), and antibiotics are available at all HCs. Community-based IMCI (c-IMCI) will be further expanded this year with TA from the USAID project Basic Support for Institutionalizing Child Survival (BASICS).

Project nutrition-related interventions are currently (and appropriately) limited to just a few: promotion of exclusive breastfeeding, vitamin A supplementation, iron and folic acid supplementation for pregnant women, promotion of zinc supplementation for diarrhea, and growth monitoring. The Director of PRONANUT was highly complimentary of the project’s vitamin A efforts. Consideration should be given to identification or development of a locally made child food supplement (perhaps peanut-based) for undernourished children. Nutritional support for people living with HIV and AIDS (PLWHA) also deserves special attention.

AXxes has provided substantial support for routine immunization and vaccination campaigns. Its prime role has been in coordination, planning, training in surveillance, and logistical support, including cold-chain strengthening. Goals for vaccination initiatives have to be more clearly delineated and coordinated more closely with the Expanded Program of Immunization and other implementing partners. Targeted interventions are required to improve performance in weaker HZs.

Progress in prevention of mother-to-child HIV transmission (PMTCT) has lagged due to time and logistical constraints, including finalization of national guidelines and workplan approval and a widespread nursing strike that severely limited the availability of staff to participate in training and ultimately provide services. Services were especially limited in the Lodja District, where a 2006 GDRC ANC surveillance study found the highest HIV prevalence in the country at 6.9%. A more extensive and representative assessment of AXxes-supported PMTCT services might be conducted by a joint team of MOH, USAID, CDC/UNC, and AXxes staff (and possibly other donors) to verify the extent of the problems identified in this assessment. It is also suggested that the USAID/Kinshasa HIV/AIDS Program Management Specialist make frequent site visits to understand clearly how the programs are running. Immediate, intensive support to Lodja sites is essential to bring training, supervision, and supply chain management, including commodity forecasting, up to speed. Treatment, care and support, and nutritional support services need to be enhanced. Sites need training and close supervision in collecting, analyzing, and making corrections based on data analysis.

Creative approaches to improving health worker morale are necessary. Community education, including formation of PLWHA or PMTCT support groups, should also be a priority, as should working with a partner with significant experience in drafting and disseminating technically accurate and culturally appropriate information, education, and communication (IEC) materials. Appropriate medical waste disposal needs urgent attention. Medical waste is not properly collected, handled, or disposed of, creating unsafe work and community environments and a potential for accidental exposure for staff and community members.

Blood safety interventions have progressed well over the past two years, but more follow-up is needed to assure the quality of laboratory work and recruit volunteer blood donors.

All HCs are tuberculosis (TB) treatment centers. Understanding TB protocols extends down to the lowest levels of service. TB-DOTS is implemented through volunteers. Overall, TB treatment
and detection rates are high (88% and 80%, respectively). Each quarter 2,000 new cases are being identified. This will pose significant challenges in terms of supplying the necessary drugs. A TB flip chart is needed to support community awareness, care-seeking, and treatment compliance. Educated community members (e.g., teachers, chiefs) have been brought into the DOTS program to monitor treatment completion. Use of volunteers should be considered where educated community members are not available or accessible.

The AXxes project has done impressive work as part of the Roll Back Malaria strategy. HC personnel repeatedly reported a reduction in malaria cases. An important issue is getting enough bednets; the supply needs to be greatly increased. The project should either revise the current strategy to provide long-term insecticide-treated nets (LLINs) only to pregnant women during ANC or increase the budget for LLINs to adequately cover both vulnerable groups. The project should also explore the potential of bednets as an income-generating mechanism. And it would be useful to investigate how bednets are actually used and their lifespan in actual home-use circumstances. Community education should be intensified to address bednet use. Finally, the supply of malaria drugs at depots needs to be sufficient to assure that stock-outs do not occur at health facilities.

AXxes water and sanitation activities are currently limited to development of 280 springs, construction of community and HC latrines, and implementation of UNICEF’s “Village Assaini” (Sanitary Village) strategy in 212 villages in 9 HZs. The AXxes project should not expand its current water source and latrine activities. Instead, community hygiene education should be reinforced, concentrating on priority home and community behaviors.

An effort was made to define and measure project indicators in ways comparable to official USAID indicators. The project undertook routine monitoring through periodic data collection using standardized forms and other tools. Indicators for institutions that could not be easily tracked through routine service statistics were measured through other means, such as a community knowledge practice coverage (KPC) study. Periodic evaluations were undertaken to assess how well new strategies had been introduced. An end-of-project KPC study is recommended, using the same sampling strategy and data collection tools, as a basis for evaluating project contributions to improved access to and demand for services.

The assessment team strongly recommends that to consolidate the gains made in building up systems, over the next two to three years USAID should largely sustain its current interventions in the current HZ and HAs. The AXxes Project Year 3 emphasis on quality improvement and expanded community interventions is appropriate and should continue. The project should continue to build up HZ management and improve the quality of facility service delivery. At the provincial level the emphasis should be on assisting with local donor/IP coordination and on strategic planning to improve services. Regional project offices should be strengthened by placing component-specific technical advisors (e.g., for FP and nutrition) at the province level. USAID might consider progressively transiting out of some HZs where performance targets are not likely to be met without substantial input.

USAID might scale up its FP, nutrition, and PMTCT efforts, though FP and PMTCT expansion and quality improvement would require a substantial increase in technical support to both the national and provincial levels. Spring-capping and latrine construction should not be expanded in this project without substantial increases in funding and technical and program management capacity.

USAID should seriously consider allocating funds for the development of IGAs that would provide an enabling environment for community members to participate in their own health and development and to better sustain health facility operating costs.
USAID might consider support of operations research in select HZs to test alternative strategies to address obstacles to access to, use of, and demand for quality services, including performance-based bonuses or other incentives for facility staff; community contribution to HC costs and maintenance, including generating income to support health facility functioning tied to high-protein plant nurseries; and community-based distribution of contraceptives and other products, including Depo Provera, ORS, and TB-DOTS.
INTRODUCTION

PURPOSE OF THE ASSESSMENT
The assessment of the Integrated Health Services AXxes Project in the DRC was carried out March 17, 2009–April, 16, 2009. The purpose (see Annex I) was to

1. understand the outcomes, achievements, constraints, and gaps of Project AXxes,
2. assess aspects of project management that may have helped or hindered implementation,
3. describe lessons learned and tools developed, and
4. make specific recommendations to inform future directions for USAID, including design of a follow-on program.

ORGANIZATION OF THE REPORT
While the AXxes Project listed Components A, B, and C in sequence, this report first presents policy and system issues from the macro to the micro level (Component C, then B). This lays the foundation for the more detailed discussion of the technical areas (Component A) that follows.

METHODOLOGY
The field portion of the assessment occurred March 23, 2009–April 4, 2009. The team was composed of three technical experts from the Global Health Technical Assistance Project, three from USAID/Washington, and six health professionals from the USAID/Kinshasa Health Office. The team consulted documents furnished by USAID, the AXxes Project, and other donors (Annex II); carried out two days of field visits in each of three health zones (HZs) in Kasai Orientale and Kasai Occidentale; and conducted interviews with AXxes staff; national, provincial, and HZ Ministry of Health representatives; health facility staff; representatives of other donors; and community members (Annex III).

A question guide was prepared before the site visits as a memory aid to the field teams. Field visits were limited to sites in regions managed by only one of the three AXxes Project IPs, the Protestant Church of Congo (ECC: Église du Christ du Congo), and thus observations based on these visits may not be representative of all project zones. Wherever possible the team looked to other sources to validate field observations. Most findings are qualitative because the field visits and meetings with key informants were too brief for extensive data-gathering.

PROJECT DESCRIPTION
The AXxes Project is a three-year (9/2006–9/2009), $42 million integrated primary health care (PHC) project implemented by a consortium of faith-based partners: Catholic Relief Services (CRS), World Vision International (WVI), ECC, and the lead partner, Interchurch Medical Assistance (IMA). The project contracted with at least 10 other organizations and USAID projects (e.g., BASICS) to provide TA on specific subjects (see Annex IX). Geographically, the project targets an estimated 7.2 million Congolese served by 929 health facilities in 57 widely dispersed and “fragile” HZs in four provinces: Kasai Orientale, Kasai Occidental, South Kivu, and Katanga. The project has three main components:

- **Component A**: Increase access to, the quality of, and demand for multisectoral, integrated PHC, including specific support to maternal and child health (MCH), focused antenatal care (FANC), postnatal care, active management of the third stage of labor, neonatal health, integrated management of childhood illnesses (IMCI) at both facility and community (c-
IMCI) levels, nutrition, reproductive health (RH) and family planning (FP), HIV/AIDS (blood safety and prevention of mother-to-child transmission [PMTCT]), immunizations, malaria, gender-based violence (GBV), and fistula repair. Support was also provided for medical waste disposal, TB, infectious diseases (e.g., cholera, ebola), and water, hygiene, and sanitation.

- **Component B**: Increase the capacity of the HZ and referral system, including health facility rehabilitation, cost recovery, management systems, drug supply, information systems, human resources development, community participation, and supervision.

- **Component C**: Increase the capacity of national health programs and provincial/district offices (policy and strategy development, planning, supervision, etc.).

Strategically, the project adopted a development rather than a humanitarian approach. It provides comprehensive support to HZs, following the health system strengthening strategy (SRSS) of the Ministry of Health (MOH); provides an integrated package of services following MOH standards; and strengthens community participation through health development committees (*Comités de Développement de la Santé*; CODESAs) and community volunteers (*relais de santé*). These strategic decisions meant that start-up was relatively slow as the project laid the systems foundations for improving service delivery and increasing demand for services. These are now largely in place, though needing continuing reinforcement, and results are beginning to be evident at the health facility level. Project Year 3 plans focus on improving the quality of systems and service delivery components, especially community-based approaches. Of the 929 health areas (HAS), 200 will be prioritized for improvements in specific technical areas, among them PMTCT, FP, fistula repair, GBV, c-IMCI, and FANC.

The project works closely with both government (GDRC) health services and religious mission-owned facilities staffed by government employees, supporting public-private partnerships (PPPs). In CRS-supported and some other HZs there is a close collaboration with diocesan health services. The project has also provided small grants to a few local nongovernmental organizations (NGOs).

**GENERAL OBSERVATIONS**

1. Despite significant obstacles, in a relatively short time the AXXes Project has succeeded in making the transition from humanitarian relief to development-oriented assistance designed to strengthen the quality of, access to, and utilization of integrated PHC in its project areas. Its efforts have ensured that systems fundamental to integrated PHC delivery are in place and provide the basis for further sustained increases in access to PHC.

   Provincial and HZ management structures are in place. Health facility rehabilitation seems to be progressing well. The knowledge base of health professionals at all levels is impressive and substantial. Supervisory and logistics systems are sound. Data management systems are in place down to the health facility level. Community organizational and outreach structures have been reinforced and are functioning.

2. There are fundamental problems of quality in nearly all aspects of the project: the devil is in the details. However, the project management team has recognized many of the issues, which they are addressing in Year 3 activities. Most can be resolved with intensive and consistent formative follow-up and supervision and sustained TA at all levels.

   While not surprising considering the constraints the project has faced, including its relatively brief duration, unresolved problems retard even the strongest project components. Among them are provincial and HZ management, human resources development (principally training), supervision, policy reform, and some service delivery technical areas (maternal and
neonatal care, TB, blood safety, clinic-based IMCI, malaria). Many of the weaker components—drug management, health information systems, community-level activities, referral and coordination between levels of the health system, and some service delivery components (PMTCT, water and sanitation, FP)—also have significant strengths that will provide a platform for future quality improvements.

3. The AXxes Project has made good use of its resources to implement a multidimensional and challenging program. It has also leveraged substantial supplemental resources to augment USAID funding, which have allowed it to shift USAID funds to support essential project components while expanding the scope of the project to encompass more technical areas. The IPs have contributed over $3.5 million in cost-share funds (see Annex IV), and the project has leveraged $8.8 million in other donor funds to support a variety of interventions in project HZs (see Annex V). The additional resources have greatly enhanced the project’s ability to carry out its diverse and challenging mission.
I. PROJECT CONTEXT

Long years of mismanagement, chaos, and health sector destruction, looting, and neglect have left many HZs in the DRC without the foundation for re-establishing access to functioning health services that can offer quality care. After 1994, conditions progressively deteriorated as ethnic strife and civil war sparked by the Rwandan genocide devastated much of the country. International assistance was withdrawn and did not resume until 2001, when substantial amounts of international humanitarian relief were provided. As a result, before activities could be directed to improving utilization and quality of care, it was necessary to make substantial initial investments in the rehabilitation of infrastructure and equipment and establishment of drug supply and other networks and management systems. Support for this critical process has slowed the achievement of indicator-based results. This initial phase of reconstruction was slowed by inadequate transportation, communications, banking, and other systems. The transition from humanitarian relief to development assistance continues, and remains challenging, because the humanitarian crisis is still substantial and the legacy of humanitarian assistance can undermine development-oriented strategies (e.g., free versus fee-for-service models). (This is elaborated below under Constraints; also see Annex VI for historical details.)

STRUCTURE OF DRC HEALTH SYSTEMS

Finding: The project’s strategic decision to support official GDRC integrated PHC strategies and systems, while contributing to some delays and other problems, has allowed the project to establish bases for sustainable changes in the health care system, thus maximizing the return on investment.

Over the past several years the GDRC has initiated a series of administrative and health policy reforms that are reshaping the health system. Administratively, the government is expanding the number of provinces from 11 to 26. Some current districts will be converted to provinces. This means a shifting of provincial capitals and sometimes, as in Lodja and Vanga-Kete, the transformation of previous hospitals into health centers (HCs) and of HCs into hospitals.

The foundation for the new health policies is the SRSS, the national strategy for health system strengthening (Stratégie Nationale de Renforcement du Système de Santé), which has six components:

- Revitalization of the HZs and correction of the distortions at the peripheral level, distributing health facilities according to population and eliminating or transforming outlying “health posts” into full HCs surrounding a zonal general reference hospital (GRH)
- Reorganization of the central and intermediate levels of the health system, redefining the role of the national level as normative and regulatory, based on service delivery realities and decentralizing planning, budgetary management, drug management, quality improvement, and other functions to the provincial and HZ levels
- Rationalizing health financing to include provincial funds for health infrastructure improvement and maintenance; monitoring, evaluation, and supervision; and free preventive services (e.g., immunizations, TB, and RH/FP) complemented by health facility budgets based in part on the collection of fees for service, with community involvement in setting rates
- Reinforcement of partnerships between the health system and educational and research institutions, drug management institutions, and other programs, such as water and sanitation
Development of human resources through both pre- and in-service training

Development of health systems research capacity to improve the quality of service.

Systems-strengthening efforts apply to

- Information systems, through development of the national health information system (SNIS: *Système National d’Information Sanitaire*) and the M&E system of the CREDES (*Centre de Recherche d’Étude et de Documentation en Économie de la Santé*).

- The national drug supply system and the national drug supply program, which works through a national entity, the Federation of Essential Drug Procurement Agencies (FEDECAM: *Fédération des Centrales d’Approvisionnement en Médicaments*). FEDECAM negotiates and coordinates drug purchasing for provincial distribution centers (also referred to as “depots”). These are mostly private entities that then sell the subsidized drugs directly to health facilities, including missions and public and private clients, based on a “rolling fund” credit system.

- A decentralized health care financing system.

The decentralized health system has four levels: national; provincial; the 515 HZs that manage local planning, supervision, and quality improvement activities; and health areas, (HAs) which are served by an HC. The HCs are supported by CODESAs and volunteers. The network of area HCs is anchored by a GRH, which is supported by a management committee (COGE: *Comité de Gestion*) made up of GRH staff, HZ management team (HZMT) representatives, and community representatives. Each HZ with a population of about 50,000 to 250,000 (average: 125,000–140,000) has on average 15 to 20 HAs each reaching an average population of 5,000–10,000.

The delivery of integrated PHC health services in HCs is guided by the minimum package of activities (MPA) and in GRHs by a complementary package of services, which will be discussed in Section V.

Most donors and their IPs support these reforms and policies (discussed in detail in Sections III and IV). Doing so, however, inevitably creates inefficiencies and constraints that may slow project implementation because the systems are still under development and not yet fully operational.

**USAID PHC SUPPORT AND SANRU/AXXES**

*Finding:* The organizations implementing the AXxes Project (especially ECC, IMA-SANRU, CRS, and WVI) have solid experience, respect, name recognition, and PHC connections in the DRC. This has enabled them to navigate the difficulties more effectively than would have been possible for organizations less well-recognized in the DRC. It has also allowed them to leverage inputs from other donors that directly benefited the AXxes project.

In the 1980s and early 1990s, despite poverty and poor governance the PHC system in the DRC (then Zaire) was widely considered to be one of the best in Africa. Anchored in PPPs with churches and NGOs and strongly supported by donors, including USAID, the decentralized system initiated in the early 1980s focused on structured HZs and produced significant improvements in health indicators. Primary among these programs were the USAID-funded SANRU I (*Santé Rurale*) and SANRU II programs implemented by the ECC and other partners. These programs were so well-known that SANRU became a brand name equated with decentralized PHC.
Wishing to sustain the brand name, IMA, a partnership of 12 Protestant churches, and ECC, which had implemented SANRU III (2002–06) and submitted the winning bid for the AXxes Project, formally established an umbrella program, SANRU, which manages the AXxes Project and numerous other donor-funded activities. The non-USAID-funded projects have contributed to activities in AXxes HZs: UNICEF funding supported installation of latrines, water source construction, training, supervision, and surveys in 16 AXxes HZs; the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) contributed to malaria-related activities in four AXxes HZs and HIV activities in two HZs; and the Global Alliance for Vaccines and Immunization (GAVI) contributed to cold-chain reinforcement, immunization materials, transportation, training, and supervision in 30 AXxes HZs. This made it possible to shift USAID funds to support other AXxes Project needs and commodities (for more complete information, see Annex VII).

OTHER DONOR PROJECTS

Finding: The AXxes project compares favorably with other donor-funded PHC projects in terms of implementation delays at project start-up, cost per HZ, quality of care improvements in health facilities, training, strengthening provincial management systems, and community mobilization.

Health programs in the DRC are supported by a wide variety of donors and IPs. Most follow the government’s SRSS strategy at least in part. Besides the AXxes Project, which concentrates on the provincial and zonal levels and directs attention to health facility utilization and access, four principal donor models of PHC support can be identified:

1. The emergency relief model is characterized by short-term projects implemented by NGOs focused on rapid delivery of commodities directly to health facilities, free care (often emphasizing selected vertical interventions), and civil works, i.e., health facility rehabilitation and construction, sometimes combined with components directed to increasing stability (e.g., demobilization and integration of fighters, IGAs).

2. The $150 million, 5-year Health Sector Rehabilitation Support Project (PARSS: Projet d’Appui à la Réhabilitation du Secteur Santé) model funded by the World Bank (WB) reaches 9.6 million Congolese in 83 HZs. PARSS is designed to reinforce service provision quality by assuring that supplies and equipment are available, rehabilitating health infrastructure, improving supervision, as well as limited strengthening of provincial and national systems, including improved use of data.

3. The €80 million 5-year EU health program of the 9ème FED serves about 10 million people in 67 HZs. It emphasizes systems strengthening, including health care financing, health information, and drug management at the national and provincial levels, rather than health facility interventions, to improve access to, quality of, and use of health services.

4. The 6-year, $4.6 million Belgian FBO-managed MEMISA project serves 4.6 million Congolese in 35 HZs; it emphasizes bottom-up participatory planning and self-evaluation.

Except for the emergency humanitarian projects, all these interventions follow the SRSS strategy, in their own way, and must deal with constraints that are inherent in the DRC.

Again except for the humanitarian projects, each project has instituted a fee-for-service cost recovery strategy based on delivery of subsidized drugs and a line of credit to HCs, to be replenished in part with service receipts, although rates of recovery vary by donor. Each has also

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1 9th European Development Fund
found it difficult to achieve cost recovery goals, even though some goals were initially set at levels more modest than even the reduced AXxes target of 30%.

In zones where humanitarian/emergency programs have been implemented, transitioning to development-oriented approaches (fee-for-service, integrated PHC service delivery, community participation, etc.) can be difficult. In AXxes project HZs, for example, utilization rates fell off sharply after a fee-for-service approach was instituted in HZs previously covered by humanitarian assistance projects. Only now are they slowly recovering, recently surpassing the previous peak of 35%.

Each project has also experienced substantial delays at start-up, from one to over two years, due to factors directly related to DRC constraints. The delays in the WB project have lasted for over two years; three years into its project PARSS has disbursed only about 30% of its budget. In the FED project it took almost two years to set up fiduciary structures to start the process of improving service delivery. The planning process for MEMISA has taken over a year. Thus the AXxes start-up delays seem modest.

Except for MEMISA each project has also had difficulties with its IPs, which tend to be humanitarian relief organizations that have been challenged by the transition to development approaches. By comparison the AXxes project has made that transition quite smoothly.

Each project has also experienced serious difficulties with drug supply, including prolonged delays in distributing initial supplies and serious, repeated stock-outs. The WB obtained emergency drug supplies through IDA and UNICEF, much as AXxes has done in the past. These problems continue for both the WB and European Development Fund (FED9).

Each project provides budget support for HZs and HAs; the WB gives close to $1 million per HZ over four years, and AXxes provides about $160,000 a year. Working cooperatively with other stakeholders, including directly with HZ teams, the AXxes Project has had a significant impact on service access, utilization, and quality.

Except for AXxes, each project provides salary bonuses (primes) to GDRC health personnel at all levels of the system. (See Annex VII for a description of other donor projects.)

**Recommendations:**

USAID should consider

1. organizing a 2–3 day national “Lessons Learned” meeting of representatives of donor projects and government (including provincial and health facility staff) to review progress toward operationalizing the new national health policies and strategies and to identify strengths and challenges of each project approach. This would also be a major step to enhancing donor coordination at the operational level.

2. promoting periodic study visits by provincial and HZ management teams and IP representatives to different donor-funded projects so as to promote exchange and expansion of best practices and sharing of lessons learned at the operational level.

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2 *Forum de Restructuration du PARSS, April 15, 2009.*
CONSTRAINTS

Finding: Economic, geographic, infrastructure, and management constraints inherent in the current economic and governance realities of the DRC and donors undermine the efficiency and effectiveness of all donor programs. For the AXxes Project, they have caused delays at start-up and continuing logistical and quality issues. The project, however, has addressed many of the constraints: adjusting fee-for-service levels to respond to real ability to pay, managing the logistics constraints caused by transportation difficulties, using means of transportation effectively, and addressing the challenges of the geographical dispersal of project zones and the varying philosophies of its partners to create a strategically harmonious program while taking advantage of individual IP strengths.

Chief among the constraints are

- **Poverty:** The DRC is one the poorest countries in the world, ranking 169 out of 177 on the 2007/2008 UN Human Development Index and 88 out of 108 developing countries on the Human Poverty Index. Although real GDP growth increased from 3.5% in 2002 to 12% in 2008, propelled primarily by growth in mining, commerce, and public works, inflation had accelerated to 32% by September 2008, primarily due to increased prices for food (55.6%) and fuel. While total government expenditures have risen for the past five years, budget management is weak. In rural areas, where the AXxes project is primarily situated, economic conditions have either not improved or have worsened in recent years due to government neglect, the continued ravages of instability and violence, and, especially in the east, the spread of crop diseases (especially mosaic) affecting harvests of manioc and bananas, food staples in much of the country. Almost all rural people live on less than $1.00 a day, many on as little as $0.20. The team was told in one province that this year’s “hungry season” before the harvest is likely to be one of the worst in recent years.

This abject poverty affects health program outcomes in many ways. Besides increasing illness, especially among rural women and children (often due to poor nutrition), scarcity of family resources also reduces utilization rates at government health facilities as families forgo care, choose the less expensive options of self-medication and traditional medicine, or use private clinics and pharmacies. This response is exacerbated by the fact that women earn considerably less than men. In order to pay for the care of a sick child, a mother may have to await the return of her husband before seeking care. An increase in the number of women-headed households due to war, HIV/AIDS, and the migration of men to other areas in search of employment complicates the situation.

Poverty, both personal and governmental, also affects access to educational opportunities, thus limiting access to health-related information. Currently only 29% of children complete primary school. Although adult literacy is estimated at over 60%, the rate is considerably lower for rural women.

- **Transportation:** All available means of transportation in the DRC—road, water, rail, and air—are costly, sometimes dangerous, and periodically unavailable. This reality affects project implementation and outcomes in many ways:
  - All logistical systems suffer from transportation constraints, contributing to delays in delivery of equipment and supplies, stock-outs, and high costs.

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3 WB Fall 2008 Economic Report: DRC.
4 Heritage Foundation 2006 Index of Economic Freedom.
- Supervision is difficult: travel from project headquarters in Kinshasa to project sites is costly in terms of time as well as money. For example, use of a plane to get the three assessment field teams to up-country sites cost over $35,000. The trip by road, when possible at all, takes more than two weeks, given distance and poor road conditions. At the provincial and HZ levels, supervision of some of the peripheral health facilities can entail many hours of travel by car, motorcycle, or river boat, followed by additional hours on foot. Frequent vehicle breakdowns on narrow paths add to the difficulties. (One assessment field team was held up by the breakdown of a truck carrying AXxes supplies that blocked the road to all traffic and took four hours to repair.)

- While most households live within six hours travel from the nearest health facility, many others must travel eight hours or more to reach care. Numerous geological barriers—rivers, mountains, and rain forest—increase access difficulties.

**Recommendations:**

1. The high cost of transportation needs to be factored into future activity budgets. The project should continue to explore whether other avenues of transportation, including trucks carrying commercial goods, might be available. It should be recognized, however, that commerce has been severely reduced in some HZs, where there is a virtual absence of shops and market goods.

2. Given the difficulties of traveling to provincial capitals, project technical staff should be sited there to the extent possible. This is especially true for technical experts who need to travel regularly to HZs and health facilities for quality improvement activities. Having most of the technical staff based in Kinshasa has been one factor in limiting the impact of training and technical support inputs.

3. Careful consideration needs to be given to the cost-effectiveness and impact of continued support for outlying HZs and health facilities. A graduated approach to implementation of project inputs should be considered. Outlying HZs and facilities should perhaps be provided with fewer inputs (e.g., training health staff only in selected MCH interventions). The objective would be to bring more easily supervised health facilities to acceptable standards for the complete package on integrated services before tackling outlying areas in a gradual expansion approach.

- Other logistical constraints: Transportation difficulties are exacerbated by the fact that many products are produced abroad and imported, so they may be delayed by theft and social unrest. In the first year of the AXxes project commodities were held up by a strike at the Matadi port and by other hold-ups in Dar Es Salaam, Tanzania. ACT and quinine deliveries were delayed due to production issues abroad, though they were partially replaced by stocks borrowed from other donors and sources. In Year 2 commodities were stolen from containers at Matadi and from the project’s central warehouse. A nursing strike held up some training activities.

- Continuing insecurity: Continuing conflict in some HZs, such as those in North Kivu, affects access to them.

- Low morale: Many health personnel are demoralized, making retaining them hard and causing a continuing need to retrain. Low morale also leads to misappropriation of facility resources (such as fees for service and drugs), shortened working hours (personnel leave post to visit family or engage in other remunerated activities) and thus reduced access to health services, poor attitudes toward clients, and other performance and quality issues. (See the Human Resources Development Section below for further discussion.)
• **Inadequate pre-service training:** The high levels of health provider knowledge within AXxes Project sites observed by the assessment team are particularly remarkable given the poor pre-service training many of them have received. Apparently this problem has worsened in recent years with the proliferation throughout the country of health training institutions that are largely unregulated. The years of strife and decline have also undermined the quality of once-respected schools.

**Recommendation:**

*USAID should consider supporting activities to raise the standards of pre-service medical and nursing education in DRC—although not within the context of the AXxes Project.*

• **Widely dispersed project zones:** All donor projects are challenged by the wide geographic dispersion of noncontiguous HZs they work with. These are often managed by an array of IPs, each of which applies different approaches to the same activities. Possibly a legacy of previous faith-based and humanitarian interventions, this reality renders logistical and management inputs more costly and difficult for both the chief donor-supported IPs and provincial GDRC health authorities. In the AXxes Project, for example, CRS, ECC, and WVI each have long histories in DRC and over time have evolved their own technical and administrative approaches. While this does allow for enriched use of lessons learned between IPs, it has also delayed attainment of some results (as, for example, in RH). CRS acknowledged that it had taken a year or so to align its approaches with the AXxes Project strategy.

Also, most donors do not cover all the HZs in a province or even a district (although the WB has chosen to do so). In Lodja, for example, AXxes works in only 5 of the 16 HZs. This means that the provincial health management team has to deal with a variety of donor strategies, timetables, and management practices, as well as significant differences in the type and level of support HZs receive—from none to substantial. This makes it difficult for provincial managers to plan cohesive strategies. The AXxes Project’s support for donor and IP coordination at the provincial level is thus critical to its zonal health management strengthening strategy.

**Recommendation:**

*USAID should work with other donors and the GDRC to seek solutions to the extreme fragmentation of PHC initiatives.*

• **Donor-specific constraints:** Donor-specific regulations and administrative procedures can and do lead to significant delays in project implementation. One example is the delays caused by the WB policy of contracting-in, which has been a significant factor in that project’s inability to spend its budget. In the case of AXxes, initial delays in drug purchasing were partially the result of USAID management procedures and its direct provision of FP commodities: The project ordered essential WHO drugs within two weeks of receiving a waiver and the first load arrived in country about a month after that. Contraceptive products, which must be obtained through USAID (central procurement for all USAID projects), arrived much later. These donor-driven constraints—not easily overcome—need to be factored into program design and schedules.
II. INTRODUCTION TO PROJECT COMPONENTS B AND C

Components B and C of the AXxes Project target strengthening of health management systems (planning, health care financing, policy, M&E) and operational systems (pharmaceutical supplies, information use and management, supervision, etc.) at the national, provincial, and HZ levels to improve the sustainability of quality integrated PHC service. This is done through assistance to reviews, annual work planning meetings, conferences, and technical development and coordination meetings and through program management and technical skills training at all levels. Short- and long-term TA is provided at all levels for strategic and operational planning; systems design, implementation, and M&E of technical and systems components; strategy and policy development; standardization of tools (treatment protocols, algorithms, BCC materials, etc.); and related training.

**Findings:** Field visits confirm that, for most technical areas covered by the project, national policies, guidelines, protocols, algorithms, and information tools are appropriate and health provider knowledge of these is generally high. Similarly, the project follows (and has contributed to) evolving pharmaceutical supply, health care financing, supervisory, and data management systems. Operational problems continue to plague each of these to varying degrees, either generally or in certain provinces and HZs. This suggests the need for more sustained technical support and follow-up at all levels.

PROVISION OF TA

**Finding:** The project provided substantial short-term TA using international experts at national and provincial levels and long-term TA by both full- and part-time AXxes staff at all levels. These technical experts worked closely with other donors and MOH staff (thus improving donor coordination) on strategies, technical policies and protocols, strategic and operational planning, M&E, and information management. As a result, AXxes is one of only a few donor partners to be invited to join government officials in many national health policy and strategy forums.

Full-time project technical staff includes experts in RH, neonatal health, MCH, water and sanitation, drug credit monitoring, SNIS, and M&E. Part-time staff includes experts in FP, HIV/AIDS, and malaria. Three full-time staff work exclusively on PMTCT in Lodja, Kananga, and Mbuji Mayi, cities in the provinces of Kasai Occidental and Kasai Oriental.

International TA to targeted MOH programs was approved at the end of Year 1 and agreements were signed with the Johns Hopkins (JHU) Informatics Department for TA on data centralization, recording, storage, interpretation, and reporting; Helen Keller International (HKI) on rollout of zinc for diarrheal disease and monitoring and procurement of micronutrients; World Relief on community-IMCI; Management Sciences for Health (MSH) on leadership training, hospital-based-lab performance, drug management at regional depots, financial management and monitoring of the drug credit system at the zonal level; Innovative Resources Management (IRM) on support for IGAs to support HZs in South Kivu; PATH (BASICS/POPHI-Prevention of the Postpartum Hemorrhage Initiative) on improved newborn care and decreased postpartum hemorrhage; BASICS (JSI: John Snow, Inc.) on planning, training, and reporting on the Expanded Program of Immunization; Brown Consultants on PMTCT training and supervision; the University of North Carolina (UNC) on PMTCT training and supervision; Frank Baer on M&E and management structure; Lauren Blum on a care-seeking behavior study; and the Christian Medical Institute of the Kasai on fistula repair. This TA, provided primarily at the national and provincial/district levels, has cost nearly $1.9 million to date (see Annex IX for details).
The original project design called for a number of national technical advisor positions to work with the National Malaria Program, the National RH Program (PNSR: Programme National de Santé de la Reproduction), and the National Adolescent Health Program (PNSA: Programme National de Santé des Adolescents). These positions were not filled. USAID is providing support for a technical advisor to the TB program, which has helped build program capacity. The TB program is well-integrated into the PHC system, and the AXxes Project has contributed significantly to realization of program objectives.

In addition to locally supplied TA, the project has also sponsored learning trips to programs in other countries (e.g., Madagascar for zinc, Rwanda for IMCI).

SUPERVISION

Findings: The project has a comprehensive and well-conceived supervision system reaching from the national to the health facility level that provides regular feedback to all staff. Supervision of HZs by regional AXxes representatives helps build HZMT management capacity. The system needs now to be reinforced to function as an effective quality improvement mechanism at all levels. Integrated supervision of HCs follows GDRC norms but is a missed opportunity for improving quality in technical areas. HZ supervision, especially of HC staff, is seriously complicated by geography.

In the AXxes Project supervision is supported at three levels, mirroring the HZ structure and reinforcing internal relationships within the health system: supervision within HZs of health facilities; provincial supervisory visits to HZs; and central MOH supervisory visits to provincial technical teams. The project considers formative supervision among the most important aspects of health system reinforcement. It is promoted as a process to guide, instruct, correct, and reinforce HZ staff activities in order to improve performance and service utilization.

Supervision of HCs, and HC supervision of health posts, is designed to continually improve health services. Scheduling supervisory visits to each HA/HC is an important piece of HZMT annual planning, funded by the project. Most members of the HZMT, regardless of their background and team role, are assigned a set number of supervisory visits per month, covering all aspects of the MPA. This does not apply to some positions, e.g., the water supervisor works only on investigating and improving water sources in the community. HZMTs seem to take the supervisory responsibility seriously, as evidenced by the finding that in Year 2 HZMTs visited more than 70% of HCs every month. During each visit the supervisor writes the main findings (strong points, weak points, actions to take) in a notebook that is kept at the health facility. A supervisory report is then sent to the AXxes regional office, though not to the GDRC provincial health team.

Lack of funds for gas, competing demands for vehicle use, and impassable roads during the rainy season all reduce the number of planned HZMT supervisory visits, especially to some HCs. When lack of resources prevents planned visits, HZMTs profit from trips made by partners (including AXxes regional and central staff) to increase their rate.

Supervision at the lowest level is particularly important for increasing access to care for people living in hard-to-reach villages. HC staff have bicycles for visiting health posts and community units, but breakages are common due to tough road conditions.

HZMTs acknowledge that supervision is a weak area, explaining this by a lack of resources and the problems described. The assessment team noted that while supervision is recorded in the notebooks, outcomes in terms of improved performance are not always evident. Addressing all MPA components is resource-efficient but may not be a particularly effective strategy for systematically improving quality of care in specific technical areas. Differentiating post-training
follow-up visits (to ensure that knowledge and skills are applied on the job) from routine supervisory visits (to monitor maintenance of knowledge and skills, as reflected in routine quality health care provision) could increase the value of supervision and improve outcomes.

The project oversees HZMTs through periodic visits by regional coordination team members. An HZMT member (e.g., the head nurse) is also scheduled to visit the regional office monthly. Monthly HZ monitoring reports, including updates on project indicators and their SNIS data (see below) are reviewed during these visits to identify areas of strong and weak performance. Issues are then addressed during regularly scheduled visits by regional team members to the HZ or through visits specially organized for this purpose. Visits to HCs help HZMTs achieve their annual supervisory visit targets and provide an opportunity for AXxes staff to mentor and coach HC staff in supportive supervision techniques that will help improve quality and accountability to the community, the HZMT, and the project.

**Recommendations:**

1. Additional funding should be allocated and HC staff facilitated to undertake supervisory visits to rural health posts and community care sites. Consideration should be given to supporting transportation to hard-to-reach areas as part of HZ-wide micro-planning, community-based surveys, whenever anyone, including project staff, travels within the HZ.

2. To address transportation issues, as a complement to supervisory visits tools need to be introduced that do not require physical presence. For example, since cell phones are ubiquitous, a phone-based system (e.g., Voxiva) for exchanging standardized information between levels could increase both quality and accountability. As mentioned below, where there is more than one nurse, peer co-assessments of adherence to technical protocols could be used. Self-assessment guides and other tools similar to the Client-Oriented, Provider-Efficient (COPE) approach should also be considered.

3. Given often long distances to regional coordination offices, taking up HZMT time and HZ resources, the visits should be constructively structured. Tailored supervision tools should be used that incorporate means of analyzing monthly report data so that management capacity increases with each visit. Less frequent visits to regional project offices should be considered where distances are great, if monthly data can be reliably be forwarded and if each visit is organized as a practical training opportunity. This may require modification of regional staff scope of work and more attention to their skills. Additional regional staff training in supportive supervision skills would make their visits more effective and enable them to better model effective supervision practices for HZMT and HC staff to emulate when they carry out supervision.

4. Supervisory reports should be shared with provincial and district health authorities to engage them more fully in quality improvement activities.

**SNIS AND PROJECT INFORMATION SYSTEMS**

**Finding:** The AXxes Project has done substantial work to upgrade collection, processing, and use of both routine health (SNIS) and project-related information at national, provincial, HZ, and facility levels. There is a sustained effort to improve data quality, but it is still questionable. Information use is weakest in health facilities.

One of the greatest needs of the MOH is accessing health data reasonably quickly and analyzing and interpreting it to improve decision making. The HZ information system consists of a number of sources of data on services delivered, system support provided, and changes in disease and health status. The main source is the national health information system (SNIS), which is overseen by a special office within the PHC Division of the MOH. SNIS documents information
on health services provided at HCs and the GRH as well as administrative data associated with delivery of these services (e.g., training events, drug stocks, personnel, and finances). Data are collected from HZ facilities monthly and tallied to form HZ summaries for collation at higher levels in the system.

In keeping with the government’s vision of decentralization, in 2004-2005 responsibility for customizing the SNIS data to be collected by HZs was transferred to provincial health teams. However, a core set of standardized data is still required of all 515 HZs for central collation. The national system calls for SNIS data to be entered by computer at the HZ level into GESIS, an access database system, and forwarded to the provincial and national SNIS offices. The project provided computers and is supporting computer training to HZMT members in order to integrate GESIS and build HZ information system capacity. In AXxes-supported HZs, routine SNIS data are currently sent to the project regional offices for review, then forwarded to the AXxes M&E office as Excel files if the HZ is not using GESIS. HZs also share data with district offices and cleaned files are shared by the AXxes M&E office with the PHC division SNIS office.

AXxes-supported HZs are also required to routinely report on the AXxes performance monitoring plan (PMP) and other indicators. There are special registers to capture information on some technical services, such as maternal and newborn care.

These sources of routine health data have been supplemented by periodic or one-time HZ data collection efforts, such as surveillance for specific diseases (e.g., TB, polio) and immunization coverage. The project has also funded three other HZ exercises: an updated census of HA populations, a KPC baseline survey, and a community survey to identify household IMCI practices.

Data storage and management assistance was provided to the PHC Division through funding to support harmonizing supervision documents and conducting supervisory visits to the intermediate level. With assistance from JHU and AXxes M&E staff, the project worked with the SNIS Department to improve the format and integrate AXxes indicators. It then provided TA on setting up a SNIS data bank system for sharing with partners and others within the MOH. In Year 2, the project installed a server to establish a central data repository and networking capacity for the MOH to help create a server-based network for the SNIS. Server capacity to support the SNIS databank was tested with assistance from JHU, and the server is currently networked for data sharing between three divisions of SNIS, potentially linking more than 70 users by cables and wireless routers. AXxes is assessing the feasibility of expanding the server to create a data warehouse that would eventually be linked with provincial information systems.

In addition to training, the project provided informatics materials to the PHC Division and installed a data “dashboard” that incorporates a visually based tool, Tableau, for presenting and analyzing the data. During Year 2, the project provided IT resources and began training two other MOH divisions in addition to the PHC to use the Tableau tool for processing, analyzing, and reporting on SNIS data. The divisions are Fight Against Diseases, to analyze and report on epidemic surveillance data weekly, and Planning, to analyze functionality information.

The project provided HZs with copies of all SNIS forms for use at the various levels. HZMTs currently compile two SNIS forms monthly, one of about eight pages reporting on administrative (including supervisory) activities and the status of HZ system support components, and one of about 11 pages summarizing health services delivered and cases treated by all facilities. Monthly HC forms that feed into the latter summarize all activity in HAs, including activity of health posts and volunteer or community health sites collected monthly on a two-page form.

An initial M&E activity was ensuring that HZs correctly used the SNIS system. AXxes trained all HZMTs and HC staff on how to fill out SNIS forms including indicator definitions and how to
record the data in a standard way. HZMTs also received M&E assistance as part of the management component of the minimum package of activities (MPA) training and again as a separate HZMT training event, with support from JHU. During Year 2 the project continued to provide SNIS forms to all assisted HZs; most now fill out the government forms routinely.

Support for improved HZ use of the SNIS helped with overall health system strengthening as well as providing a data source for project PMP indicators. Other sources had to be identified to capture original data on other indicators. Once these were finalized, the project trained HZMTs on the PMP and developed combined tools for recording SNIS and PMP data. Currently all HZs report on the full complement of PMP indicators, although not all have collected the data from the start.

An issue distinct from the SNIS is that some PMP indicators are measured differently by DRC programs or in the field than is standard for USAID-supported programs, e.g., TB cure rate (versus treatment success rate) and FP new users (new to the method versus new ever to use a modern FP method). This contributes to mismeasurement and lessens the ability to monitor program progress in important technical health areas. (See Annex XII for a full discussion of PMP measurement issues and recommendations.)

HCs are supposed to deliver routine reports to the HZMT office by the 7th of the following month; these are reviewed during monthly meetings between the HZMT and HC head nurses. Sometimes, however, whole HAs or health posts within HAs do not report. Also, private activities may be missing from HZ summaries. For example, the project learned that contraceptives distributed through social marketing community distributors were not being included and arranged for them to be.

During a field visit the assessment team learned that it can take HC staff hours and HZ staff 5–7 days to fill out the monthly summary forms. This explains in part why data quality remains an issue in some areas. Also, there is confusion at some HCs about how to record indicator values, or measure indicators, especially with older staff and when there is staff turnover.

The team also observed during field visits the fact that many HC staff did not really understand the data they were collecting. While the use of data wall charts in health facilities was a notable and positive accomplishment, some HC personnel did not fully understand what the various lines on the graphs meant. This implies that they are not using the information they collect to improve the quality of service.

Starting in Year 2 project staff started conducting data quality audits. AXxes regional team members review HZ forms during their monthly meetings and HZMT members in turn validate questionable HC data during routine supervisory visits. Discussions about data quality appear in supervisory books, providing evidence that some HZMTs do pay attention to this important aspect of program monitoring. Inaccurate data recording happens for many reasons, however, and monitoring and correcting for this can only be partially accomplished at the HZ level.

To address this, in Year 2 AXxes M&E staff also helped monitor routine data quality using a computerized analysis of trends over time, by HZ and by IP using a dashboard system (see Component C). Data outliers are tagged and a message conveyed to the regional office to reconfirm questionable values with the HZ. Once corrected, entries are then returned to the AXxes office as part of routine regional office electronic file sharing. (For a more detailed discussion of measurement issues, see Annex XII.)
Recommendations:

1. Periodic computer analysis of monthly data, broken down by key factors (e.g., geography) is useful for identifying data quality issues that may not be immediately obvious from individual analysis of data. The process can involve many steps, including confirming HC monthly summary entries with raw registration book data. This type of monitoring should be part of HZMT and provincial data quality audits when they become automated. It should complement rather than replace routine attention to data quality through manual reviews of and person-to-person discussions on the completeness and accuracy of all HC forms submitted.

2. Use of data for health facility decision-making should be reinforced. This should be the focus of continuing training during supervisory visits and perhaps during “mini”-follow-up training sessions. Perhaps the number of indicators monitored regularly for HC quality improvement should be reduced. Recording of data on wall charts and practical decisions made on the basis of these data could become part of a health facility’s monthly self-audit using a COPE-like process.

COMPONENT C: SUPPORT TO THE NATIONAL AND PROVINCIAL/DISTRICT LEVELS

Findings: Component C activities target the national and provincial/district levels. Priority support activities were first approved in May 2007. Project central-level TA has been aimed at better enabling the government to assume its normative role through policy development and ways of translating policy into action in the field.

In general, the project has supported national policy and strategy, donor coordination, training, and supervision aimed at increasing the ability of national leaders to better govern the health sector. The project interacts with various divisions within the MOH but focuses on increasing the capacity of the PHC and Fight Against Disease Divisions and the national Expanded Program of Immunization (PEV); Nutrition Program (PRONANUT); Program for Integrated Management of Childhood Illness; the National Programs against HIV/AIDS (PNLS), Tuberculosis (PNLT), Malaria (PNLP) and Diarrheal Disease (PNLMD); RH Program (PNSR); and Blood Safety Program (PNTS). A priority for the project has been to help ensure that government protocols make sense, and encourage policy reform if they do not (e.g., maternal mortality reduction, zinc). AXxes has also helped identify barriers to implementing new policies (e.g., ACT for malaria, semi-annual vitamin A, deworming and folic acid campaigns, drug sensitivity testing for malaria, linkages between HIV/AIDS and TB interventions) and has provided a testing ground for solutions through its assistance to provinces and HZs.

During Year 2 AXxes initiated leadership training for provincial and district management teams; worked nationally with the SNIS (in collaboration with the FED 9, PARSS, and others); and provided targeted support for the PEV program, working with the interagency coordination committee, as well as the ITN and measles campaigns (micro-planning in Bukavu). It also provided TA for the introduction of zinc (with PNLMD, the national malaria program); newborn health (a strategy workshop with UNICEF, WHO, CARE, and others), and RH (tools, norms, directives, protocols, registers, BCC materials development, and harmonization). AXxes also provided support to district and provincial technical meetings and funded public health studies for six national and district staff at the Kinshasa School of Public Health.

In Year 2 the project funded national workshops for the elaboration of a PNSR strategic plan, revision of SNIS tools and forms, and reinforcement of the information system. Supervisory visits
from MOH staff to the provincial and district levels in all four project provinces were supported; reportedly, these visits were much appreciated. At the provincial and district levels the project supported annual reviews, planning meetings, and interagency coordination committee and other coordination activities.

Planned for Year 3 are continued support for central supervision of intermediate levels; provincial and district level planning, review, and technical committees; and quarterly provincial/district supervisory visits to HZs. Technical support activities will include JHU TA to improve the national M&E system and continued support of supervision of intermediate program managers by central technical program staff.

In the area of surveillance to fight infectious disease the project helped the MOH and other donors to develop an integrated system that would allow for rapid detection and effective response to outbreaks of cholera, ebola, and measles; it builds upon the HZ structure and reinforces integrated surveillance at the HC and community levels. Project reports indicate that this was accomplished at 75% of the Year 2 target, in part through support for supervisory visits to and consensus-building meetings at the provincial and HZ levels by PHC Division representatives. The project also supported that division as it evaluated needs in all four provinces for reinforcing the surveillance system.

**Recommendation:**
The FP, PMTCT, nutrition, and possibly drug management efforts would benefit from increased full-time or sustained TA (through longer-term visits by international experts) at the national level.\(^5\) TA can be costly; its effectiveness often depends on personalities and personal relationships. More crucial to increasing project impact is reinforcing TA to the provinces in order to operationalize technical policies, strategies, and systems initiatives (drug management and information systems) in order to improve quality.

**COMPONENT B: INCREASED CAPACITY OF THE HZ AND REFERRAL SYSTEMS**

**Finding:** The capacity of HZMTs to effectively manage health care delivery has significantly increased through project training and technical support. All HZs are carrying out annual and routine monthly action planning, which is guiding zone and province health activities. Training of HZMT members, which they greatly appreciate, has been effective in substantially altering management practices. Administrative councils, which are critical for annual planning, are functioning in almost all HZs. Microplanning complements integrated PHC planning to achieve outcomes in specific technical areas. However, HZ resource management, especially financial, is still weak.

**HZ Planning and Management Capacity**
The SRSS outlines a sequence of steps to revitalize HZs so they can better deliver integrated PHC. AXxes systematically led HZMTs in targeted zones through these steps to improve HZ functioning, serving as a model for provincial officials, neighboring HZs, and other donors. The systematic process starts with an inventory of all first-level facilities (HCs, clinics, and health posts) to identify areas without a functioning HC and prioritize for refurbishment those with the greatest potential, taking into account population size.

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\(^5\) These will be more fully addressed elsewhere in this report.
Initially AXxes conducted an HZ-wide needs assessment in order to

- Classify HZs into three groups:
  - Marginally functional
  - Well functioning
  - Nonfunctional
- Identify existing resources.
- Determine the management capacity of different HZMTs and GRHs, especially information system capacity.
- Determine the levels of different performance indicators.
- Determine the training and supervisory needs for different categories of personnel and appropriate strategies for each.

The assessment of the management capacity of the HZMTs, including how the information system functioned, was the basis for selecting HZs for initial interventions (starting with well-functioning zones) and geographically strategic health facilities to receive equipment and supplies. The information was summarized as an HZ functionality score for measuring project progress in strengthening HZ management and planning capacity and increasing population coverage. At the beginning of the project only 59% of HZs qualified as functional. A project-supported study also showed wide variations in the disease burdens of different HZs, information which was later used to focus specific interventions on the most affected districts. Finally, an updated census in all HZs revealed priority areas with large populations where outreach and community activity could increase access to care.

Strengthening collaboration between the HZ central office and GRH management staff is also vital to improving HZ functionality. Here, the initial step is revitalizing the zone’s GRH to reverse previous underutilization of hospitals for referrals and overutilization for primary care that could be more efficiently provided in HCs and in the community. The medical director and nursing director are members of the HZMT, which meets monthly to assess progress on zonal initiatives.

Building up HZMTs, which coordinate planning and operations, to a full complement of six members, clarifying responsibilities, and providing members with the knowledge and skills required to fulfill their roles were all major project-supported steps to revitalize HZs. Based on

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The functionality of HZs is based on four groups of criteria:

- **HZ management team functionality,**
  - HZMT members trained in PHC
  - HZMT composed of at least six members: HZ medical head of zone, GRH medical director, HZ administrator, GRH administrator, PHC supervisor, and nursing director
  - An administrative council meeting within the previous 12 months, documented by meeting minutes
  - Monthly meetings of the HZ management committee, documented by meeting minutes
- **GRH functionality**
- **Percent of population served**
- **PMP indicators:** rate of use of health services; DPT3 coverage; proportion of births attended by skilled personnel; percent of blood transfusions tested for HIV and blood grouping; percent of pregnant women in targeted HZs who had received IPT
MOH criteria, initially only 25% of HZMTs qualified as truly functional. Due to high staff turnover, some HZMT positions may be vacant for years. This is especially problematic in areas where mining and other private companies offer attractive benefit packages. In some HZs key personnel may hold other jobs (e.g., in private hospitals) to gain additional income.

Reinforcing PPPs in HZs where local FBOs play a significant role in service provision and management (notably in CRS-managed HZs) and improved coordination between multiple IP and donor partners has also been vital in AXxes management strengthening.

**Management Training**

The SRSS calls for an integrated MPA to be introduced in a single step into each HC selected for reorganization and for HCs to be systematically supervised by a member of the HZMT. To reinforce HZ management capacity AXxes worked with provincial officials to organize an MOH-approved training on Management of PHC. All 317 HZMT members received the 30-day training, proposed by the government, in separate sessions on management and on technical issues.

A training-of-trainers (TOT) cascade approach was used for some technical areas, with the HZMTs functioning as the lead HZ trainers (see Component A). While training is required to build capacity, it is expensive; training certification can also provide a ticket out, which works against project and HZ health objectives. Turnover can severely hamper progress, given the leadership of HZMT members in ensuring HZ functioning.

During field visits with HZMTs the evaluation team observed that knowledge of both technical area protocols and program management functions was high. This suggests that project-supported training was successful in building the basis for better management and planning capacity. Several HZMTs reported that the training had positively influenced their management style and led to improvements in management practices.

**Recommendation:**

**HZMT members should continue to be trained in management and technical health areas.**

Courses should be organized periodically for new staff and for refresher training (this can be done on the job, through self-study, or in short courses as part of AXxes or MOH supervision). However, it might be useful to reorganize the 30-day MPA training into more than two sessions, focusing on competency-based approaches and on-the-job practices. Because HZMTs serve as trainers for some technical areas, they should have practical experience and be assessed as competent trainers to ensure that from the start knowledge and skills are transferred to HC providers effectively.

**Monthly and Annual Action Planning**

Monthly HZMT meetings are part of the project contract with HZs, funded by a project budget subsidy. HZMTs are encouraged to include HA providers and COGEs in such meetings. In Year 2, minutes documented that 100% of monthly meetings were conducted. In several HZs visited, monthly planning was evident in the multitude of wall charts summarizing accomplished versus planning activities and results versus targets.

Project regional coordinators work with HZMTs and other local stakeholders to write annual action plans that reflect MOH protocols and AXxes objectives and are based on a review of progress and challenges as revealed by supervisory visits and project indicators. These action plans and associated budgets cover HZMT meetings; supervisory visits; meetings of community groups like CODESA; HC refurbishment; water source improvement; training; and equipment, supplies, and medication for HCs and the GRH. Continuing supervision by the regional
coordinators has improved action planning since the project began. HZMT control over planning is complicated, however, by the fact that project budget and line items are relatively standard for each HZ. Some adjustments are made to accommodate HZ differences, but only within a narrow range.

The Administrative Council (AC) is the most important HZ management meeting. It is held at least annually to discuss and then approve the HZ action plan and is supposed to include all HZ stakeholder groups. District or provincial levels participate in AC meetings, as does a member of the AXxes team whenever possible to ensure plans incorporate project priorities. Local constraints (lack of local authority, poor community participation, etc.) and issues related to health worker performance, service utilization rates, and so forth are also discussed. Some zones address coordination between local NGOs and projects like AXxes.

AXxes supported establishment of ACs where they did not exist and helped to organize AC meetings, in some places for the first time in eight to ten years. Whereas only 30% of HZs in the original needs assessment indicated they had previously had a CA, 95% now conduct annual AC meetings. However, AC quality and their contribution to the annual planning process are still minimal.

**Recommendations:**

1. **It is unclear to what degree analysis of the previous year’s accomplishments and constraints drives the annual planning process rather than AXxes Project priorities. AXxes should study the effectiveness of the COPE-like tool developed by MEMISA and consider using it during final quarter or mid-year supervisory visits to enhance the annual review process and provide more detailed input into planning.**

2. **If HZMTs are to effectively plan and manage, they need to have meaningful input into the budgeting process. Participatory budgeting following established guidelines would help increase HZMT skills in this core area. Also, different HZs have different challenges that have cost implications (e.g., transportation, disease rates) that need to be considered in the budgeting process if performance targets are to be achieved. HZMT members are the best source of information on challenges and their cost implications. AXxes should consider as a possible model the MEMISA approach of bottom-up planning, including budget needs starting at the health facility level.**

3. **The ACs could participate more in the annual HZ budgeting process—although a more participatory process would likely require considerably more time: With more input into the budget, more than one meeting may be required to approve the action plan. Because this could cause slow implementation of activities, a balanced approach is needed. Consideration should be given to having approved action plans as a product of practical management training.**

**Micro-planning**

The project incorporated strategies previously promoted under the umbrella of Reach Every District, Reach Every HA, and Reach Every Child, including micro-planning down to the HC level. Some micro-planning (e.g., for immunization campaigns) has helped bring together multiple donors working in an area. This helps both to achieve the intended result (e.g., increase in measles vaccine coverage) and to provide a platform for coordination with often numerous donors.
partners, some of which otherwise might not work collaboratively to build up HZs. This planning approach helps to achieve health outcomes in particular areas, such as vaccine-preventable childhood diseases, but care needs to be taken that it does not undermine the principle of integrated PHC.

Recommendation:
As micro-planning is a familiar practice in the DRC, even in the context of integrated PHC, it should be considered as a potential for increasing quality in technical areas that are currently very weak (e.g., nutrition, PMTCT, and FP).

HZ Resource Management
The initial AXxes assessment revealed that HZ functionality varied widely. The 11 HZs that had previously received SANRU support generally had higher initial scores, although their dispersed location in AXxes offset some of this advantage. To reach the MOH standard of HZ functionality, initial one-time investments in refurbishment and equipment were made and starter kits and actions were provided (drugs, supplies, bicycles, forms, algorithms/guidelines, registers and training) as part of the AXxes package. HZ management of these investments similarly varies, but problems with supplies, broken vehicles, and nonfunctioning equipment all to reduce utilization and the quality of services.

Another one-time investment in the HZs is the rehabilitation of health facilities (with a target of five per HZ) and some office buildings. In Year 1, 132 rehabilitation projects were identified, including two office buildings and 31 GRHs. By March 2009, 218 had been completed and fully equipped, an average of more than five per HZ. This represents almost a quarter of the 929 facilities covered by the project.

To ensure that key management actions (e.g., supervision) occur during the project, it also supports a budget for some fixed costs. Overall, the project annual budget to support HZs has averaged about $160,000 per year per zone. Of this, on average $128,000 is sent directly to the HZs in the form of commodities and direct financial support (up to $145,000 for Year 1, and dropping to $120,000 for Year 2). Of this, $60,000 was allocated to implementation of annual HZ action plans; the rest was spent on equipment and supplies. In one HZ visited, the evaluation team learned that the HZ received $850 a month from AXxes: $100 for operating costs, $300 for supervision, $320 for gas and oil, $50 for vehicle maintenance, and $50 for monthly monitoring reviews. The $300 payments for supervision visits are allocated as follows: $100 to the HZ Medical Officer, $80 to the HZ Administrator, $50 to the GRH medical director, $40 to the PHC supervisor, and $30 to the nursing director. These payments are conditional on AXxes project staff receiving supervisory reports.

Funding to HZs is not performance-based, and accountability to the project is poor: some provide only incomplete or partial financial information and others do not report routinely at all. By contrast, in the FED9 system payments are linked to how well HZs perform based on an indicator score. If targets are not achieved, payment is reduced. The FED9 system helps to ensure that planned activities are carried out but does not take account of service utilization (which is incorporated into its Fonds d’Achats de Services de Santé financing mechanism, see below) or quality of care provided, which, according to a recent FED9 evaluation, is a concern in FED9-supported HAs.

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8 Fonds d’Achat des Services de Santé, a performance-based health financing mechanism
Recommendation:

USAID should pilot a performance-based contract system to encourage HZs to implement measures that will improve health service management and financing. Consideration should be given to performance “bonuses” for preventive care and expansion of access through HC community outreach. Attention to quantity and quality of care is clearly important but difficult to incorporate into performance contracts given the many challenges not under HZ management control (e.g., roads, drug supply, salaries). Alternative strategies, described throughout this report, are needed to ensure outcomes. Additional hands-on practice in HZ financial management needs to complement increased participatory involvement in action plan budgeting. More ownership over the budget and HZ budgeting process could help increase vigilance and attention to HZ financial management.

Cost Recovery from Facility Fees-for-Service

Finding: Reintroduction of a fee-for-service approach in AXxes Project HZs has had mixed results. It seems to have significantly suppressed utilization rates and thereby affected morbidity and mortality rates. However, since the recent reductions in cost recovery percentages, health care utilization rates have gradually risen to recently surpass 35% on average. Low utilization is affecting the ability of health facilities to maintain their line of credit at drug depots, which in turn affects stock-outs and perceived and actual quality of care in a negative feedback loop.

Fees for health care services were widespread in the DRC before the depredations of the last 15 years. However, more recently free service provision was the more common experience, especially in areas served by humanitarian organizations. The severe poverty experienced by a large percentage of Congolese families, especially in rural areas, means that—if health care is not altogether beyond their means—there is a strong incentive to identify and use the lowest-cost services. In many areas, besides GDRC-supported health services care is also delivered by private providers, including NGOs and for-profit clinics, private pharmacies, drug salesmen, and traditional practitioners. The initial AXxes KPC study showed that 44% of people still used government services when they were sick, with self-treatment being the most important alternative (26%), followed by no treatment (15%). The study also showed that price was not the only or most important factor in decisions about where to go for health care. Confidence in treatment (48%) and geographic location (33%) were more telling than cost (22%). Of course, Congolese with access to health care at all have always paid for services rendered both by private and government providers (through under-the-table payments). In fact, many Congolese believe that free service indicates lower quality.

Nevertheless, the existence of competing sources of care needs to be recognized. Because they are largely unregulated, they pose a threat to the quality of care provided to local populations. They also draw clients away from GDRC-supported facilities, depressing utilization rates and potentially threatening their financial sustainability. Since the alternative sources can be neither ignored nor suppressed, creative strategies are needed to incorporate them positively into the Congolese health care system by establishing communication and operational linkages between private providers and the GDRC system.

A fee-for-service strategy was instituted in project zones to support HC operating costs and, where possible, contribute to HZ functioning. National policy promotes the payment of a subsidized fee per illness “episode,” so that one patient payment covers all services/drugs necessary to cure the presenting problem. Preventive services like immunizations, growth monitoring, and FP are supposed to be free. This approach is meant in part to increase the sustainability of health care service provision after donor support ceases; historically some HZs have experienced a system shut-down when donor-supported projects end. Recently, the GDRC
has worked with the WB and other donors to build consensus on reasonable charges for curative care. Various donor projects use different approaches, but all attempt to find a balance between ability to pay and full cost recovery. Actual fee structures vary at each health facility because the cost of care is determined by the CODESA in collaboration with health facility staff. While this system addresses patient ability to pay, the cost of providing care can still be a problem for HZ financial sustainability if drug costs exceed the fixed fees.

When it began, AXxes initiated an episodic cost recovery approach designed to recoup 60% of the value of medicines received (40% at HCs and 80% at GRHs). Proposing standard fee-for-service costs helps reduce the practice of service providers setting high fees to supplement salary income (although this still occurs). The average rate set by the CODESAs was $1.50 for adults without antibiotics, $2.00 with, and $1.00 for children, but rates vary widely by HZ, from $0.20–$3.00 for children to $0.60–$3.00 for adults. GRH prices are often considerably higher. At first fees were higher in AXxes-supported HZs than in some surrounding zones supported by other partners, in part because of differences in salary support practices. The immediate result was a drop in HC utilization rates of up to 25%, especially in HZs that had previously been supplied with free medications through humanitarian projects.

By the end of Year 2, approximately 70% of HZs had adopted a cost recovery system. However, a high proportion of HCs were unable to meet their cost recovery targets, many returning less than 20% to the drug depots. In response, by the end of Year II, AXxes reduced the cost recovery objective from 60% to 30%.

The target for Year 3 is to have 70% of HZs adopt the episodic payment system. The assessment team found there was considerable variation in HC payment systems. At some HCs patients were charged for drugs and care separately, at others repeat visits for the same illness were being charged separately, and at still others patients were charged by episode. The actual fee structure also varied by HC depending on how the CODESA set fees. Cost of care was also increased by the high number of drugs prescribed, because drug fees provide extra income for health personnel.

To encourage successful referrals and reduce use of GRHs for primary care, a system of reduced fees (“preferential tarification” of at least 20% less than other patients) was introduced for patients referred from zonal HCs and presenting at the GRH. The system is still being tested in approximately half the HZs (the Year 2 target was 60%), and the degree to which preferential tarification is increasing referral rates is as yet unclear. Project reports indicate that the system is proving effective in rural GRHs, but for GRHs in urban areas and where many private clinics are operating, influence over referral practices is more limited. To address this, in South Kivu provincial officials suggested that preferential tarification be reduced to 50% (rather than 20%) of the usual tariff; about half of these HCs have adopted this revision. However, referral rates remain low where hospitalization rates are still high relative to HC costs, contributing to poor health outcomes.

**Recommendation:**

*Cost recovery is an important principle for system sustainability. However, where ability to pay is severely affected by lack of income, which lowers facility utilization rates, population health, and the ability to even establish a system, it may be too early to apply the principle in anything but a token sense. There is a continuing need to provide free health care to substantial portions of the rural population to improve access to quality PHC and thereby reduce morbidity and mortality. The AXxes Project should continue to consult with other donors and identify ways to address the needs of the most impoverished sections of the population. Consideration should be given, possibly as a pilot exercise, to a sliding scale fee reflecting ability to pay, with one*
category being designated for indigents who clearly cannot pay and have life-threatening conditions.
Drug Supply and Logistics Management

Finding: The supply, distribution, and management of pharmaceutical products at all levels of the system have been perhaps the single greatest challenge faced by the AXXxes Project since its inception. Despite intensive, often creative, efforts, drug supply and management issues continue to impede attainment of project objectives. The problems are multiple, interactive, and complex; they do not allow for simple solutions. The interplay between depot drug supply, salary shortfalls, drug quality, and patient ability and willingness to pay makes effective HZMT drug management particularly challenging. Drug management capacity in AXXxes-supported HZs was low at project inception, and turnover of staff exacerbates the problems.

The trade-offs represented by the project’s drug management strategy are emblematic of the continuing tension between saving lives now in a resource-poor environment and developing sustainable health systems to save more lives in the future. The project’s top priority is improved access to and utilization of integrated PHC services; when systems-strengthening activities undermine that goal, adjustments are made that in turn undermine long-term cost-recovery goals (e.g., by increasing the project’s drug subsidy).

The project has addressed these issues directly through logistics management training, drug management supervision, and careful monitoring of HZ drug supplies, facilitated by the project’s computerized drug management information system. Approaches are modified to address problems as they are identified. Resolving drug logistics and supply issues is critical to improving the quality and utilization of health services and thus of health status.

A detailed analysis is needed to identify pressure points that most strongly affect the efficiency of the system and are most amenable to project interventions. A strategic approach is needed, as is detailed follow-up on all system components to effect improvements.

The project made the strategic decision to channel drug distribution through the network of regional depots of the national FEDECAME drug management system in order to reinforce regional drug management capacity. A second decision was to bypass FEDECAME’s central ordering service and instead buy and bring in drugs directly from overseas sources. Other drugs and commodities (contraceptives) are obtained from USAID’s central procurement system and from non-USAID-funded SANRU partners, among them Abbott Pharmaceuticals, WVI, GIK, and UNICEF. An advantage of these latter two decisions has been availability at the regional depot of quality drugs at negotiated prices, imported tax-free in record time. The disadvantage has been chronic and serious facility stock-outs because HZs find it difficult to work through the regional depot drug resupply system, and there are inadequacies in the management of the depots themselves and in the project’s own supply process.

In Year 1 drug order quantities were based on historic utilization rates of the HCs, GRHs, and HZs. On the drug list, a subset of the MOH list of essential medicines, were 65 drugs. The list was established a month after project start-up and a few days later a waiver was requested from USAID to buy drugs from IMA suppliers. The initial approval covering half the drugs was received six months later, with the full waiver arriving another 10 days after that. The first drug order was placed five days after that. By early June 2007 the first emergency supplies were received by air and by mid-July regional warehouses had started receiving supplies, with most of the first order arriving by the end of September. In the interim, the project received drug donations from GIK and IMA member agencies. There were additional delays due to logistics challenges (see section I). The project addressed these in part by using three different entry points: Bukavu, Matadi, and Kinshasa. However, the cumulative delays continue to contribute to stock-outs of some drugs in some HZs.
Once they arrive in the DRC, drugs are sent to the regional depots, which were evaluated when the project began to better understand local capacity and infrastructure for pharmaceutical management, including depot capacity for the drug credit system. This laid the foundation for defining the mechanisms and organization of drug distribution in AXxes HZs. The project has a sophisticated computer system for tracking all supplies. Supply logistics are tied to the AXxes headquarters accounting system, which makes tracking much easier.

At project start HZs were given an initial stock of drugs consistent with their population size and historical use rates. Project design called for HZs to communicate directly with the closest regional depot for routine re-supply so that the project could base future drug orders on actual usage. The assessment team was unable to verify whether this actually occurred.

Credit lines were established at the depot for each HZ. After an initial allotment, as the basis for purchasing more supplies HZs were to pay their portion of costs into the line of credit with monies generated from facility fees for service. This approach had been successful during SANRU III and contributed to continued depot functioning and regional drug availability after that project ended.

MSH trained depot staff and district, provincial, and HZ staff to quantify medicine requirements, prepare drug orders, manage drug inventories, write pharmaceutical management reports, and monitor credit lines. The training was supplemented by quarterly supervisory visits.

One regional depot visited by the evaluation team in Kananga (Cadimak) was very organized and professionally run and provided services to a number of clients in the province, government and private alike, as well as AXxes-supported HZs. The Lodja depot also seemed well managed, although apparently a problem between the AXxes coordinator and the depot had led to a stock-out of a key PMTCT test (UniGold test kit) in one health facility.

Thus far, however, the credit line approach has worked better in theory than in practice. In most areas AXxes-supported HZs have not repaid the expected proportion of the original medication cost. By the end of Year 2, the average GRH contribution back into the line of credit was 20%, ranging from a high of 80% in Bukavu to 0% in 24 others, and the HC contribution was 16%, ranging from 60% to 0% in 16 HZs. For a few GRHs and HZs, line item credit and use is zero, which indicates they are either not part of the system or not reporting.

The assessment team learned that HZs are sometimes resupplied by depots even when they have not repaid much, if anything, into their line of credit. Depots have also tapped into other drug supplies to address HCs stock-outs when project stocks are low or depleted. These practices put the depots at risk because temporarily they have to fulfill other orders through other means. AXxes drugs are partially subsidized, and if for any reason the project does not replace the drugs distributed to associated HZs, depots have to fund the financial shortfall themselves. Moreover, the high price of some medicines like ACT limits depot system functioning and appropriate application of national treatment protocols. To address this, the project asked depots both to reduce the price HZs had to pay for ACTs for GRH use, and also to give the drug free of charge to HCs to encourage their use at both levels.

Health provider and client behaviors also contribute to drug supply and logistics problems. Throughout DRC drug supply and staff salary issues are intertwined. Many HZ staff members are not salaried, and even some salaried staff have not been paid for a considerable time or are paid very little. In many facilities monies from patient fees contribute to staff income, thus reducing

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9 Contraceptives, on the other hand, were supplied to the HZs directly rather than through the depots, early in the first year, and quantities were apparently based on project goals rather than actual usage (which, in any case was negligible). This led to understanding of some drugs and overstocking of others (e.g., IUDs).
funds available to capitalize depot credit lines and reducing HZ ability to restock drug supplies. This is further complicated by the practice of purchasing HC drug supplies through local private pharmacies, either because the HC is experiencing stock-outs or to lower the cost of drugs, because private sector drugs may be less expensive than AXxes-supplied drugs.

In some centers where patient fees remain the same but drug purchasing costs are lowered, the extra margin of benefit may supplement staff income. This practice affects drug supply issues in two ways: (1) When medications are bought in the open market with revenue generated at the HC, staff may be reluctant to record these transactions, so data on service utilization, drug usage rates, and health care income are inaccurate. (2) The quality of private sector drugs is not monitored and is unreliable, which may lead to poor treatment outcomes, increased disease resistance, increased disease burden, and loss of patient confidence. There is also the fact that many health providers overprescribe, some to increase their personal income. This leads to additional imbalances in drug supply and availability, as well as to public health consequences.

Patient utilization of health facilities is affected by many factors: ability to pay, logistics constraints, confidence in the quality of care, availability of alternative providers, behavior of health providers, traditional beliefs, misperceptions about disease, etc. All depress HC utilization rates in project zones. Low utilization rates in turn reduce HC incomes and ability to contribute to depot credit lines. Some health facilities provide free care or care on credit to patients unable to pay for services, further reducing HC income and distorting reporting.

The project has addressed these issues by increasing HZMT financial management capacity to monitor HC fee scales and by helping HZMTs to monitor health facility income (see below). To address them indirectly it has invested in HZ health care providers by providing considerable training, equipping facilities so service can be improved, and supporting frequent supervision of HCs. This supports a positive working environment, contributing to professional satisfaction and pride in one’s work. This is the philosophy the SRSS advocates; it is distinct from the historic mentality of public system “functionaries.”

Other projects are facing similar challenges: As with AXxes, FED9 has supply contracts with regional drug depots based on a standard list of drugs and prices. Once it is established that the drug depot can comply with contractual requirements, funds are transferred into an account, from which 75% of HC and GRH patient care costs are financed. The remaining 25% are to be funded by the HZs themselves through HC patient care income. This strategy was established to support sustainable drug system functioning, but while the financial transactions can be traced, apparently the system does not track the distribution and dispersal of drugs themselves. Additionally, the system is set up as a request-invoice-payment system. (Re)payments have been minimal in part because of problems transferring money, especially in rural areas where there are few or no banks and transaction costs are high.

HZ invoicing by the depot, done electronically with a standard computer program, is another challenge if zones do not all apply the same 25% co-pay policy. HZs are having difficulty contributing their part, and the need to subsidize their contribution to the drug fund is accelerating. This reduces monies available in the depot’s revolving fund with which it is supposed to prepay for drug resupply from FEDECAME. Similarly, the PARSS project reports serious problems with drug stock-outs, in part due to a cumbersome purchasing approval process.

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10 A health care utilization study by AXxes consultant and medical anthropologist Lauren Blum found, for example, that long waiting times, apparent health provider indifference, and poor communication between health providers and clients were significant factors in health facility avoidance.

11 Blum reported that caregivers have little understanding of fever and diarrhea, tending to start with home-based or traditional treatments before seeing a health care provider.
**Recommendations:**

1. Continued emphasis on reviewing drug supply information is warranted, as is support to HZs to do so. This should be supplemented by a separate logistics management initiative at the HC and HZ levels, linked to regional depots and provincial-wide capacity to ensure access to adequate preventive and curative services, including appropriate quantities, quality, and pricing of drugs. Flexibility should be built into projects supporting HZ capacity building, however, so that drugs can be ordered occasionally by HZs when chronic or serious stockouts threaten lives and system functioning, including patient confidence in the public health care system.

2. More emphasis on and support to HZs to monitor and review financial information is warranted. A bonus system should be considered that rewards HCs for balanced accounts in terms of people serviced, income generated, and drugs ordered/supplied/in-stock. One donor conducts community-based spot checks to verify that cases registered were actually treated. The system should reward low-use areas if they are well-managed as well as high-use areas, with a built-in incentive for systematic increases in facility use (i.e., balanced accounts).

3. The drug credit system needs additional support to reduce risks that depots face working with HZs that do not contribute to their line of credit. FED9 requires a 25% HZ contribution to drug resupply, but even at this reduced rate (5% less than that of Axxes) their depot revolving funds are not being replenished. They plan to increase the amount put into the depot revolving fund, which will help keep the depots functioning. This does not address HZ capacity to contribute to cost recovery, which they recognize as an important issue. Introduction of a system that tracks the flow of drugs (to the depot, from the depot to the HZ, from the HZ to HCs and back) to complement the financial tracking system will help with accountability. This is being addressed with assistance from MSH through development of tools for the project to track drug credits and train project staff on pharmaceutical management. Increasing facility utilization rates to increase predictable demand for resupply is also needed through attention to health care quality and facility staffing, as well as community outreach and education to increase demand for services.

4. A committee of pharmacists at the national level regulates the quality of drugs ordered through FEDECAME. They analyze the quality of drugs imported from, e.g., China by reviewing associated documentation and do quality audits of production sites in the DRC. Additionally, one MOH division deals specifically with drug management. FED9 addresses drug quality through its central-level support for improving national health financing. However, there is no quality control in the private sector, and it would require a major effort to initiate. USAID can contribute to this at the national level by increasing involvement with drug quality control procedures. This is better undertaken as part of a focused intervention, not linked to HZ capacity building and service utilization. At the HZ level, project efforts should raise awareness (e.g., through CODESAs) among health care providers and the community at large of the implications of using drugs of unknown quality, especially for self-medication.

**Human Resource Development/Training**

**Finding:** The project has invested considerable resources in human resource development through training at all levels of the health system (see Annex X for a full list of training courses), reaching over 24,000 “training units” (individuals having participated in a training activity). These efforts have been widely acknowledged and

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12 Any one individual may participate in many training courses so training units do not necessarily equate to number of individuals who have received any training.
appreciated. While not always translated into practice, knowledge and understanding of project management and technical components seem to be generally high. Unfortunately, high staff turnover and insufficient post-training follow-up and on-the-job refresher training diminish the impact of the initial training.

MOH standards outline official staffing patterns (cadres and numbers) by facility type. Staff types and numbers, competencies, and training needs were identified in all AXxes-supported HZs as part of the initial needs assessment. From the beginning, the project has worked with HZMTs to ensure a minimum complement of staff in the GRHs and HCs selected for revitalization. Training priorities, including who should attend which events, were then incorporated into HZ annual action plans. As with HZMT members, there is considerable facility staff turnover. The project works with HZMTs to identify where HC staffing is incomplete or ineffective and encourages them to address inadequacies as far as possible.

As with HZMT capacity-building, facility staff training has been aimed at increasing access to and quality of services as well as staff capacity to manage health care delivery. For most technical areas, updated training materials including service protocols were used; these were developed in collaboration with the MOH and consistent with international norms (see individual technical areas for details). The assessment team found the training materials to be comprehensive, of good quality, and following an adult-learning, participatory approach. All health facilities received the thick book that is the basis of case management practices and serves as a memory guide to trained health workers. The assessment teams found well-thumbed copies in health facilities.

Training was undertaken using a cascade approach for some technical areas, with HZMT members providing training to facility staff. For other areas, HZMT members and facility staff were trained together. Trained HC staff were charged with passing on training content to others in the HC, staff at lower-level facilities (e.g., health posts), and volunteers through informal information-sharing. In the health facilities the assessment team visited, these information sessions reportedly lasted only a few hours. Some lower-level staff (especially midwives) complained they had not been allowed to participate in any formal training. (In part this complaint may stem from the fact that training per diems can be a welcome salary supplement.)

Given the initially poor levels of knowledge, the multitude of staff needing training and the degree of staff turnover, use of a cascade approach is logical. However, the degree of knowledge mastery and skills competency (where competency is a training objective) predictably differs according to how training is rolled out and the training experience and skills of the “trainers” themselves, which generally weaken the further down the cascade training occurs. Also, retention of knowledge and skills post-“training” depends on many factors, including opportunities to apply them on the job. These are universal challenges requiring increased attention to what post-training strategies are feasible in a resource-limited environment and to pre-service training of the various health care cadres.

Recommendations:

1. Post-training follow-up to gradually improve the quality of service provision is a necessary component of a human resources development strategy. A comprehensive quality improvement strategy is also needed. Recommended elements:

   - Initial post-training visits should be considered an integral part of training, conducted until the quality of health care provision is acceptable.

   - The use of “ordinogrammes” also serves as a quality improvement mechanism, but the book is too thick for regular use for all cases, even immediately post-training. A better approach might be to publish simplified, less detailed ordinogrammes that could be mounted on the wall for easy referral.
Using the MEMISA COPE-like approach with a standardized checklist, health facility staff should audit their own quality quarterly as the basis for a quarterly quality improvement plan of concrete activities that can be achieved primarily through health facility and community resources. Verification of plans and activities could be integrated into zonal supervisory visits.

Supervisory visits can enhance quality improvement more effectively by prolonging visits for detailed observation of case management practices (using a checklist, which is then discussed with staff as a mini-refresher). Every six months supervisors could hold mini-courses during the visit, choosing an appropriate theme based on facility needs. The themes should be based on standardized mini-course materials and include self-teaching materials to be left with health staff. Whenever possible case management “critical reviews” should be based on actual cases. Role playing can also be an effective post-training tool to improve specific skills, especially provider-client communications and counseling skills.

2. Harmonizing pre-service clinical training with the content and approaches used for in-service training is more cost-effective in the long run. There are many stages to this effort, however—e.g., permission to modify curricula, modification of job descriptions, qualifying exams, and recertification criteria—that are better tackled through a focused pre-service education/training initiative.

Morale Issues

Finding: Morale issues deeply affect the quality and sustainability of health services. The issues must be addressed if long-term improvements in care are to be achieved.

This report repeatedly mentions health provider morale as a constraining factor that seriously undermines the effectiveness of project inputs like training and supervision and that compromises quality of care and utilization rates in many ways.

Morale is most closely linked to exceedingly low official pay, estimated to be for some staff as little as $0.50 per day on the basis of a 30-day month. Health personnel seek to augment their incomes in ways both legitimate and unauthorized. Among sources of additional income are per diems for donor-sponsored training courses and supervisory activities, income taken from health facility receipts for services and drugs, and second jobs.

Morale is also affected by poor living and working conditions, lack of opportunity for advancement, low job satisfaction due to poor planning and insufficient activity, and perceived or real inequalities related to unequal access to bonuses and other salary supplements provided by donors. The knowledge that donor-sponsored projects are of short duration and that related benefits will cease or change when they end further undermines morale.

Unlike other donors, USAID cannot provide salary top-ups. The project attempts to address provider morale issues through training, supervision, and a fee-for-service approach that provides some additional income to health personnel. While this certainly makes a difference, it is insufficient (see Annex XI for a detailed discussion of morale issues).

Recommendations:

1. Major improvements to the human resource development component of the health system at all levels are needed. The project can address these issues in part by continuing to work with HZMTs to improve their financial accountability and by working with provincial officials with responsibility for human resource development.
2. In the absence of salary support, it is necessary to identify alternative motivational support for health workers. Providing TA to help communities organize to support HC functioning, including staff living needs, should be an important concern of the project. Possible approaches include providing health personnel with additional income through participation in subsidized agricultural or other remunerative activities (e.g., palm oil plantations next to health facilities); providing a housing subsidy or rehabilitating health provider housing; and subsidizing educational costs for children of health providers (and/or strengthening local schools). Another approach might be to involve staff of some model centers in the training and supervision of less advanced facilities to allow them to benefit from extra per diem and enhanced status. This would provide motivation for attaining “model center” status, thus improving service quality as well as providing a mechanism for sharing best practices and finding responses to common challenges. Such alternative approaches need to be carefully pilot-tested.

Community Management Structures

Finding: The AXxes project has successfully put in place a community structure that complements and supports the formal health structure. Given the health financing and other challenges for HZs and facilities, CODESA functioning and support is critical to quality of care, system use, and system sustainability. CODESAs potentially play a key role in addressing HC health care financing issues and within the HZ in general. Strengthening their ability to generate income through community projects is critical to the ability of the community to contribute to costs. The community volunteer system further extends the reach of the health system. To keep it functioning, however, volunteers need to be continuously trained, monitored, and supported.

CODESAs are community structures designed to ensure and facilitate involvement of community members in their own health and in accessing health care. Members are community leaders and residents selected by the people. The CODESAs work closely with HC staff to set rates for services and verify delivery and use of supplies, including drugs. Few CODESAs were functional when AXxes began, but once they formalized their partnership with the HCs, the project helped reinforce them through training, supporting their involvement in HZ and HC meetings, and providing opportunities for them to promote health in their communities.

In some areas CODESAs have drafted 10-year plans for mobilizing resources as well as shorter-term three-year action plans for IGAs that would help financially support HC functioning and community outreach. In these areas development agents were identified to help CODESAs implement their IGAs, such as establishing palm tree nurseries. Because the project could not fund non-health inputs like seeds, these were paid for by other SANRU partners, and AXxes supported the training and supervision of and by development agents.

The project has a relatively small budget for community activities ($4,000 a year per HZ) but its efforts have increased the involvement of CODESAs. By the end of Year 2, 40% of CODESAs had been trained and given educational materials to help them become functional. While the proportion of CODESAs that financially support HCs has increased over the past few years, however, the absolute number remains very low. This in part reflects restrictions on financial support for agriculture-based IGAs.

The CODESAs also serve as a link between the HCs and community health volunteers. In the DRC volunteers have been used for a long time by many programs, notably vaccination programs. Although there are many thousands of them, they have lacked regular support and training. There are several different categories: Institutional volunteers are teachers, preachers, or other literate professionals who carry out health information and education activities as part of their regular duties. Promotional volunteers function as community educators; follow up with FP
acceptors, children with diarrhea or fever, pregnant women, etc., in their homes; and help organize campaign activities. Community-based care volunteers, many trained by BASICS to provide initial care in the context of community-IMCI, distribute some products, such as ORS, contraceptives, zinc, cotrimoxazole for pneumonia, and TB medication. Some of the promotional volunteers specialize in specific programs, such as TB or GBV. National policy is to have one volunteer for every 15–20 households, but some communities have more.

The volunteers receive no recognition for their work other than the respect of the community. This makes retaining them after training difficult. The assessment team was asked if the project could not supply them with simple supports, such as T-shirts, badges, notebooks, or other symbols of recognition. Some volunteers contacted by the assessment team felt they had not received enough support, materials, and training (in one HZ volunteers said Merlin was more active in this regard than AXxes).

The volunteers are supervised primarily by HC staff and meet with them at least monthly. AXxes has so far trained over 4,700 volunteers in c-IMCI and is establishing community care centers in 200 HAs. Volunteers have been provided with simple visual aids to help them transmit key messages (the “ten commandments”). The project has made strengthening the community component a priority for Year 3 and expects to train another 9,620 volunteers, conduct lot quality assurance sampling (LQAS) on the adoption of key community-based practices, and continue to operationalize community care sites.

In some HZs other local structures are also operating, such as local NGOs and the mother care groups in the CRS-managed HZs.

Women’s status in DRC society is low, and there are few opportunities for them to contribute to and participate in decisions and actions that affect the community, their families, and their own well-being. Facilitating women to become members of and active in CODESAs or to function as volunteers achieves multiple gains, and the project encourages CODESAs to have at least a minimum proportion of female members. The gender balance in project-supported HZs remains weak but has improved. The project objective is to increase the proportion of CODESAs with 50% female membership. It is working toward this objective by encouraging a gender balance during CODESA trainings on IMCI and organizing mother care groups. In one HZ a woman was even elected as CODESA president. This reflects in part the contribution of AXxes interventions on gender awareness.

Recommendations:

1. **Continuing to build up CODESAs should be a priority to complement HZ revitalization at the HZMT and facility levels.** Sustainable IGAs that can be funded through the project or through joint funding arrangements should be heavily promoted. The project should help CODESAs identify local partners willing to contribute to IGAs, including private sector or faith-based organizations and the HC and community themselves.

2. **Fee-for-service costs are a barrier to some community members accessing curative care, and in some facilities HC income does not begin to offset operating costs, including salaries.** In such cases, the availability of micro-credit or small grants to CODESAs could enable community organizations to take on more financial responsibility for health care access. The key to CODESA success is greater participation of women; one way to achieve this would be to have a minimum number of women CODESA members as a qualifying criterion for small loans or grants.

3. **HC and zonal support to volunteers should be reinforced and HC support for them should be reviewed during supervisory visits.** Whenever possible, zonal staff should meet with volunteers when they visit an HA.
III. INTRODUCTION TO COMPONENT A

The AXxes project was designed to address the interventions defined by the MOH in its minimum package of activities (MPA), which include

- Provision of a full complement of MCH services, including FP, PMTCT, and newborn and postpartum care
- Enhancement of water and sanitation
- Nutrition support
- Provision of pharmaceuticals and supplies to hospitals and HCs
- Reinforcement of vaccination services
- Vitamin A and zinc supplementation
- Prevention of HIV/AIDS and sexually transmitted infections (STIs)
- Malaria diagnosis and treatment and prevention
- Management of emerging diseases, such as TB.

To ensure service quality, the AXxes Project has provided a comprehensive set of MOH-approved care protocols to all the project’s 926 HCs and 57 GRHs, including flow charts, clinic IMCI and malaria protocols, and technical FP charts.

Because the assessment team was generally not able to observe case management practices during field visits, the findings in this section are drawn primarily from interviews and project documents. Also, the limited number and distribution of the sites visited may not be representative of all project sites.

**General Findings:** Utilization of curative services remains low (around 35%), but the rate is at the target threshold established by the project for Year 3 based on previous use rates, project inputs, and constraining factors. Preventive services, including growth monitoring, vaccinations, pre- and postnatal services, and FP counseling, are widely provided free of charge. Many policies have been developed at the central level, but case management practices in health facilities do not always conform to official guidelines: there are significant technical weaknesses in such programs as PMTCT, FP, and nutrition. These programs and water, hygiene, and sanitation warrant a much tighter technical focus by the AXxes project.

Even though there has been improvement in the delivery of most drugs, stocks-outs of many commodities and supplies, especially for FP, TB, PMTCT, and malaria, continue to reduce service quality.

Although the project utilizes subject-specific flip charts and a pictorial educational chart known as the “ten commandments” for training and informational purposes, and although there are charts on the walls of HCs and hospitals that contain a variety of health information and tips, well-organized and well-structured behavior change communication (BCC) initiatives are lacking.

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13 Y3 Q2 AXxes Indicators.
General Recommendations

1. Technical expertise needs to be reinforced at the national and provincial levels especially in FP, nutrition, PMTCT, and water and sanitation to consolidate gains and improve quality. Longer-term, USAID should consider developing separate but closely-coordinated vertical interventions guided by organizations with specific technical expertise in the four priority areas to expand and increase coverage of, access to, and the quality of AXxes project initiatives. This might include placement of international technical experts in selected MOH divisions.

2. Several well-designed flip charts exist for most program elements. The “ten commandments” concept is ingenious. Nonetheless, BCC activities would be enhanced by translation from French into local languages as well as by diversifying the media approaches (e.g., the “ten commandments” soccer ball, puzzles, games, etc.). The project could also consider expanding the supply of educational materials for health workers, community volunteers, clients, and national, provincial, and HZ leaders and managers. Since the USAID/DRC Mission has recently contracted with the C-Change (Communication for Change) Project through a field support mechanism, the project should look to this group for guidance on expanded BCC activities.\(^\text{14}\)

3. Drug management issues in the four priority areas need to be examined in a comprehensive drug management review that identifies specific strategies to reduce the number of stock-outs.

COMPONENT A: INCREASE ACCESS TO, QUALITY OF, AND DEMAND FOR MULTISECTORAL, INTEGRATED PHC (PHC) SERVICES

Reproductive Health

Family Planning

*Finding:* Given short birth intervals, a high fertility rate, and high rates of maternal, neonatal, and infant mortality, the immediate need in the DRC is to build a solid FP program. FP is one of the weakest AXxes components. Despite project reports that targets had been surpassed, contraceptive prevalence and CYP are low. AXxes reported integration of FP activities into 864 HCs by the end of Year 2, again surpassing the targets, and training of over 1,600 nurses and HZMT members. National policies are comprehensive, but FP services are scattered and minimal, and especially in HCs counseling appears to be of poor quality. Only in hospitals where antenatal care is provided and where FP is addressed after delivery was there any evidence that FP has been integrated. Repeated and chronic stock-outs of FP commodities have hampered service delivery, as have cultural, religious, and gender-based constraints. BCC and other demand creation activities have been insufficient at both the health facility and community levels. Visual materials are inadequate in quantity and quality.

\(^\text{14}\) C-Change is USAID’s flagship project (2007-2012) for improving the effectiveness and sustainability of communication programs across multiple sectors: population, health, environment and civil society. The program is designed to achieve results in four areas: (1) implementing evidence-based scaled-up health and development communication programs, applying best practices for behavior change; (2) transferring health and development communication skills and knowledge to developing country institutions; (3) integrating health and development communication within the wider public health and development agendas; and (4) generating and sharing knowledge about applying effective social and behavior change communication to address emerging health and development issues.
The overall fertility rate in the DRC is 6.3 and as high as 7.7 in Kasai Occidental. While 84% of married women aged 15–49 said that they “know” a method, only 20% are currently using any form of contraception, and only 6% use a modern method. The same study found that 38% of married women want to space their births by more than two years and 19% do not want another child. Even though the DHS stated that male condoms are the most widely used modern method of contraception, the team was told and observed that Depo Provera and beads are the preferred methods. According to the DHS, the use of modern methods is highest in Kinshasa (13%) and lowest (2%) in Kasai Occidental and Kasai Oriental, two of the three zones that the team visited.

In July 2008 the MOH, in conjunction with the PNSR and UNFPA (United Nations Population Fund), defined the problems in the DRC in Politique Nationale de Santé de la Reproduction. This document endorses the principles outlined at the 1994 Cairo Conference on Population and also in the Millennium Development Goals and provides guidance as to what needs to be done at each level of government to enhance RH. The director of the PNSR told the assessment team, however, that there is simply not enough financial support to carry out these policies.

The revised November 2008 AXxes Year 2, Quarter 4 report shows that the project has surpassed some FP-related targets. CYP targets have been surpassed by 51%, primarily due to an increased number of visits between project Years 1 and 2. The report states that an increased number of individuals have been counseled. The change was in part due to the fact that AXxes developed the first FP programs ever in South Kivu and Kolwezi. In Project AXxes Indicators and Targets Years 2 and 3, AXxes reports a 121% achievement in CYP after Year 2, completed training in RH and child spacing, and almost 90% HC coverage in the number of USG-assisted service delivery points providing FP counseling or services. However, the number of FP acceptors in USG-supported FP clinics was only 20%.

Constraints to effective implementation of AXxes Project FP programs include religious beliefs held by IPs (especially CRS and WVI) that do not permit implementation of full-scale FP activities, and the religious beliefs of many service providers and potential FP acceptors.

Another constraint is the low status of women in the DRC and the practice of health providers of demanding spousal consent before providing FP services to women. The assessment team was told that some health care providers will not provide contraceptives unless the husband accompanied his wife and gave consent. In one HC the chief nurse said if the husband would not come, the nurse would go to the village to find him.

Attitudes of health care providers and managers at all levels also constrain the delivery of a full range of FP services. A pervasive pro-natal orientation undermines central GDRC support for FP programming as well as service provider attitudes that affect the quality of services like counseling. Some providers interviewed admitted that, while they presented all methods to women during FP counseling, they provided detailed information on cycle beads and condom use while emphasizing the side effects for other methods. Some providers interviewed had a poor understanding of some contraceptive methods, especially the lactation amenorrhea method (LAM).

In several health facilities the FP registers did not provide any column to indicate repeat visits, and there seemed to be no indication that FP acceptors had returned after the first visit. In couples opting for cycle beads supplemented by condoms for use during the fertile period, couples did not seem to return for more condoms. An additional problem already discussed is the often unsupportive health provider behavior toward clients which can also affect FP acceptance.

15 Democratic Republic of the Congo, Demographic and Health Survey 2007, Key Findings, Measure DHS.
16 Democratic Republic of the Congo, 2007 Demographic and Health Survey, Preliminary Results, Measure DHS.
Appropriate counseling materials are not generally available. Although a flip chart has been designed especially for FP, it was not in evidence in some of the HCs the team visited. It also appeared that the flip chart was used only in training and a single copy was kept at the HC. In any case, sections of the flip chart were too technical for most clients. No other FP educational materials were observed.

Some provider behaviors and attitudes can reinforce negative client perceptions of FP. There appeared to be some preconceived beliefs about some methods: pills are difficult to remember and women do not like them; condoms are not a favorite method for either men or women; IUDs are not popular because they are known to cause bleeding and infection.

Community involvement in FP service delivery is low. The project will be addressing this in the current project year by distributing some FP commodities at 200 community-based care sites, in conjunction with c-IMCI training, and increasing mass media messages, in part through more intense collaboration with PSI (Population Services International) in overlapping HZs. FP messages will also be reinforced during immunization encounters. At present, however, aside from the “ten commandments” health flip chart, which has birth spacing as the only FP message, there are no FP materials that volunteers could carry into villages as hand-outs.

Stock-outs remain a problem for the effective provision of FP services, especially of Depo Provera and cycle beads (32% of service delivery points reported stock-outs of a contraceptive commodity at some time during Years 1 and 2). Initial orders also have led to oversupply of some commodities. The team observed an overstock of IUDs with expiring shelf lives, for example; there is very little demand for this method. In some urban areas, PSI is social marketing male (Prudence) and female (Prudence Femme) condoms, pills (Confiance), Depo Provera, and cycle beads, which is increasing FP access.

Aside from Depo Provera, both demand for and access to longer-term methods are minimal. In South Kivu some women seemed to show an interest in IUDs, but the data do not reveal an increase in use of this method. Health provider training for longer-term methods, including IUD insertion and voluntary surgical contraception, suffers from a lack of clients. Vasectomies are not offered anywhere, and though female sterilizations are supposed to be offered at maternity hospitals, no statistics confirm this. In Lubondai, the team learned that the hospital had done a few female sterilizations, but this is seen not as a regular FP method but as a mean to prevent uterine complications in women who have had multiple c-sections.

Another problem is the lack of accurate reporting on FP methods. SNIS does not take into account cycle bead reporting.

**Recommendations**

1. **Significant improvements in FP indicators will only be achieved if FP receives more focused support in the future.** An organization that specializes in comprehensive FP services needs to be identified as a partner, and regular TA from experienced consultants needs to be incorporated into the program design.

2. **Expertise is needed in FP supplies forecasting, logistics, and delivery.** A total inventory of contraceptive supplies available in GRHs and HCs must be matched against usage and demand.

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17 The FP program experienced stock-outs of Depo Provera when the Matadi River was engorged and the container was stuck in Pointe Noire. UNFPA stepped in and gave AXxes a supply of Depo Provera, but this is not a reliable source on an ongoing basis.
3. A comprehensive IEC/BCC effort is needed to increase demand for FP and address factors that adversely affect service delivery. FP messages need to be based on solid and compelling evidence and be appropriate for the intended audience, especially women seeking services in health facilities and in the community. These messages should be linked to general health information, such as the positive benefits of birth spacing, the advantages of breastfeeding, the relationship of FP to maternal mortality, and the importance of condom use in curtailing HIV transmission. Consideration also must be given to the welfare of women, addressing the concerns of those who cannot see themselves pregnant again.

4. When addressing policy makers, messages must be carefully tailored to each audience: Messages to the MOH might emphasize the health benefits of FP (it can save women’s lives); those to the MOF might emphasize the savings possible if FP receives more attention, and that it requires a separate line item in the budget.

5. FP needs to be repositioned in the DRC. As the importance of managing population growth is increasingly emphasized, FP messages could be tied to issues like climate change, poverty, water, economic development, food security, women’s rights, maternal mortality, and education. FP cannot be provided in a vacuum—bigger-picture issues and the revival of concepts related to population must be taken into account. The project needs to give attention to the Millennium Development Goals (MDGs) and the Cairo Conference principles; the PNSR has cited these as important guidelines in forming national policy. Consideration should also be given to using the RAPID model, which has been used by other USAID projects, for example, in Rwanda, to illustrate the impact of population growth on economic growth, agriculture, education, health, and food security, as a means to raise awareness and commitment to FP at the highest levels.

6. Formalized advocacy for FP policy is needed with regard to a range of social norms. Beginning at the MOH, a path needs to be established for policies to be communicated down to the service level at HCs and in villages. The PNSR needs assistance so that its policies can be effectively communicated and implemented at the intermediate and HZ levels.

7. The project needs to work more closely with other organizations and stakeholders to coordinate RH and FP services throughout the DRC, even if they are not providing services in the same geographical area. There is a great need for information to be shared and coverage assured. An example is the Congolese Association for Family Wellbeing (ACBEF: Association Congolaise Pour le Bien-Être Familial), which provides a host of RH services in Congo Brazzaville across the border from Kinshasa.

8. The project might consider bringing together a consortium that meets regularly to address essential matters related to FP. Members should include ACBEF, UNFPA, the PNSR, and organizations providing TA, such as MSH (Leadership, Management and Sustainability Project) and the C-Change Project.

9. There is a need for supervision from HZs to support and encourage providers to address contraceptive side effects and ensure follow-up after the first visit. Technical supervision of FP is also one of the weaknesses of the program.

Sexually Transmitted Infections
It appears that syndromic diagnosis and treatment of STIs are spotty, and statistics are not available. Several team members noted, however, that one GRH systematically uses a syndromic approach to detecting some STIs, such as vaginal discharge. In this GRH STI treatment is provided for both members of a couple. A woman is asked to return to the hospital with her husband so that both can receive treatment at the same time. If they do not return, hospital staff
contacts the HC or community representative to encourage them to come. They said they do not have problems with couples not showing up for treatment.

Gender-Based Violence and Fistula Repair

**Finding:** In a few sites the AXxes project addresses GBV and fistula, which are major problems in the DRC, especially given the low status of women. Community-based initiatives have started in many HZs.

The DHS reports that nearly two-thirds (64%) of Congolese women have suffered physical violence since the age of 15, and nearly three-quarters have suffered spousal or partner abuse. One consequence is increased rates of fistula, which can also result from multiple unattended births.

The project has provided four small grants to local organizations that have conducted community-wide campaigns on the prevalence of GBV, focusing interventions on high-risk groups. Volunteers who have been trained in GBV through AXxes are supposed to do outreach to find women who might have been affected and refer them to the GRH. More serious cases are to be referred to provincial reference hospitals. A thousand flipcharts have been distributed, and AXxes and PNSR have developed messages promoting equality between boys and girls. In South Kivu CRS is working in all 21 CRS-assisted zones to sensitize communities to GBV issues. Of major concern is that a majority of volunteers are men, and the issues surrounding GBV are very sensitive. In fact, several assessment team members were asked not to ask questions about GBV in the HCs because the men to whom they were talking would not acknowledge that it is a problem.

AXxes has helped to promote fistula repair at 10 sites by supporting the training of eight doctors and four nurses. Some of the doctors have complained, however, that the subsidy of $50 per fistula repair is too low, and the necessary supplies are lacking.

**Recommendations:**
1. **Encourage the training of more female volunteers to deal with women on sensitive subjects like GBV and fistula.**
2. **Incorporate gender issues into all trainings for health professionals.**

Maternal, Neonatal, and Child Health

Antenatal, Intrapartum, Postnatal, and Newborn Care

**Finding:** The AXxes Project has been meeting its goals to build a strong system for ANC in HCs and hospitals and postpartum care in hospitals. Equipment and supplies have been provided to HCs, HZs, and GRHs. Nevertheless, there are constraints to effective provision of perinatal services. For example, active management of the third stage of labor has been hampered in some areas by the lack of drugs. There are also some definitional issues that affect program indicators, e.g., the definition of attended births needs to be clarified (see below).

Maternal and under-5 mortality rates in the DRC are exceedingly high. The 2007 DHS estimates under-5 mortality at 148 per 1,000 live births, infant mortality at 92 per 1,000 live births, and maternal mortality at 549 for every 100,000 births. Of all female deaths of women between 15 and 49 years of age, almost one in five (19%) is related to pregnancy.

The DHS showed that 85% of Congolese women received ANC; in Kasai Oriental and Kasai Occidental, sites visited by the teams, the coverage was 83% and 90% respectively. AXxes
reports\textsuperscript{18} that it surpassed its targets for ANC (133\%) and assisted births (117\%). However, few women start antenatal visits as early as the 16\textsuperscript{th} week of pregnancy, as is recommended.

An issue identified by AXxes is the definition of an “attended birth.” In one province, “skilled personnel” are defined as nurses with at least an A2 diploma, so births attended by midwives are not reported. Rural areas have the lowest number of attended births (63\% compared to 91\% in urban areas).\textsuperscript{19}

The referral hospitals that the team visited all reflected a sound system of care for postpartum women, who receive FP counseling. Newborn care also appeared to be good, with resuscitation techniques available as needed. Hospital staff seem to be well-trained in all aspects of maternal and newborn care. FANC/MIP (focused ANC and malaria in pregnancy) was implemented in all AXxes HCs in the first year of the project; it consists of a minimum package of ANC consultation, education, anti-tetanus vaccination, intermittent preventive treatment (IPT) and long-lasting insecticide-treated nets (LLIN) to protect against malaria, iron tablets to prevent anemia, and Mebendazole for deworming.

All the 57 GRHs received birth kits—boxes containing laparotomy, herniorraphy, caesarean, and basic surgical boxes—and all HCs and GRHs received care protocols. Flowcharts have been distributed to most facilities. Distribution will be completed next quarter for some facilities in Kolwezi and South Kivu. The revised newborn care protocol will soon be distributed. Birth kits, birth management tools, and newborn care protocols were distributed in five maternity facilities in each HZ.

One of the indicators of the AXxes program is “percent of women in targeted HZs receiving IPT.” In Year 2 the target was 80\% but only 51\% were reached. It may therefore be difficult to reach the Year 3 target of 90\% coverage.

The BASICS and POPPHI Projects trained HZ staff and community volunteers in revised newborn protocols, improving provider knowledge of obstetrical and neonatal care in the third stage of birth and postpartum. AXxes admits that active management of the third stage of labor (AMTSL) for prevention of postpartum hemorrhage has lagged; the refresher course is continuing, and necessary pharmaceutical products (oxytocin) have been available through AXxes only recently. When ergometrine was substituted for oxytocin, the results were not positive. At the HCs visited, midwives and nurses were clearly familiar with AMTSL principles and reported reduced frequency of hemorrhage but tended to emphasis provision of oxytocin rather than the other two steps, delivery of the placenta by controlled-cord traction and massage. Thus it was not clear whether the full AMTSL protocol was systematically followed. Although all HCs have charts on AMTSL, there is a need to integrate it with newborn care.

Some of the indicators identified and reported on by Project AXxes after Year 2 illustrate where progress has been made and where there were gaps in MCH; Year 3 statistics will obviously provide additional information about progress. Some examples are as follows:

- Number of postpartum newborn visits within three days of birth in USG-assisted programs (60\% projected, 40\% actual)
- Number of ANC visits by skilled providers from USG-assisted facilities (80\% projected; 94\% actual)
- Number of people trained in maternal/newborn health through USG-supported programs (100\% projected, 18\% actual)

\textsuperscript{18} Year Two, Quarter 4 Annual Report.
\textsuperscript{19} DHS, Key Findings.
- Number of deliveries with a skilled birth attendant in USG-assisted programs (60% projected, 70% actual)
- Number of people trained in child health and nutrition through USG-supported health area programs (100% projected, 68% actual)
- Number of women receiving AMTSL through USG-supported programs (90% projected, 74% actual)
- Number of newborns receiving antibiotic treatment for infection from appropriate health workers through USG-supported programs (90% projected, 67% actual)
- Number of newborns receiving essential newborn care through USG-supported programs (80% projected, 99% actual)
- Percent/number of children under the age of 5 with diarrheal illnesses cared for correctly following national policy guidelines (80% projected, 40% actual)
- Rate of use of health services (53% projected, 31% actual)

**Recommendations:**

1. Continue to emphasize maternal and neonatal care quality improvement through focused supervisory visits and short-course or autodidactic materials. Evaluate the quality of information transmission between the head nurse and midwife at HCs; it was apparent in at least some cases that the male nurse profited directly from training (e.g., AMTSL) and then “informed” the midwife.

2. Strengthen community-based support of antenatal and postnatal care by introducing birth plans in communities, and perhaps encouraging the development of “maternity waiting homes” for high-risk women, including those who live very far from a maternity center, as is apparently done in some areas of South Kivu.

3. Adopt a wider perspective of RH that encompasses more integration of services between, for example maternal health, FP, and nutrition.

4. Strengthen IPT as part of FANC/MIP.

**Integrated Management of Childhood Illness**

*Finding:* AXxes implemented IMCI interventions that adhere to the national approach (adapted from WHO) and introduced IMCI into HZs using the protocols, practices, and strategies of the MOH (e.g., use of volunteers) but was not able to achieve the recommended standard of one volunteer to 15 households due to budget constraints; instead the project achieved an average of 30 volunteers per health area. In Eastern DRC the project contracted with World Relief to expand upon the “care group” approach as a pilot in one HZ health zone out of 57.

The project has reported that IMCI-related drugs, including ORS, ACT, and antibiotics, are available at all the HCs.

Starting in 2007 CRS initiated community-based IMCI in its zones using care groups. Now, 200 HAs have been selected for the introduction of community care sites in which volunteers will be trained to provide specific initial care for diarrhea, fever, and other simple interventions, including distribution of FP commodities. Over 9,200 volunteers will be trained.
Nutrition

**Finding:** Nutrition-related project interventions are currently limited to a few components: promotion of exclusive breastfeeding, vitamin A supplementation, iron and folic acid supplementation for pregnant women, promotion of zinc supplementation for diarrhea, and growth monitoring. Given the gravity of the nutritional needs in the Congo and the many other activities the project supports, limiting these interventions is appropriate. However, community-based education needs to be strengthened to reinforce exclusive breastfeeding for six months and to improve household hygiene practices, home treatment of fever and diarrheal disease (through supplemental feeding and ORS as well as zinc), and feeding of young children in the home.

Poor nutritional status in the DRC is part of a vicious and complex cycle of poverty, hunger, (due in part to harvests reduced by mosaic disease affecting manioc and banana staples in the Eastern Congo, the breakdown of commerce and income-generating activities such as mining, and even larger economic problems), lack of FP, lack of access to clean water, inadequate sanitation and poor hygiene leading to repeated episodes of diarrhea, poor household nutritional practices, and poor health status, which is both a cause and an effect of poor nutrition.

Women and children are affected most. Undernourished women have higher rates of maternal morbidity and mortality and lower-birth-weight babies, leading to higher rates of neonatal and infant deaths and higher morbidity and mortality in older children. Among under-5 Congolese children, 46% are stunted, one-fourth of them severely so, and 10% are wasted. Of children 9–11 months old, one in five suffers from acute malnutrition. Almost three-quarters of Congolese children aged 6–59 months are anemic, as are almost 53% of Congolese women.

Within PHC programs, nutritional status can be improved through micronutrient supplementation; promotion of exclusive breastfeeding; growth monitoring to identify undernourished children who then receive supplemental feeding in the home or through provision of special foods; nutritional support services for people living with HIV/AIDS (PLWHA); improved hygiene, which lowers the rate of diarrheal disease (see Water and Sanitation below); and lowering the childhood disease burden through immunizations and better treatment of illnesses like diarrhea and fever. Other interventions more appropriately tackled through separate complementary programs include improved access to clean water and sanitation, income-generating activities, improved agricultural practices, and improved transport of food to market.

In a meeting with staff of Pronanut, the national nutrition program, the assessment team learned that the central level has issued comprehensive nutrition policies and a host of education materials. A training model, *Actions Essentielles en Nutrition pour les Enfants et les Femmes*, was created in 2008 and is used in provincial and HZ training. However, the team also heard that Pronanut has been extremely weak in its dissemination of nutrition policies, which have in fact not trickled down to the intermediate and HZ levels.

The director of Pronanut was highly complimentary of the project’s efforts to make the system for distributing vitamin A (combined with Mebendazole for deworming) work and make sure that the drugs get to people in hard-to-reach zones. In collaboration with HKI, AXxes participated in vitamin A campaigns, assisting with logistics, planning, and transportation of vitamin A and other materials. The director stated that the AXxes distribution system works much better than the MSP system. According to AXxes reports, 97% of targeted children under 5 received vitamin A in Year 2.

In health facilities IMCI activities include managing diarrhea with zinc and ORS and treatment of fever and other childhood illnesses. According to the 2007 DRC DHS, 16% of children under 5 were reported to have had diarrhea in the previous two weeks, but the prevalence jumps to 30% in
children 6–11 months, the age at which they are typically exposed to contaminated drinking water. WHO recommends zinc supplements for children with acute diarrhea to curtail the severity of the episode and prevent further occurrences in the following 2–3 months. AXxes piloted zinc supplementation in 12 HZs starting in 2007; in Year 3 the initiative will be scaled up to all zones. This will require substantial additional quantities of zinc. Community IMCI training will address community and household interventions.

Growth monitoring cards, height boards, scales, and growth-measuring wrist bands are being used in health facilities. Visits to HCs, however, revealed that little education takes place at growth-monitoring sessions, and no supplemental feeding or feeding advice is given. Exclusive breastfeeding is included in the following IEC materials:

- A message about breastfeeding is one of the “ten commandments”.
- A collection of messages promotes newborn health.
- Newborn health flipcharts are available.
- There are counseling cards for maternal and newborn health.
- There is also a c-IMCI flipchart.

Exclusive breastfeeding for six months is encouraged for all women after delivery, but the team was told that three months is the average. The DHS showed that only 48% of children were breastfed in the hour following birth and 18 percent received foods before being breastfed.

Another problem is the lack of nutritional support services for PLWHA. Because PEPFAR severely restricted such services, the AXxes PMTCT component did not include nutrition. This might be an area to consider reinforcing in future PMTCT programming. The poverty, food insecurity, and poor nutrition that affect most rural people in the DRC are especially challenging for PLWHA, affecting their ability to adhere to care and treatment regimens.

HKI, UNICEF, and Pronanut participate in a working group on flour fortification. In conjunction with UNICEF, new educational materials are being drafted on breastfeeding, iodine/salt, and wheat fortification.

Community nutrition-related activities are still very weak because volunteers have not yet received the necessary training.

Recommendations:

1. Community nutrition-related activities need to be greatly strengthened, with additional training targeted to volunteers and CODESAs. Assistance to Pronanut to help disseminate materials and implement policies is crucial. Nutritional messages need to include promotion of exclusive breastfeeding, improved household hygiene practices, increased feeding and liquids during diarrhea episodes, and dietary recommendations for young children and pregnant women.

2. Health facility staff need to receive more in-depth training on maternal and child nutritional needs, the interactions between nutritional status and illness, and the importance of linking growth monitoring to nutrition counseling.

3. Exclusive breastfeeding initiatives need to be reinforced by expanded BCC activities and included in all health provider training programs.
4. Consideration should be given to identification or development of a locally made child food supplement (perhaps peanut-based) for undernourished children. This could perhaps become an income-generating activity.

5. Special attention needs to be given to nutritional support activities for PLWHA.

6. Consideration should be given to development of complementary community-based income-generating activities that would increase food availability, including possibly food-for-work projects linked to the water and sanitation initiatives. This probably should be done by a project other than AXxes, but in the same communities.

7. AXxes needs to be more active in the consortium of organizations addressing nutrition.

Immunization

Finding: Project support for both routine immunization and vaccination campaigns has been substantial. Its role has been in coordination, planning, training in surveillance, and logistical support, including cold-chain strengthening. A major accomplishment is that AXxes was able to leverage a donation of 1.2 million solo shot syringes from BD Medical (Becton, Dickinson & Co.) to supplement its vaccination and curative care efforts.

The national PEV (Expanded Program of Immunization) devises policy and mobilizes resources from multilaterals like WHO, UNICEF, USAID, the World Bank, and GAVI. PEV has worked with AXxes in planning vaccination-related activities and in training nurses and volunteers. As a PEV partner, AXxes participates in monthly vaccination meetings.

Initially, the project re-established the cold chain, providing solar and kerosene units, and provided vaccination-related materials like syringes. It continues to provide kerosene to the HZs for the cold chain and subsidizes monthly supervision and monitoring meetings. It has also supplied PEV forms and undertaken monitoring and surveillance activities.

Nurses’ training on vaccination was completed in all the HZs by the end of Year 2. Volunteers have been trained to communicate PEV-related messages and serve as catalysts for getting children to the HCs. Campaigns promoting routine immunization through preschool programs have increased awareness of vaccine-preventable diseases.

PEV staff, while praising the project for its participation in planning and implementing vaccination campaigns, said that AXxes has not given them information about project activities, such as how many trainings have been done in the HZs or how many refrigerators there are. PEV staff also mentioned the project’s geographic dispersion as a problem: it would be helpful if the AXxes Project provided support at the provincial and national as well as the HZ levels and better supervised what is happening in HZs.

Another problem the AXxes Project identified concerns harmonizing data; some zones report over 100% coverage.

Recommendations:
1. Goals for vaccination initiatives have to be delineated more clearly and coordinated more closely with the PEV and other IPs.
2. Targeted interventions are needed to improve performance in weaker HZs.
HIV/AIDS

Except for blood safety and PMTCT interventions, the assessment team was not asked to look at HIV-related activities.

Blood Safety

Finding: Blood safety interventions have progressed well over the past two years, but more follow-up is needed to assure the quality of laboratory work and recruit voluntary blood donors.

Starting in early 2007, supported by $1.2 million in USAID funds and with TA from MSH, AXxes started a blood safety initiative with a rapid baseline assessment of laboratory capacity to perform HIV, malaria, and TB testing and transfusions; it then trained 174 laboratory staff. Toward the end of 2007 USAID received additional funding of $1.9 million through a global development alliance with Safe Blood for Africa to establish blood testing at GRHs and reference HCs. AXxes and Safe Blood together drew up a work plan. Lab staff were trained in six zonal hospitals, so that nearly all lab staff in AXxes zones have been trained in screening for transfusion-transmissible infections, blood grouping, compatibility testing, and storage and transportation of blood products. Some of the training occurred regionally, partially supported by PEPFAR. Last year one of the regional training programs was in the DRC.

Health facilities were given the necessary reagents, supplies, and equipment by AXxes, Safe Blood, and in South KIVU Cordaid. Safe Blood began to provide HIV test materials late in 2008, but these have not yet all arrived. Safe Blood is taking the lead on quality control of blood transfusions. By September 2008, 100% of transfused blood had been screened for HIV and other diseases and 114 transfusion service outlets were functional.

Starting in 2007 AXxes launched an initiative to recruit low-risk voluntary blood donors. This effort is slowly progressing, despite difficulties in convincing donors to give blood for free.

PMTCT

Finding: PMTCT services in the DRC commenced in 2003 with support from UNICEF and GTZ. There are numerous partners working to provide these services, including the Global Fund in 296 HZs, UNICEF in 190, and CDC/UNC in 36. Experiences are shared in quarterly meetings of these partners with USG and MOH (the National PMTCT Working Group). However, problems with coordination among donors have impacted the scale-up of PMTCT services. Though government guidelines call for a movement to more complex prophylactic regimens, due to logistical constraints the vast majority of sites are offering only sdNVP. Laboratory capacity is severely limited; there is very little CD4 testing available and no infant PCR (polymerase chain reaction) testing nationwide. Exclusive breastfeeding is fairly common up to 6 months of age. Beyond that mixed feeding is the norm, but due to rampant food insecurity early weaning is usually not possible.

The PMTCT portion of the AXxes project was intended to cover a 30-month period, March 2007–September 2009. However, services did not begin until October 2007, and in the Lodja HZ not until October 2008. Currently, of the 57 health zones supported by AXxes, 40 have PMTCT activities, in 126 of the 129 sites originally intended. The three other sites are anticipated to be in place by the end of April 2009. Due to time and logistical constraints, the only sites visited for this assessment were 3 of the 5 in Lodja and a non-AXxes site supported by the CDC/UNC program in Kinshasa.

20 Please see full report in Annex XIII.
Based on discussion with national AXxes personnel, factors contributing to the delays were logistical challenges, delayed finalization of national guidelines and workplan approvals, and a widespread nursing strike that severely limited the availability of staff to participate in training sessions and ultimately provide services. Additionally, CRS, one of the three primary AXxes IPs, was restricted by a headquarters policy that did not allow it to provide sdNVP, which at the time was the national policy. AXxes has since worked with the MOH to update national guidelines to include combination prophylaxis, which will be the standard at CRS sites. Services were most severely delayed in Lodja. Lodja was not one of the districts originally included in the AXxes Program Description but was added later as some districts intended to be covered by AXxes began to receive PMTCT support from other partners. USAID resources were redirected to address unmet need in Lodja, where a 2006 GDRC ANC surveillance study found the highest AIDS prevalence in the country at 6.9%.

A dearth of care and support services places a severe strain on providers, particularly counselors who inform patients of positive test results. One voluntary counseling and testing (VCT) counselor related that since the community is small, she has had clients whom she has informed of a positive test result come to her home requesting financial and other assistance from her directly. Clients often feel, she said, that since she had given them this bad news, she owes them assistance. This extremely difficult situation obviously has a significant negative impact on job motivation and satisfaction. Other counselors related similar situations, including one who has experienced marital trouble due to male clients showing up at her home wanting to speak privately with her to ask for assistance.

Nutritional support services are virtually nonexistent. At all sites visited and in meetings with all stakeholders, inadequate nutrition and food insecurity were identified as a major problem. This has a profound direct impact on general maternal, infant, and child health and on patients’ ability to adhere to care recommendations and treatment regimens. It has indirect effects in areas like access to services, household financial resource allocation, and care-seeking behavior. It also affects infant feeding options: When other foods are introduced after 6 months of age, breastfeeding is continued because the supply of other foods is not nutritionally adequate and there are generally no alternative infant feeding options.

Understanding of HIV/AIDS appears to be quite limited, particularly in peri-urban and rural areas. Fear and discrimination are common and contribute to patient reluctance to be tested. No community sensitization activities or messages were reported, and none were observed. Health care workers said that for women who do test positive, disclosure to partners and family members is extremely difficult and at times has led to blame, social isolation, or violence. Positive women often have to hide that they are taking medicine and are reluctant to give medication to the infant for fear of arousing suspicion. This also complicates infant feeding.

Sites reported they have an abundance of registers and forms for collecting PMTCT data collection but have received little if any training in how to use them. This has led to inconsistent approaches, suboptimal utilization, and potential data errors. When assessment team members went through registers with staff, they found frequent gaps, data in different registers were not reconciled, and the way registers were arranged was not efficient. For example, at one site, 12 different registers were being used to collect PMTCT-related data, including different books for basic ANC information, lists of women offered testing, women tested, partners invited to test, partners receiving testing, postnatal follow-up, women receiving prophylaxis, etc.

At this site, it was possible to do a Determine test for ANC clients. If this was positive, the woman was referred to the lab for UniGold and Double Check testing. If the ANC clinic was busy, women were referred to the lab for all three tests. If the lab was busy, all three tests were
sent in parallel rather than following the serial protocol, thus defeating the purpose of serial testing.

Information was scattered at different locations, depending on where testing was performed on a given day. Positive results from the lab were written on a piece of paper and eventually sent back to the ANC clinic, where the PMTCT officer reviewed them but had no place to document them. Thus, these results may be kept in the lab register but not in any of the PMTCT registers and may not make the link back to the patient for appropriate care. Monthly supervisory visits from AXxes staff were very general—they asked how things are going, were there any problems, but did not review registers, provide instruction, or identify and troubleshoot issues. Sometimes, different supervisors provided contradictory instructions and recommendations.

Currently, national guidelines call for antibody-testing of exposed infants at 18 months of age. However, from discussions with key stakeholders, there seems to be a tremendous desire on the part of government, IPs, and health care providers to test infants earlier using PCR. At the CDC/UNC site visited, some introductory training on PCR was conducted and testing was supposed to begin, but site staff said that the program is on hold because the PCR machine (located off-site at the national referral lab, which was not visited) has never worked properly.

Interviews with health workers at all levels revealed generally low job satisfaction and poor motivation. While they feel the work they do is important and gain satisfaction from assisting their communities, the multiple responsibilities, limited training and support, minimal compensation, poor working conditions, inadequate or nonexistent support services to which to refer patients, and frequent stock-outs of necessary supplies can be overwhelming. Many had not received their state salaries for several months and have since been on strike. Some receive bonuses depending on which IP supports their program. AXxes does cover per diems for supervisors conducting visits or trainings but generally does not provide bonuses. As different IPs have worked in different areas on different programs, some health care workers who had become accustomed to bonuses under a different mechanism are now not receiving them through AXxes, which has led to frustration. In the site where USAID funds are being leveraged with Global Fund resources, GF is paying $20 a month for bonuses to health workers.

These are typical problems at PMTCT sites:

- There are problems with the quality of HIV testing for PMTCT at all three sites visited, with a high percentage of indeterminate results.
- Two of the three sites had very low numbers of positive test results in the PMTCT program, contradicting the prevalence identified through co-located VCT testing.
- Facilities experienced frequent stock-outs of supplies essential to PMTCT services.
- There were very few treatment and care and support services available for women or infants who test positive.
- Infant testing is by antibody assessment at 18 months. There is no early infant diagnosis with PCR.
- Health worker motivation is extremely low.
- PMTCT providers have not been properly trained in use of tools for data collection, which jeopardizes data quality and service provision.
- High levels of stigma and discrimination contribute to limited uptake of testing.
• Though national guidelines exist for provision of both combination and sdNVP prophylaxis. The vast majority of sites are providing only sdNVP.

• Achievement of AXxes PMTCT targets has been problematic from the start through the first quarter of Year 3.

Recommendations:

1. Immediate, intensive support to Lodja sites is essential to bring training, commodity supply, and services up to speed. The AXxes national PMTCT coordinator should spend time working with the team in Lodja to augment the technical capacity of the local PMTCT coordinator, conduct training sessions, and provide hands-on support and supervision for site-level PMTCT providers. When greater capacity is built, the site could be gradually weaned to regular site visits, but continuing close contact between the national and local coordinators will be necessary to trouble-shoot problems as they arise and ensure sustained quality. It would also be very helpful if the USAID/Kinshasa HIV/AIDS Program Management Specialist received specific updates from the AXxes PMTCT national coordinator on progress and would make site visits to ensure the quality, technical soundness, and rapidity of progress of PMTCT activities.

2. Additional attention to training, supervision, and supply chain management, including commodity forecasting, is urgently needed in the Lodja district. This should be provided by the national and local AXxes PMTCT focal points, in close collaboration with the USAID/Kinshasa HIV/AIDS Program Management Specialist. When confirmatory test kit stock-outs do occur, women who test positive should be treated as positive and provided prophylaxis as tests are highly sensitive and specific and there is tremendous benefit in preventing transmission to the infant. When test kits are again available, all efforts should be made to confirm serostatus and refer the mother for treatment eligibility evaluation. The USAID/Kinshasa technical team should consider raising as a policy question the issue of providing antiretroviral drug (ARV) prophylaxis to women who test positive initially but are unable to undergo confirmatory tests.

3. The supply chain for test kits and medications needs to be examined and mechanisms introduced to identify and remedy factors contributing to HC stock-outs. Accurate and regular forecasting of medical commodities should be conducted to prevent such situations, and systems are needed to rapidly respond to a stock-out. Additional TA from either the DELIVER or SCMS program may be useful in this process. Additionally, through regular supervision the local PMTCT focal point should be able to identify stock shortages or overages and coordinate redistribution of supplies to avoid interruption of service delivery, with reimbursement to the site providing assistance with the next distribution of supplies.

4. Treatment, care and support, and nutritional support services need to be strengthened. Given the current USAID/Kinshasa portfolio and resources, it is unlikely that USAID programs would be able to provide for such a large and complex undertaking. If further resources should become available, there is certainly tremendous need for these services. Meanwhile, leveraging and coordination with other partners active in the area could be one strategy to begin to link patients to such activities. Working closely with the PNLS and PNMLS programs to connect patients in need at USAID-supported clinical sites with governmental and nongovernmental programs should be a priority. Also, it will be critical for USAID and the AXxes Project to plan follow-up of the PNMLS care and support strategy as they transition out of Lodja.

5. The ability to offer infant diagnosis at 4-6 weeks of life with DBS PCR would improve the quality of PMTCT services and holds great potential for reducing infant morbidity and
mortality. However, it will require significant investment in lab infrastructure, personnel training, and logistics capacity as well as a scale-up of pediatric services so infected infants can be started on therapy—WHO recommends immediate ARV initiation for all positive infants less than a year old. Establishing PCR capacity in national and provincial referral hospitals would be most appropriate, with HCs sending DBS cards for testing. Coordination with CDC, which has expertise in building up lab systems, would be most efficient.

6. Improving worker morale is essential to ensure a well-functioning program. Bonuses are one incentive, but if they are not possible, other sources of motivation identified during interviews included improvement of physical space and working conditions, assistance with transportation, per diems or reimbursement for special activities, improvement of support services to be used for referrals to take the burden off the individual worker, and ensuring adequate training and supportive supervision to allow health care providers to feel confident in the quality of care they give. Creative approaches to this problem will be necessary given the unique situation in the DRC and the incredible demands on providers.

7. Sites need training, intensive support, and close supervision to collect appropriate data, analyze it, and make corrections. Registers should be integrated and streamlined to make collecting data more efficient and making sure data is usable for improving programs and service delivery. The AXxes national PMTCT focal point should work with local focal points to ensure technical capacity and data quality. Data audits, with inspection of registers and constructive feedback, should be conducted regularly to ensure problems are identified and corrected promptly.

8. Community education and sensitization messages should be a high priority for PMTCT and general HIV/AIDS programs. Working with a partner that has significant experience in drafting and effectively disseminating technically accurate and culturally appropriate IEC materials would be extremely helpful. Other activities, such as PLWHA or PMTCT support groups, would also help as a resource and safe discussion place for those who do test positive.

9. Before transitioning to combination prophylaxis, it would be worthwhile to first improve the supply chain, data collection and monitoring, and technical capacity. Introduction of community sensitization, public awareness, and support group services would also be beneficial to help ensure a solid foundation and increase the likelihood of success for introduction and adherence of more complicated regimens.

10. Program progress should be monitored closely in the coming quarter. Site visits by the USAID/Kinshasa HIV/AIDS Program Management Specialist may be useful for understanding how programs are actually running and whether sites are receiving the support they need. For future procurements, having a partner with a solid history of PMTCT technical expertise and success in program implementation may make it possible to more rapidly introduce and scale up services.

11. Though urban clinics differ from the peri-urban and rural sites where USAID IPs work, the CDC/UNC site offers a great opportunity for garnering lessons learned and troubleshooting problems that arise with PMTCT services. CDC also would be a valuable resource if CD4 or PCR testing is added in district hospitals. The good working relationship between the USAID and CDC Kinshasa HIV/AIDS focal points provides a firm foundation for collaboration to ensure that activities are complementary rather than duplicative.

12. For now, enhanced training in both technical areas and managerial skills is necessary for local AXxes PMTCT focal points. Close attention and support from the national coordinator, including actual time at the Lodja sites, is needed, along with close communication with the
USAID/Kinshasa HIV/AIDS Program Management Specialist. In future, working with a partner with extensive technical and programmatic PMTCT experience is advised. It may be helpful for the local PMTCT focal point to attend a practicum at the UNC/CDC-supported site in Kinshasa to improve technical skills in managing PMTCT activities.

13. Practical, applicable, creative knowledge of the DRC is essential to implementing effective programs there. When considering future procurement criteria, DRC-specific expertise should be a priority and could be complemented by inclusion of partners with depth and experience in technical program areas.

14. PMTCT programming should be data-driven and respond to epidemiologic need. This is particularly true in Lodja, where ANC prevalence is the highest in the GDRC. Lodja and other areas are also at risk of increasing transmission rates as infrastructure development continues and population movement through these areas increases. PMTCT services in these areas should be strengthened to include sound data collection and analysis components to monitor potential shifts in the epidemic. The ability to provide lab services and care and treatment at district referral hospitals would greatly enhance program impact. Collaboration with CDC colleagues conducting PMTCT activities in country will be important to coordinate activities and share lessons learned and best practices.

Medical Waste Disposal

**Finding:** Medical waste is not properly collected, handled, or disposed of, creating unsafe work and community environments and the potential for accidental exposure for staff and community members. AXxes has addressed medical waste issues by constructing 56 incinerators at GRHs and distributing polybags, waste containers, and safe boxes to HCs. BCC materials on waste management will be developed and distributed this year.

At all sites visited, point of care—generated medical waste was collected in small open trash cans or cardboard boxes. These items were then collected by the housekeeper. Appropriate sharps containers were not available. At one hospital and one HC there was no incinerator and waste was simply deposited in shallow holes. The holes were not covered, had no barrier around them, and were very close to homes and community walking paths—and in one case immediately next to a primary school. At the district referral hospital, the new incinerator was being used but the old incinerator next to it was still used as a depository for medical waste, with syringes, broken glass, and test tubes scattered around it. Before medical waste was incinerated, the housekeeping staff hand-sorted it into separate piles of gauze, needles, glass, gloves, because supervisory medical personnel felt that burning all the items together would release dangerous fumes.

**Recommendation:**

Medical waste disposal needs urgent attention. Sharps boxes and training in appropriate disposal need to be part of any HIV testing program. District medical hospital personnel need instruction in how to use incinerators effectively. Further TA from HQ medical waste experts might be useful. Sound waste management is an essential component of PHC activities.
TUBERCULOSIS

**Findings:** All HCs are TB treatment centers. Understanding of TB protocols extends down to the lowest levels of service delivery. Overall there are high reported TB treatment (88%) and detection (80%) rates, but in South Kivu, for example, the detection rate is much lower (38%), possibly because of limited health provider skills, lack of security, and geographic constraints.

Each quarter 2,000 new cases are identified. Securing the necessary drugs will pose significant challenges. After an initial 2-week period when drugs are provided at the health facility, TB-DOTS is implemented through volunteers, especially for patients who live far from a health facility. There were no reported TB drug stock-outs, but some facilities do not always have enough drugs for a full course of treatment when patients are initially enrolled. Simple community messages have been created at the national level (PATI 4).

The AXxes Project initiated training in TB detection and smear microscopy in its first year. Detection rates increased from 0% in 2006 to 31% in 2007 and 88% in 2008. In Year 2 a prevalence study was done in collaboration with WHO, the MOH, and other partners. The project provided medicine to 16 isolated health regions and conducted training, supervision, and surveillance in high-risk areas. Prevalence was very high in Lodja district and Malemba-Nkulu.

TB staff seem to be well-trained, and the program is well-supervised. At an HC visit in Lodja, the TB nurse was highly knowledgeable and TB-DOTS was well-implemented. The reported cure rate in that HC was 100%, and no multi-drug-resistant (MDR-TB) cases were detected. HC staff in Lubondaie were familiar with the sputum test protocol and the criteria for being “cured.” They commented that a good structure was in place for TB supervision (integrated supervision from the provincial level). This has translated into an increased TB detection rate (from 33% to 81% of expected cases) in one year.

International protocols dictate setting aside adequate drugs to complete treatment once a TB case is confirmed. However, the MOH has instructed health facilities to enroll new TB patients and initiate treatment if any drugs are in stock, even if not enough to complete treatment. In Bulape, both HC and the AXxes HZ supervisor together acted quickly to prevent an imminent stock-out by communicating with the regional drug depot to confirm availability of TB drugs and arrange for them to be picked up immediately so patients could complete their courses.

**Recommendations:**

A TB flip chart is needed to support community awareness, care-seeking, and treatment compliance. Literate community members (e.g., teachers, chiefs) have been involved in the DOTS program to monitor treatment completion. Inclusion of volunteers should be considered where educated members are not available.

MALARIA

Because USAID recently completed a full assessment of the malaria program, the assessment team did not investigate this program component in depth.

**Finding:** The AXxes Project has done impressive work as part of the Roll Back Malaria (RBM) strategy. Health personnel at the HCs visited repeatedly reported a reduction in malaria cases presenting. Despite long initial delays in the provision of ACT and other malaria drugs, due in part to production issues, health facilities are now generally well-stocked. An important issue, however, is the availability of sufficient numbers of bednets to cover population needs.
Malaria is a major contributor to poor mother and child health in the DRC. For example, in the eight HZs of Kolwezi District in Katanga Province, almost 85% of transfusions in children under 5 years and 40% of miscarriages are due to malaria (National Malaria Control Program Report, 2007).

The impact of the project’s efforts was recently touted by the Mission. AXxes participates in the worldwide RBM strategy, which includes effective treatment, use of ITNs (also known as LLINs), implementation of vector control activities, and use of preventive treatment for pregnant women. Before the project began its work in the area, RBM activities concentrated on treatment only. There were no partners to support other activities, especially distribution of ITNs. AXxes interventions have reinforced all the RBM components.

HZ workers and others associated with the project have shown a thorough commitment to reducing malaria as a major cause of death and disability. In particular, a variety of strategies have been used to distribute ITNs widely: they are given to pregnant women during their first ANC visit as part of the ANC package or sold at a subsidized rate to mothers with children under 5 during vaccinations, growth monitoring sessions, and campaigns (South Kivu). However, because the number of LLINs is insufficient for both these strategies, all sites visited reported frequent stock-out. The project has purchased and delivered 540,000 ITNs. “Since September 2007, we have noticed that malaria episodes in children are decreasing,” said the medical doctor in charge of Dilala HZ. In the community-built and owned Dibwe-Dietu HC, it was noted that because AXxes has provided nets and ACT is well-stocked (no stock-outs for six months), malaria cases are 6% lower. This is a particularly impressive achievement in areas where commodities can only be transported by bicycle. In Year 3 the project plans to provide an average of 3,500 LLINs to each HZ for sale at the subsidized price of $0.50 to the target HC population (pregnant women and children under 5).

The number of bednets HZs receive is inadequate to cover all pregnant women and all children under 5. One zone chief reported receiving three shipments of LLINs totaling 9,600 LLINs. Currently, the hospital and HCs have LLINs in stock, but the zonal health team reported needing 41,760 nets to achieve 100% coverage of pregnant women and children under 5, of which 4,760 would be needed to achieve 100% coverage of pregnant women.

It was reported that pregnant mothers become upset and frustrated during ANC visits when there are LLIN stock-outs. Facility staff also reported that ANC visits drop when the community becomes aware that nets are not available (although the ANC2 attendance rate was reported to be 81%). It is not clear, however, that bednets are always used as intended. Anthropologist Lauren Blum reported having seen bednets used as window coverings and mattress stuffing. Also, some health personnel reported that using them can be difficult in small homes where people sleep next to the fire.

The project has introduced ACTs to all clinics as the primary treatment of malaria and instituted IPT treatment in all ANC clinics. Malaria commodity stock-outs have been a major issue that has led to inappropriate and ineffective treatment in some health facilities, likely increasing drug resistance. Due to waiver, production, importation, and transportation issues, for example, artesunate-amodiaquine (AS-AQ) was reportedly not stocked in Bulape until July 2008, 21 months after the project began. In 2008 AS-AQ was stocked-out for six months in some areas; SP was used instead (e.g., in Bulape) to treat symptomatic malaria. This practice contributes to stock-outs of SP for preventive treatment of pregnant women. At the Bambalayi health post, it was reported that AQ was purchased independently to treat symptomatic malaria during the extended stock-out. Bambalayi health post reported purchasing and providing only AQ because staff did not have access to the appropriate artemisinin-based combination therapy.
Recommendations:

1. The supply of bednets needs to be greatly increased. The project should either revise the current strategy to provide LLINs only to pregnant women during ANC1 or increase the budget for LLINs to adequately cover both vulnerable groups. The project should further explore the potential of bednets as an income-generating mechanism.

2. It would be useful to investigate the actual use of bednets and their lifespan within the home. Community education should be intensified to address bednet use.

3. Depots need to have enough malaria drugs to assure that health facility stock-outs do not occur. Availability of malaria drugs at the health facility should be verified during every supervisory visit and immediate action taken locally to remedy stock-outs quickly and to assure continued effective preventive and treatment practices.

4. The malaria flip chart has a technical error that needs to be corrected: Clearing weeds around the home is promoted incorrectly as a malaria prevention activity.

DISEASE SURVEILLANCE

Finding: The AXxes project helped to strengthen disease surveillance at the HZ level, especially for diseases affecting child health. Outbreaks of infectious disease are routine throughout the DRC, contributing to high rates of morbidity and premature mortality. Containing infectious disease outbreaks is time-consuming and resource-intensive and disrupts routine functioning of the health system. Yet in postconflict DRC, with its poor health infrastructure, endemic poverty, and myriad geographic challenges, this approach to disease control is often the rule rather than the exception. The project collaborated on a number of interventions to combat local epidemics (cholera, ebola, and measles), contributing supplies or transportation, etc. Besides addressing important disease issues through these efforts, IPs in some areas forged relationships with organizations providing humanitarian assistance with which they otherwise might not have had working relations. Such relationships were helpful during efforts to harmonize provincial planning.

A sound disease surveillance system, separate from and complementary to routine service statistics, is essential. Effective surveillance requires special data collection strategies, ideally based on active rather than passive community and clinic case detection and community member involvement. The project helped reduce the risk of infectious disease outbreaks by supporting a stronger disease surveillance system. Among other activities, this involved provision of surveillance forms and training of a large number of HC nurses and HZMT members in integrated disease surveillance, including during routine vaccinations. In some HZs, reporting is not timely; the project has ordered radios to improve reporting.

AXxes is also raising community awareness of the importance of disease surveillance by distributing IEC materials and incorporating disease surveillance into community IMCI training. Collecting surveillance data is now part of what community volunteers do, and tools for this have been integrated into that training module.

WATER, SANITATION, AND HYGIENE

Finding: Water and sanitation activities within the AXxes project are limited to development of 280 springs, construction of 114 latrines at HCs and 3,500 overall (with UNICEF funding), and implementation of UNICEF’s Village Assaini strategy in 9 HZs (212 villages).

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21 See full report in Annex XIV.
DRC has abundant water, but access to clean drinking water is very limited in rural areas (24%, compared to 80% in urban areas\(^ {22}\)). About 60% of the country has easily accessible water from springs, either directly or connected to a piped distribution system that can be protected fairly inexpensively. Access to basic sanitation is very low, and again shows an urban bias (22% urban, 15% rural).

At present there is no national DRC water strategy, although a law is being drafted. Drinking water in rural areas is the responsibility of the National Rural Water Service (SNHR), which has neither the resources nor the structure to supply water. No government agency is responsible for rural sanitation. Key donors to this sector in the DRC include the WB, the African Development Bank, the European Union, France, Germany, the United Kingdom, and Belgium.

The MOH has a national Village Assaini (and an École Assainie: Sanitary School) program to reduce illness and death from water-borne disease. This program, based on a model piloted by SANRU, includes improving or developing water supply and sanitation facilities and training and building capacity in governance, roles, and responsibilities for managing drinking water systems. The community-led process, using the Participatory Hygiene and Sanitation Transformation methodology, is considered as important as infrastructure and takes about two years.

USAID-funded water and sanitation investments through the AXxes Project have focused on protecting 171 springs and promoting construction of 114 latrines at HCs. The Village Assaini strategy is being implemented with UNICEF funding in nine of the AXxes zones on a budget of about $70,000 per HZ. Efforts to address drinking water quality are an important complement to water source improvement and latrine construction.

Improving hygiene is a method of primary prevention of diarrheal disease by breaking the routes of transmission between feces and a new host. Water quality typically declines by contamination during transportation from the water source to the household and during household storage and use. Safe water handling, storage, and transport; point-of-use water treatment; on-site sanitation solutions; and hand washing with a cleansing agent at critical times can together reduce diarrheal disease in children under 5 by 30%–50%. These key hygiene behaviors all require a hardware element (access to improved water supply, hand washing stations, latrines) and significant promotion of behavior change. UNICEF is drafting a manual on low-cost latrine options for the DRC that will be useful in promoting household investment in sanitation and is finalizing hygiene promotion materials that USAID implementers should use.

Financing is a major barrier to sanitation because it is not perceived as income-generating, so people are not willing to go into debt for it. Potential sources of microcredit to encourage sustainability include distributors and manufacturers of manual and mechanized pumps, piping system construction companies, well-drilling or digging enterprises, water transport and storage container manufacturers and distributors, motor and nonmotor pump repairers, latrine slab manufacturers, and artisanal latrine construction companies. The amounts of funding required for construction materials are very small, but could stimulate the private sector to begin to supply a range of choices to consumers who want to invest in sanitation.

\(^ {22}\) DHS 2007
Recommendations:

1. USAID investments should increase access to water supply and sanitation infrastructure in HZs and stimulate private sector engagement in the drinking water and sanitation sector providing products and services that support sustainable access and for community mobilization and behavior change activities to ensure the sustainability and health impact of the investments.

2. However, the AXxes Project should not expand its current water source and latrine activities. Instead, it should reinforce community hygiene education.

3. Complementary activities undertaken by other USAID partners should include social marketing of household chlorination of drinking water (PUR sachets and Aquatabs).
IV. PROJECT MONITORING AND EVALUATION

AXxes and USAID together selected 28 project indicators to measure progress in MCH, FP, malaria, TB, and other public health areas. Other indicators were included in the Performance Monitoring Plan to measure progress in capacity building (Components B and C). Additional indicators the project considers useful in monitoring progress have been reported on throughout the life of the project. Whenever possible an effort was made to define and measure project indicators in ways comparable to official USAID indicators. Comments on indicator definitions and challenges with the 28 indicators are summarized in Annex XII, which also includes an analysis of measurement issues intended to shed light on project trends or results observed that cannot be easily explained, and to inform the selection of future indicators.

Routine monitoring was undertaken through periodic data collection using standardized forms or other tools (see above under Systems Strengthening. The project’s own M&E capacity was built up considerably over the years in part through TA provided by JHU. The current dashboard system is a useful tool (1) for monitoring project indicators and deviations from expectation that instigate M&E visits by regional coordinators to the HZs and HCs to assess data issues, and (2) as a basis for working collaboratively with MOH divisions.

Indicators that could not be easily tracked through routine service statistics were measured through other means, including a community KPC study. As this was population-based, the data better reflect the extent to which the project increased access to and demand for services throughout targeted areas. Data derived from routine statistics, combined with estimated population denominators, are inherently biased; while useful for assessing general trends, they should be compared with data from population-based surveys to determine their accuracy. Differences between the two will provide insights into issues with denominator assumptions.

Periodic evaluations assess how well new strategies have been introduced. For example, six months after the zinc program was initiated, it was evaluated in pilot zones through focus group discussions, observation, and review of register data. Results of the project’s periodic input and process evaluations were incorporated into quarterly reports and provided the basis for various success stories.

Recommendations:
1. If AXxes is considering conducting an end-of-project KAP, it is recommended that it use the same sampling strategy and data collection tools as a basis for evaluating project contributions to improved access to and demand for services. This would provide a quantitative complement to the more qualitative assessment described herein, as well as a baseline for future USAID-supported efforts.

2. For efficiency AXxes should assess which indicators were intended and are likely to have changed as a result of project interventions and to focus data collection on those measures. Also, it should consider alternative random sampling strategies that require less-intensive data collection (e.g., LQAS) if large enough samples can be achieved to yield precise point estimates for comparison with initial KAP estimates.
V. COST ISSUES

The assessment team was able to obtain some cost and intervention information about other donor projects to make a cursory comparison with the AXxes Project. Detailed information on the strategies and interventions supported through different donor projects, and their budgets and timelines, are presented in Annex VIII. Two MOH sources provide a context for assessing the adequacy of estimated per person per year (pppy) support to HZs (i.e., funds for health care management, including delivering services in facilities and through community outreach, divided by the estimated total population of that HZ).

An MOH study recommended that the Appui Globale (Global Support) strategy be supported at $1.5–$2 pppy. However, a 2006 MOH norms document suggests a minimum pppy cost of $3 for a minimum of 4 years for Appui Globale, designed to strengthen DRC’s PHC system and achieve health objectives.

The World Bank’s PARSS project to support HZ strengthening is functioning at $3.5 pppy, with the condition that at least $1 must be used at the HC level to ensure health care for the people. Adding other HIV/AIDS funding, WB support totals approximately $5 pppy. FED9 provides support at between $2–$4 pppy and its recent evaluation suggested increasing funding to at least $4 pppy. MEMISA reported a pppy of $1. The AXxes chief of party suggested that $2 pppy may be more sustainable for the GDRC to support in the future. However, a number of people the assessment team spoke with felt that at least $4 or $5 pppy is required to help more fully transition from humanitarian to development assistance and provide a more solid foundation for effective programming.

It is evident that the WB allocates considerably more funds to HAs, but as that project has experienced serious problems getting funds released, this has not translated into meaningful results on the ground. FED9’s funds focus on system strengthening, in particular ensuring transparent and accountable financial mechanisms at various levels. This is necessary in the medium and long run for the system to function sustainably but there has been a cost in terms of meaningful service delivery.

What seems clear is that AXxes places considerably more emphasis in operational terms than other projects on direct support to HZ and health facilities to achieve better access to and utilization of quality PHC services. The project also places more emphasis on ensuring that quality data on services delivered are collected and analyzed. It appears to make efficient use of limited resources, as evidenced by the fact that of the total project budget, 32% is allocated to project management, 62% to direct support of HZs and health facilities (including rehabilitation, drugs and other supplies, supervision, and support of specific technical areas), and 6% to strengthening systems (e.g., drug management, information, national and provincial planning and management, and M&E).

What is also clear is that current funding levels are inadequate to comprehensively address all the many project subcomponents in all 929 HAs. The project has sought to deal with this through a number of innovative approaches: identifying supplemental resources (GAVI and UNICEF for water and sanitation, the Global Fund for malaria and PMTCT); prioritizing some interventions (drug management, information systems); phased introduction of interventions (routine vitamin A distribution, community participation, water and sanitation, zinc, IMCI); implementing some interventions in fewer health facilities (the Year 3 strategy for concentrated inputs in 200 facilities in 47 HZs for PMTCT, FP, FVR, GBV, c-IMCI, and maternal and neonatal health); and limiting the number of some interventions to areas with the greatest need (health facility rehabilitation, water sources, and latrines). These approaches, while useful in extending the project’s reach and
ensuring that all mandated areas are covered, by their nature spread the project thin and limit its ability to achieve meaningful results in terms of comprehensively improved quality of health services.

The MOH 2006 norms clearly indicate that to achieve Appui Globale requires many partners working together in one area, each contributing in its area of expertise. This vision is undermined by the GDRC practice of allocating HZs to different donor partners for full support, in collaboration with MOH counterparts at the health facility, HZ, and provincial levels. In addition, project funding limitations and the choices the project made or was requested to make about funding allocations, including buying drugs for TB and malaria, reduced its capacity to fund long-term TA at the national and provincial levels. This reduced its capacity to influence technical issues and its attention to improved quality of services, as is manifested in insufficient focus on particular challenges in FP, PMTCT, and BCC for demand creation.
VI. DIRECTIONS FOR THE FUTURE

The team suggests the following to ensure program continuity while creating a solid base for a new program:

THE SHORT TERM (2–3 YEARS)

1. Over the next 2–3 years USAID should stay the course with its interventions in the current HZ and HAs in order to consolidate the gains made in strengthening systems. The Year 3 emphasis on quality improvement and expanded community interventions is appropriate and should continue. The project should continue to build up HZ management and improve the quality of facility service delivery. This should not only lead to better health facility performance but also enable HZs to function as models for an SRSS approach to integrated PHC. Continued support to provincial health management teams and the health information (SNIS/GESIS) and drug management (FEDECAME) systems is also necessary, especially at provincial, HZ, and HA levels.

2. USAID might consider extending the AXxes Project with the current IPs for at least another two years, accompanied by TA in certain areas, such as FP and nutrition. This would avoid the inevitable disruption by any new procurement while increasing the return on investments made in the last two years. If possible the project budget should be increased to $3.00 pppy to better reflect the real costs of implementing a multidimensional integrated project and improving health services access, quality, and utilization in a challenging environment.

3. USAID might consider progressively transiting out of some HZs where performance targets are not likely to be met without substantial input, especially in provinces where only one or a few HZs are supported. This would free up funds to invest in HZs where additional investments could lead to more rapid sustained improvements. Where this is considered, every effort should be made to identify an alternate donor.

4. USAID might scale up its efforts in FP, PMTCT, and nutrition, areas in which greater concentration is needed to show measurable results. FP and PMTCT expansion and quality improvement would require a substantial increase in technical support at both national and provincial levels. Alternatively, separate FP and PMTCT projects might be considered to work alongside the AXxes staff. Nutrition activities might be better integrated into HCs through nutrition counseling, possible provision of a locally made high-protein supplement for malnourished children, continued integration of micronutrient supplementation (vitamin A, zinc, iron, and folic acid) into routine health service delivery, and intensive promotion of exclusive breastfeeding up to 6 months, along with appropriate treatment and prevention for childhood illnesses through IMCI. In both these areas community BCC/IEC needs to be greatly strengthened.

5. Coverage of other interventions might be scaled up to all HAs within targeted HZs, such as c-IMCI through expansion of community care sites, facility-based IMCI, newborn interventions, and zinc for diarrhea.

6. Other interventions, though important for MCH, should not be expanded within this project without substantial increases in funding and technical and program management capacity. These include spring capping and latrine construction, and possibly fistula repair. Instead, current achievements in these areas should be reinforced and consolidated to improve quality.

These recommendations are in addition to the ones found throughout the text.
at existing sites. This would require additional technical expertise within the current project. The Mission might consider separate interventions to expand and improve water and sanitation infrastructure improvements.

7. In the area of water and sanitation the project might prioritize its interventions to address high-impact activities that fit well within its current scope of action. For water and sanitation this means concentrating on home and community hygiene behaviors, including protecting water quality at the source, during transport, and in the home; point-of-use water treatment; and reinforcement of key hygiene behaviors like hand washing.

8. Continued strengthening of the provincial level should include more emphasis on assisting with local donor/IP coordination, enhanced involvement of provincial managers in program management (they should, e.g., get supervisory reports and regular information on attainment of project targets) and in strategic planning for improved services. Regional project offices should be strengthened by placing component-specific technical advisors at the province level for FP, nutrition, etc. These individuals must have sound technical knowledge and experience.

9. More systematic and regular central technical support to the HZs must be a priority.

10. USAID should seriously consider allocating funds for the development of IGAs that would enable community members to participate in their own health and development and to better sustain health facility operating costs. This might include creation of agricultural efforts, such as palm oil plantations, linked to HCs or similar initiatives.

11. USAID might consider supporting operations research in some HZs to test alternative strategies for addressing major obstacles to improved access to, use of, and demand for quality services, including performance-based bonuses or other incentives for facility staff; community contribution to HC costs and maintenance; community-based distribution of contraceptives and other products, such as Depo Provera, ORS, and TB-DOTS; analysis of the current drug delivery system to identify constraints to effective drug management; income generation to support health facility functioning tied to high-protein plant nurseries; and the effectiveness of maternity waiting homes in reducing maternal and neonatal morbidity and mortality.

**THE LONGER TERM (5–10 YEARS)**

1. In future, funding must either be increased or consideration given to alternative strategies, such as:
   - Continue providing support to the current HZs while gradually expanding coverage and improving quality over a 5–10 year period through AXxes or follow-on projects.
   - Reduce the number of HZs or HAs covered, giving priority to those most likely to make rapid progress and then slowly expanding to weaker areas (like the FED9 program and consistent with the MOH SRSS).
   - Select only HZs that can be clustered in a district and that ideally constitute a considerable proportion of provincial HZs, to facilitate capacity-building at those two levels.
   - Reduce the number of project elements. For example, vertical services like FP and HIV/AIDS care need to be more fully meshed into an integrated package of services, even though USAID funding is provided vertically from a variety of earmarks.
   - Introduce a combination of the above.
Note: While the AXxes strategy of mobilizing non-USAID resources for specific interventions greatly enriches the PHC support provided, this practice increases the management burden and may draw resources away from technical support functions aimed at improving access to other quality services.

2. USAID might continue to work with IPs who have a thorough knowledge of the DRC context and are locally well-respected and well-connected. If these partners do not have the required technical experience and knowledge in some areas, the Mission might encourage them to partner with international organizations that specialize in particular technical areas.

3. In choosing HZs for future PHC and other health activities, USAID should seek to identify those that are geographically contiguous and in the same province, to increase provincial coverage and limit dispersion of project zones and balkanization of health services (this is similar to the WB approach). Also, USAID might consider renewing limited support to HZs previously covered by SANRU III and currently not covered by another donor in order to heighten the return on previous investments.

4. USAID might consider strengthening coordination between health and other Mission interventions, such as income generation, agricultural interventions, environmental activities, and transparency and governance, by focusing some inputs on the same regions, promoting operational coordination between projects, and including related indicators within health project targets.
ANNEX I. SCOPE OF WORK

I. PURPOSE OF THE ASSESSMENT
The purpose of this assessment, planned for March/April 2009, is to

1. Undertake a program analysis to understand the outcomes, achievements, constraints, and gaps of the Integrated Health Services Project (Project AXxes).

2. Assess project management issues that may have helped or hindered the implementation of the project.

3. Describe lessons learned and tools developed.

4. Make specific recommendations that will inform future directions for USAID, including the design of a follow-on program.

II. BACKGROUND
Project AXxes is a three-year $42 million USAID-financed primary health care project designed to revitalize selected health zones across the Democratic Republic of Congo (DRC). The main goal of AXxes is to provide integrated development assistance for primary health care system strengthening in 57 health zones of eastern and southern DRC with a catchment population of approximately 7.5 million. AXxes provides health zone development assistance based on the “Appui Globale” strategy of the Ministry of Health through three major components:

• Component A: Increase access to, quality of, and demand for multisectoral, integrated PHC

• Component B: Increase capacity of the health zone and the referral system

• Component C: Increase capacity of national health programs and provincial/district offices

IMA World Health (IMA) is the prime recipient and collaborates with World Vision (WV), The Protestant Church of Congo (ECC), and Catholic Relief Services (CRS). Technical assistance is provided by Johns Hopkins University (M&E), Helen Keller International (micro-nutrition), Basics (maternal and newborn health), Prevention of Post-Partum Hemorrhage Initiative/Path (maternal health), John Snow International (reproductive health), and Management Sciences for Health (drug management). The project runs from September 18, 2006, to September 17, 2009.

III. ASSESSMENT OBJECTIVES/QUESTIONS
The team will conduct a rapid assessment of the three components of the AXxes integrated health project implemented by IMA and its partners. This will include

1. a program analysis and a review of the issues related to project management;

2. a description of lessons learned; and

3. recommendations on future (and new) approaches and directions.

Program Analysis
a) Strategies and approaches. Assess the appropriateness of the strategies and technical approaches adopted to achieve the objectives of the project. Was the design of the project sound, e.g., did the contractor correctly identify the problems and constraints and were the approaches to addressing the problems appropriate? Did the contractor adequately use
technical assistance? Were programs appropriately staffed to achieve results, manage program oversight, and identify and monitor programmatic challenges?

b) **Outcomes and results.** Evaluate the major outcomes, achievements of the project, and overall effectiveness. Assess the project’s progress to date in measuring performance indicators and achieving planned results. Were planned result targets not met or exceeded? If so, why? How were targets determined? Were some proposed targets or results inappropriate?

c) **Cost and cost effectiveness.** Undertake a cost per client analysis, including calculations in those health zones with difficult-to-reach geographic areas or populations. Compare cost per client to other currently implemented programs, such as World Bank PARSS or DFID’s program. *(Note: Mission is not interested in a long-term protracted economic analysis but rather a brief examination that will address Mission’s costs in comparison to other donors (e.g., WB, DFID, and GTZ) working in DRC. Consultants need to consider whether the Mission is providing a reasonable cost range. Should it perhaps increase funding for program and is the Mission best/optimally using the resources)?*

d) **Capacity building.** Describe achievements in building local capacity at health zone and national levels.

e) **Constraints and gaps.** What have been the largest constraints to achieving results? What are the outstanding issues and important gaps that have been insufficiently addressed by the project that require attention from USAID in a follow-on project? Other constraints and gaps to be addressed include the fact that basic health services are not being provided/not happening, travel is difficult, for example.

**Lessons Learned**

a) **Design insights.** Describe lessons that have been learned regarding the overall design of the project.

b) **Best practices.** Have any project activities or accomplishments led to the implementation of better or best practices? Describe those practices.

c) **Sustainability.** What interventions have the best likelihood of future sustainability?

d) **Replication.** Have any lessons learned or best practices been successfully used or replicated by other donor projects or programs or by the Government of DRC?

e) **Tool development.** What key products or tools have been developed by the projects?

**Recommendations on Future Directions**

a) **Promising models for future USAID programs.** What are the key initiatives, activities, and approaches that warrant continued or additional USAID investment in the future?

b) **New Ideas for USAID investment.** What are other potentially sustainable service delivery models or approaches not currently addressed by the project that should be considered for future USAID investment? Other recommendations for new approaches to deliver services and key interventions in a severely resource-constrained environment?

c) **M&E.** Based on information provided in section 1. a) and b) above and a review of the project M&E plan, propose a focused set of indicators that could be used in the new project design.
ANNEX II. LIST OF DOCUMENTS CONSULTED (REFERENCES)


Bossiky, Ngoy Belly Bernard, Dr. Nelly Dikamba, & Dr. Cécile Mbotama, *Guide Practique des Prestataires de Prévention de la Transmission du VIH de la Mère à l’Enfant (PTME)*.


Democratic Republic of the Congo, 2007 *Demographic and Health Survey, Preliminary Results* (PowerPoint presentation, no date given).


Project AXxes, *Guide to Monitoring and Evaluation Year 3*.


Project AXxes, *Rapport de Suivi et Évaluation Trimestre 1 Année 3*.

Project AXxes, *Project Description*.

Project AXxes, *Year Two Report*.

Project AXxes, *AXxes Overview Year Three Workplan* (PowerPoint).


USAID, Democratic Republic of Congo, *Country Overview*.

USAID, Democratic Republic of Congo, *Country Profile*.


ANNEX III. SITES VISITED AND PERSONS CONSULTED

CONTACT LIST: DRC PHC ASSESSMENT TEAM VISIT

USAID/Kinshasa

Dr. Emile Bongo, ID Program Management Specialist
Aline Chikuru, Program Assistant
Stephen Haykin, Mission Director
Dr. Laurent Kapesa, HIV Program Management Specialist
Robert Kolesar, HIV Senior Advisor
Dr. Richard Matendo, MCH/FP Program Management Specialist
Dr. Thibaut Mukaba, FP/RH Program Management Specialist
Lina Piripiri, CSD Program Management Specialist
Michele Russell, Health Officer
Dr. Aliou Tall, USAID Education Officer

AXxes Project

Lauren Blum, PhD., MPH, Consultant, Health Systems 2020, Bethesda, MD
William Clemmer, M.D, Chief of Party, I.M.A. Representative to DRC, Protestant Church of Congo, Gombe/Kinshasa
Dr. Crispin Batubenga, MD, MPH, Regional Coordinator, Project AXxes, SANRU, Western Kasai, Kananga
Dr. Albert Kalonji, Project Manager
Dr. Jacques Katele, Data Manager, M&E Officer
Ngoma M. Kintaudi, AXxes Project/ECC-IMA, MPH, PhD., SANRU Program ECC-IMA, Project Director AXxes-ECC, Project Director ECC-IMA-PMU RR World Bank, Executive Secretary of the Residency Program of DRC, Associate Professor of UPC, Kinshasa/Gombe
Dr. Adrian N’Siala Kumbi, MD, MPH, Project Manager, AXxes & GAVI, ECC, RH and FP Focal Point, MPA Focal Point, Kinshasa/Gombe
Dr. Joachim Lubiba, Malaria and IMCI Focal Point, Kinshasa
Barbaix Mulama Ntumba, AXxes, Coordinator (LOG), Kananga
Dr. Marie Claude Mbuyi, M.D. Family Planning and Reproductive Health, RH Focal Point
Dr. Benoit Mibulumukini, Child Survival, Immunization, and Nutrition Focal Point, Kinshasa
Dr Felix Minuku, AXxes/ECC, Technical Coordinator
Dr Michel Mpunga, AXxes/SANRU, Neonatal Health Focal Point
Wayne Niles, Wayne, Ph.D., I.M.A. Financial Officer to SANRU III, ECC/USAID, I.M.A. Kinshasa; Grants Manager, AXxes
Abbott Fund
Yvette Mulongo Kabwe, Project Manager, MCS-Abbott, Focal Point, FP/GBV-Project AXxes, Abbott Fund, Protestant Church of Congo, SANRU, R.D. Congo Program, Kinshasa/Gombe

BASICS
Dr. Kanza Nsimba, BASICS Team Leader
Dr Emmanuel Wansi, MD, Ph.D., Senior Technical Officer for ARI/CDD, BASICS, The Partnership for Child Health Care, Inc., Arlington, VA

Catholic Relief Services (CRS)
Monique Thomas Burlhart, Country Representative, Health Coordinator
Dr. Denis Matshifi, MD, MPH, Deputy Head of Programming, Congo Program, Kinshasa/Gombe
Nicole Poirier, Country Representative, Congo Program, Kinshasa/Gombe, RDC

Centers for Disease and Prevention (CDC)
Dr. Leon Motingia, CDC HIV/AIDS Prevention, Care and Treatment Specialist

European Union (EU)
Bart Callewaert, Health Program Manager, European Union Delegation DRC, Kinshasa

MEMISA- BELGIUM
Dr. Emery BEWA, Project Coordinator, MEMISA-Belgium, Kinshasa

PEV (Expanded Program of Immunization)
Dr. Micheline Mabiala, Director, PEV, Kinshasa
Dr. Raymond Cambele Musamba, Deputy Director PEV RDC, Kinshasa
Dr. Paul Lame, Technical Division Chief PEV, Kinshasa
AG JP Bemanga-Nkoto Nombe, Administrative and Financial Division Chief

PNSR (National Reproductive Health Program)
Dr. Marie Louise MBO, MPH, National Director, Ministry of Health, National Reproductive Health Program, Kinshasa
Dr. Bokingo Marcel, MMR Division Chief

PRONANUT
Dr. Jean Pierre Banea, M.D., Ph.D., Director

PSI (Population Services International)
Jamie Ciesla, Malaria Technical Advisor, PSI, Family Health Association Kinshasa, Gombe
Theresa Gruber-Tapsoba MIM, MSc, Country Representative, PSI, Family Health Association, Kinshasa, Gombe
UNICEF
Elizabeth Campa, WES Specialist
Paulin Kalonji, WASH Specialist

World Bank/PARSS
Peter Bachrach, Health Planning and Management Institutional Capacity Building, Evaluation Consultant with the World Bank, Washington, DC
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World Vision
Kevin Ray, Kinshasa Manager

Bulape Government
Andre Albert Mbuashi Kyongo Mulendu, Senator Doyen, President of the Reconciliation and Arbitration Committee, Democratic Republic of Congo, SENAT, Kinshasa, Lingwala

5th Division
Dr. Salomon Salumu Siyangoli, MOH, Division Chief, SNIS
Mr. Mavungu-Mayuba Patrick, MOH, Data Manager
Dr. Gisele Mawazo, MOH, Physician
Mr. Vicky Pena-Ahindu, MOH, Data Manager

Kananga
Kinona Mukwama Nono, Provincial Health Minister, Kasaï Occidental
Edmond Mulonga, Provincial Health Minister/DPS, Inspector General/MIP
Leki A. Muanza, Provincial Health Minister, Coordinator/CAB

CADIMEK/Depot
Brigitte Ilunga Biduaya, Director, CADIMEK/Depot
Kalume Ilunga Serge, CADIMEK/Depot

Health Zone Central Office Vangakete
Jean-Mutshe-Kayongo, IS
Felly Otshudi, District Office Supervisor
Dr. Gabriel Osango Okitangenda, Doctor, Area Chief
Shiwalonganea, Administrative Manager
Fenelon Tshiyoyo, AXxes Provincial Coordinator, Medical Supervisor
Kateba Health Center
Timothy Kalonga Badibanoh, Nursing Administrator
Ngalamulume Kayembe, C. Sal.
Ngalamulume Tshitenge, IA
Kushadidi Tshimungu, Aide INI

Okolo Health Center
Kalonda Benoit, Village Chief
Okosema Djanga, Community Volunteer
Senga Katoto, Attending Nurse
Dondja Mado, Cashier
Owamba Mboke, Président, COSA
Dembo Mululu, Attending Nurse
Oleko Nyekoy, Maternity Nurse
Oloko Owala, Nursing Director
Otomba Shomba, Attending Nurse
Elemu Shongo, Maternity Nurse
Ongombe Tayeta, Nurse
Odi homo Whashimon, Nurse
Oleko Yindja, Community Volunteer

Osomba Health Center
Talomomba Kapopa, OSOMBA Health Center, Nursing Administrator
Anyangolo Ndjeka, OSOMBA Health Center, Midwife
Wetshi Odimula, OSOMBA Health Center Orderly
Otshudi Osongo, OSOMBA Health Center, Community Volunteer
Esakalonga Pongo, OSOMBA Health Center, Microscopist
Olongo Djomu, OSOMBA Health Center, Security Guard

Tombola Health Center
Mualuke Kabalu, Midwife
Elekonga Mukanga, Nursing Administrator
Onasanga Okitoke, Nursing Administrator

General Reference Hospital, Lodja
Dr. Alengo Odudu, M.D.H.
Lucie Etenambokoka, Pharmacy Manager
Hilaire Shotsha, Nursing Director

Lodja
Laurent Ahuka, Management Team Sankuru, Epidemiological Surveillance Focal Point
Dr. Nasaka Bendi, Management Team Sankuru, Chief Doctor of Antenne PEV
Josephine Nende Dimandja, Management Team Sankuru, Nursing Supervisor
Dr. Kwata Ewando, Management Team Sankuru, Coordinator AXxes/ECC
Dr. Djamba Lama, Management Team Sankuru, District Chief Doctor
Dr. Leon Motingia, CDC/GAP-Kinshasa
Dr. John Okende, Management Team Sankuru, HIV Program/AXxes/ECC
Felly Otshudi, Management Team Sankuru, ASS FP/RH
Dr. Jean Ngoy, Management Team Sankuru, Coordinating Doctor L/ITB
Dr. Adrien N’siala, Management Team Sankuru, AXxes/ECC
Dr. Placide Welo, Management Team Sankuru, Coord. PNLS/Sankuru

Lubondaie Health Zone
Théodore Kambuy Bantu, Zone Central Office, IS, FP/RH
Sébastien Tshamala Kabasubabo, Zone Central Office, CEA
Jean Akir Ilunga, Zone Central Office
Mbanga Stanislas Kamamba, 17th Pastor Church
Beni Thérèse Katoka, Zone Central Office, Manager
Dr. Richard-Badibanga Katumbayi, Reference General Hospital, Chief Doctor
Félicien Mashila, Zone Central Office, Community Organizer
Pierre Nsanga Tshikenda, Zone Central Office, Steward
Sylvain Nkongolo Tshibuabua, Zone Central Office, Administrator
Mudiayi Yav, Zone Central Office, Secretary, Accountant

Bulape Health Zone
Mpata-Mbamba / Bulape Health Center
Ngolo Tshibangu, Nursing Administrator
Bushabu Bushabu Lambert, Nursing Deputy Administrator
Ntumba, Dibue
Mikobi, Mashala
Mutanda Esther Kongo, Midwife
Nkashama-Kuete
Mashela Pembi, Laboratory Assistant

Bambalayi Referral Health Center /Bulape
Pongo Kuete, Bruno, Attending Nurse
Shamba, Makolo, Assistant Nurse
Matshina, Christine, Nurse Midwife
Kwete, Esthere, Nursing Administrator of the Health Post
Community Volunteers Buandala Buandala RC
Tshibuayi Tshibuyi
Masheke Lukadi
Tondo
Kadilu
Hembi Masheke
Lushiku
Masheki Masheki
Lushanga
Malengu Kuete
Pongo Mabosho
Ntumba Makambo
Tshianda Tshiyole
Kongo Shamba

**Health Zone Central Office/Bulape**
Dr. Joseph Kambala, Chief, Bulape Health Zone
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Pierre Kwete, Nursing Supervisor
Gaston Mamba, Nursing Supervisor
Annie Mwashela, Cashier and Antenatal Consultation Manager
Onesime Diambu, Nurse Manager of Pharmaceutical Supplies
Josue Kuete, Nursing Supervisor
Fwamba Kapenga, Community Organizer
Firmin Isongo, Security Guard

**General Reference Hospital/Bulape**
Dr. Patrick Kalombo, Chief Doctor (MDH)
Dr Joseph Kambala, Health Zone Medical Officer
Oscar Bope Kuete Badibanga, Nursing Administrator A2
Joseph Kongo Kapumbu, Administrative Manager
Jerome Kongo, Nurse Anesthetist
Benjamin Minga, Nursing Administrator A2
Onesime Diambu, Nurse Manager of Pharmaceutical Supplies
Job Lukadi Kongo, Manager of Screening and Treatment Health Center – CSDT (Tuberculosis)

**Maternity/ Bulape**
Zyamedi Bope, Nurse
Pelenge Mbakama, Hospital Nurse Manager
Odia Kabanga, Nurse Midwife
Kilombola Ntambwe, Nurse Midwife
Mbombo-Shamba, Nurse
Ingongo / Bulape Health Center
Hubert Bushabu, Nursing Administrator
Adolphe Kwete Kongo, Nursing Deputy Administrator
Bamgamba-Ntumba Anicet, Bursar
Nahomie Shamba Tshinga, Matrone
Bope Kuete, Security Guard
Pembe Masheke, IA

CDC-UNC Maternite BOMOI Clinic
Hortense Miandabu Tshimpaka
Melanie Kapinga, PMTCT-Counselor Supervisor
Dr. François Kitenge, Technical Coordinator
Nene Kilese Maluang
Dr. Nana Mbonve, Project Leader
Astride Muhusa
Helene Mvuezolo
Marie Therese Mwela, PMTCT Supervisor
Francoise Mbuyulu, Counselor
Martine Tabala, Laboratory Supervisor

PNLS – National Level
Dr. Betty Mbu, PNLS PMTCT Director
Dr. Augustin Okenge Yuma, PNLS Director

UNICEF
Dr. Gertrude Muswamba, PMTCT Director
Dr. Toko (MCH – on temporary duty from Côte d’Ivoire)

Lodja District Referral Hospital
Dr. Aime Alengo, Medical Director
Osakanu Kombe, PMTCT Counselor
Etshumba Lodi, VCT Counselor
Yolama Lokinu, General Administrator
Elowa Nkoy, VCT Counselor
Ambokiyenyi Omba, Pharmacy Technician
Walo Omeshango, Laboratory Technician
Ambohawedi Josue, PMTCT Counselor
Lodi Wongodi, Laboratory Technician

Medical Depot
Dr. Timothy Henry, Medical Director
**St. Francois d’Assise Hospital**
Madeleine Awelolo, Maternity Nurse  
Marcel Bongehuta, Nursing Director  
Najo Soncto, VCT Counselor  
Belepe Welo, Lab Tech  
Dr. Sr. Wetshaki-Ongala, Medical Director

**Health Zone Central Office**
Paul Olongo Kinyamba, IS  
Christophe Mbaka Letshu, AGIS  
Mado Mpemba-Shongo, Depot Manager  
Joel Oyombo Wamu, Health Zone Medical Officer  
Victor Okonda W’Okonda, IS

**PNMLS and PNLS – District Level**
Michael Kilolo Kasongo, Technical Assistant, PNMLS  
Modeste Ngongo Shako, Local Coordinator, PNMLS  
Plalibo Welo, Coordinator, PNLS
## ANNEX IV. PROJECT COST SHARE

Cooperative Agreement No. 623-A-00-06-00058-00  
Total Cost Share as of February 28, 2009

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<th>Year 3 as of Feb-08</th>
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**Breakout of IMA World Health Cost Share:**

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<th>Budget</th>
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<th>Year 2</th>
<th>Year 3 as of Feb-08</th>
<th>Total Actual</th>
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<td>Staff seconded to project</td>
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<td>$ 1,106.58</td>
</tr>
<tr>
<td>Tubozone</td>
<td>$ 6,243.12</td>
<td></td>
<td></td>
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<td>$ 6,243.12</td>
</tr>
<tr>
<td>Depo Provera</td>
<td>$ 16,060.00</td>
<td></td>
<td></td>
<td></td>
<td>$ 16,060.00</td>
</tr>
<tr>
<td>Other GIK - Medicines</td>
<td>$ 1,728,952.60</td>
<td>$145,600.00</td>
<td>$ 1,112,253.00</td>
<td>$ 2,986,805.60</td>
<td></td>
</tr>
<tr>
<td>Other GIK - Supplies/Equipment</td>
<td>$ 1,146.32</td>
<td>$ 46,549.63</td>
<td>$ 105,326.73</td>
<td>$ 153,022.68</td>
<td></td>
</tr>
<tr>
<td>Shipping costs provided by supplier</td>
<td>$ 12,348.00</td>
<td></td>
<td></td>
<td></td>
<td>$ 12,348.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$ 1,982,166.82</td>
<td>$292,762.18</td>
<td>$ 1,256,441.06</td>
<td>$ 3,531,370.06</td>
<td></td>
</tr>
</tbody>
</table>
ANNEX V. PROJECTS LEVERAGED FROM THE SANRU PROGRAM

These projects directly contribute to Project AXxes/USAID. They have allowed increased training and supervision as well as shifting of costs to other needs and commodities when met by one of these adjuvant programs.

<table>
<thead>
<tr>
<th></th>
<th>Grant Amount</th>
<th>Duration</th>
<th>Number of AXxes Zones Assisted</th>
<th>Principal Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNICEF</td>
<td>$860,000</td>
<td>2007-present</td>
<td>16 of 16</td>
<td>Installation of latrines, construction of sources, training, supervision, and surveys (KPC)</td>
</tr>
<tr>
<td>Global Fund Malaria</td>
<td>$1,500,000</td>
<td>2008-present</td>
<td>4 of 24</td>
<td>Government MPA (ITNs, curative care, diagnosis, training and supervision)</td>
</tr>
<tr>
<td>Global Fund HIV</td>
<td>$1,300,000</td>
<td>2008-present</td>
<td>2 of 12</td>
<td>Government MPA (VCT, PMTCT, ARV, OI, STI training and supervision)</td>
</tr>
<tr>
<td>GAVI</td>
<td>$6,000,000</td>
<td>2008-present</td>
<td>30 of 65</td>
<td>Reinforce cold chain (frigos, fuel, installation), material (syringes), campaigns, transport of vaccines, training and supervision.</td>
</tr>
</tbody>
</table>
ANNEX VI. HISTORICAL CONTEXT IN THE DRC

Covering nearly 900,000 square miles, with a population estimated at over 65 million, the DRC, though possessed of vast mineral resources, is one of the poorest countries in the world. Up to 80% of Congolese live on less than $1.00/day, many on as little as $0.20/day.

Since colonial times the Congolese people have suffered under a series of highly exploitative and corrupt regimes (in 2007 Transparency International ranked the DRC among the 13 most corrupt governments), largely limiting development efforts to the industries extracting the country’s wealth: mining and to a lesser extent forest exploitation.

During the reign of Mobuto Sese Seko (1970–1997), the majority of the Congolese people lived in abject poverty, which progressively worsened as the already meager road networks were allowed to fall increasingly into disrepair, isolating large segments of the population. The extensive river networks provided the only alternative. Services traditionally supported by the government, including health care, were largely left instead to mission organizations (FBOs) and international donors. Despite rapacious exploitation of its resources, the economy progressively declined through the 1980s.

After 1994 conditions progressively worsened further as ethnic strife and civil war, sparked by the Rwandan genocide, devastated much of the country. International assistance was progressively withdrawn and did not resume until 2001, when substantial amounts of international humanitarian relief assistance began to be provided.

Since the assumption of power in 2001 by current president Joseph Kabila, the fighting has waned but is still ongoing in some of the eastern parts of the country, with attendant human rights violations, including extreme sexual violence against women.

The devastating effects of these years of strife continue to seriously hamper any development efforts. Today the difficulties of travel within the DRC are among the most significant constraints to effective implementation of development efforts, as most of the sparse road networks continue to be severely degraded and even rivers are largely not usable due to the predations of pirates. Commerce has largely stopped in some parts of the country, where markets are bare or nearly so of commercial goods. Health infrastructure (and other government facilities, including schools) was destroyed and looted over the years, leaving some HZs with few usable health facilities. In response to the absence of government services, private health services, including private clinics and traditional healers, have become strong competitors of the government health services.

Since the establishment of a transitional government in 2003 and general elections in 2006, conditions have improved somewhat as disarmament, demobilization, and reintegration continue and parts of the mining sector are renewing activity. Inflation has been reduced from over 630% in 2000 to the current low double digits. International donors have returned and are slowly transitioning from emergency humanitarian assistance programs to activities aimed at re-establishing the bases for sustained development.
ANNEX VII. HISTORY OF USAID PHC SUPPORT AND SANRU/AXXES

During the 1980s and early 1990s, despite poverty and poor governance, the PHC system in the DRC (then Zaire) was widely considered one of the best in Africa. Anchored in public-private partnerships between the government and churches and NGOs and strongly supported by donors, including USAID, the decentralized system, initiated in the early 1980s, focused on structured health zones (HZs) and produced significant improvements in health indicators. Primary among these programs were the USAID-funded SANRU (Santé Rurale) I (1980–86 in 50 HZs) and SANRU II (1986–91 in 108 HZs) programs implemented by the Protestant Church of the Congo (ECC) and other partners. These two programs were so well-known that SANRU became a brand name equated with decentralized PHC service delivery.

The early SANRU projects ended when the foreign assistance community evacuated in the early 1990s. In the ensuing years much of the previous work was undermined. Nevertheless, a 2001 World Bank report stated that: “The HZ system is possibly the only system in the country still recognizable as a nation-wide quasi-state structure…and even with critically little or no support, it commands allegiance and support from health workers.”

In 2000, a small number of American and Congolese physicians who had spent the war years managing health services in Congo approached USAID for funding to rebuild the hospitals where they had worked. Out of this contact grew SANRU III (2000–06) operating in 56 HZs, including many covered during SANRUs I and II. Once the USG released its “fragile states policy,” USAID/Kinshasa initiated the AXxes Project targeting “fragile HZs” in areas that had been heavily impacted by the conflict. This was a significant geographical departure from previous SANRU initiatives.

Wishing to sustain the brand name ECC and Interchurch Medical Assistance (IMA), a partnership of 12 Protestant churches, which organizations had implemented SANRU III and submitted the winning bid for the AXxes Project, formally established an independent umbrella program, SANRU, which manages AXxes and numerous other activities funded by a variety of donors (the Global Fund, the Presbyterian church, the German Development Bank, a Belgian Protestant NGO, Abbott Pharmaceuticals, and UNICEF). SANRU has just been named a principal recipient for the Global Fund Round 8 to manage malaria activities in 118 HZs ($50 million) and HIV sensitization activities ($110 million). These non-USAID-funded SANRU projects have contributed to activities in AXxes HZs: UNICEF funding supported installation of latrines, water source construction, training and supervision, and surveys in 16 HZs; Global Fund financing contributed to malaria-related activities in four and to HIV activities in two; GAVI funding contributed to cold chain reinforcement and immunization materials, transportation, training and supervision in 30. This has made it possible to shift USAID funds to support other AXxes needs and commodities.

ANNEX VIII. OTHER DONOR PROJECTS

Health programs in the DRC are supported by a wide variety of donors and IPs. While most follow the government’s SRSS strategy at least in part, each implements the strategy in its own way. Some of these differences—such as the level of health personnel bonuses, the policies covering use of health services receipts, training strategies, and per diems and differences in fees for service—result in problems of morale of health personnel and impact health service utilization patterns. These effects are particularly strong when an HZ transitions from one donor to another or from one IP to another. In the AXxes project, for example, one of the original four IPs, Merlin, withdrew from the project after it recognized that its humanitarian relief experience did not fit well with AXxes development strategies. In zones where AXxes partner ECC took over from Merlin, health personnel and populations found it difficult to transition from a free care approach to a fee-for-service approach.

Besides the AXxes Project, unique in its concentration on the provincial and zonal levels and in its attention to health facility-level utilization and access, four principal donor models of PHC support in DRC can be identified:

1. **The emergency relief model** is characterized by short-term projects implemented by a variety of NGOs focused on rapid delivery of key commodities directly to health facilities; free care, often emphasizing selected vertical interventions; and “civil works,” i.e., health facility rehabilitation/construction activities, sometimes combined with other inputs focused on increased stability (e.g., demobilization and integration of fighters, income-generating activities). In zones where this model has been implemented, the transition to development-oriented approaches (fee-for-service, integrated PHC service delivery, community participation, etc.), can be difficult. In AXxes project HZs, for example, utilization rates fell off sharply after a fee-for-service approach was instituted in zones previously covered by humanitarian assistance projects (Merlin and others) and are only now slowly recovering.

2. **The PARSS** (*Projet d’Appui à la Réhabilitation du Secteur Santé*) model, **funded by the World Bank.** This $150 million, 5-year project started in January, 2006. The project covers 83 HZs in Equateur (43 HZs), Bandundu (14 HZs), Katanga (13 HZs), Maniema (8 HZs), and Kinshasa (6 HZs) provinces (total population: 9.6 million). A mid-term assessment was underway during the AXxes assessment team visit to the DRC.

The WB project has emphasized the strengthening of service provision quality by assuring the availability of supplies and equipment and rehabilitating health infrastructure as well as limited strengthening of provincial and national level systems. The project is implemented by five international NGOs (Belgian, Italian, Canadian, GTZ, and the IRC), whose previous experience in DRC was essentially focused on emergency relief. The project has three components:

- Increased access to and **utilization of health services**, especially focused on women and children and PLWHA ($104 million), including blood safety; immunizations; vitamin A; growth monitoring; maternal and neonatal health; and community-based activities focused on fever, diarrhea, and breastfeeding, and HIV/AIDS (PMTCT, BCC, STI diagnosis and treatment, condom promotion, VCT, treatment, medical waste). The HZ budget costs are estimated at an average of $980,000 per zone for a four-year period, with $190,000 for rehabilitation of 12 HCs, one GRH, and one zonal office; a pharmacy budget of $3,000 per HC, $10,000 per GRH, and $15,000 per zone centrally twice during the project (for a total of $122,000 for four years per zone); $64,000 per zone in training costs (90 person-days of training per year); $48,000 per zone per year for supervision-related transportation; and
$522,000 per zone per year for performance contract payments, including office supplies, cleaning and maintenance, and staff bonuses ($2,000/month for the zonal office; $3,500/month for the GRH and $500/month per HC).

- **Malaria** ($30 million), including IPT, ACT, ITNs. Up to 3 million bednets are to be purchased, providing one for every two persons or three per household in up to 80% of households). The distribution of bednets started two months ago and the effort is currently being evaluated.

- Improved supervision and use of data ($6 million).

According to the WB website, just over $23 million of the total available funds have been spent to date, primarily on rehabilitation of health facilities, drugs, equipment and supplies, and salaries. Almost no money was spent in the first year of the project. According to the head of the evaluation team, “Every effort to go fast has failed.” There have been serious problems with the drug purchasing procedures, leading to inadequate supplies and massive stock-outs that have led to emergency drug supply purchases through IDA and UNICEF.

PARSS applies the principal of “contracting-in,” that is, contracting with government entities to implement project functions. The financial management and oversight is in the hands of a government entity under the Ministry of Finance. This has been the main source of implementation delays. PARSS does not follow the MOH’s SRSS policy because the project was designed prior to this policy’s definition. The WB implementing partners (IPs) reportedly each have their own approaches.

PARSS pays performance-based bonuses to health staff: up to 30% of the bonus is linked to performance. Clients pay for health care services at variable minimal rates set by the community (CODESAs), with prices based on common household articles (the equivalent of a bottle of palm oil or the cost of a chicken, for example).

3. **The Health Program of the 9th FED/EU.** This €80 million, 5-year (2006–10), Project focuses its efforts in the Kasai Occidental, Kasai Orientale, Orientale, and North Kivu provinces, covering a total of “27 strong HZs and 40 weaker ones”\(^\text{25}\). It is implemented through seven international NGOs (Medair, Malteser, Oxfam [Netherlands], UniverSud, COOPI [International Cooperation], Cordaid [formerly Netherlands MEMISA], and Caritas), all primarily humanitarian relief rather than development organizations.

The FED9 approach emphasizes systems strengthening at the national and provincial levels over direct interventions at the health facility level to improve access to, quality of, and use of health services. The program follows the GRDC’s integrated PHC SRSS strategy and has two main components: (1) support to the health strategy of the MOH through support to its subdivisions and improvement of access to quality health services at the HZ level through health infrastructure rehabilitation, provision of essential drugs, and training of medical personnel; and (2) rationalization of health financing by putting in place a fee-for-service system based on the ability to pay of the population. Over the past 10 years the European Union (EU) has focused on developing financing mechanisms and working with the government to assign fiduciary agents at both the national and provincial levels. The EU has advocated for a separation between government operation and financial functions, established as two autonomous agencies that would work together to achieve positive health outcomes. As there was little legal precedent for

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\(^{25}\) HZs within provinces are divided into three categories: (i) advanced, (ii) progressing, and (iii) weak. The program provides more funding to the more advanced HZs, consistent with SRSS principles, as they are better able to absorb the funds and serve as models for other zones in the province.
ASSESSMENT OF DRC’s INTEGRATED HEALTH SERVICES PROJECT

this, the effort necessitated helping to establish an appropriate legal context, including for decentralized health care financing.

Specific project activities include:

- Strengthening health financing through operationalizing two funding mechanisms: the *Fonds de Développement du Système de Santé*, a national fund to support health facility rehabilitation, equipment and supplies, provincial management costs, free preventive care services (immunizations, TB, RH), and an “equity fund” to provide free services to the indigent; and the *Fonds d’Achats de Services de Santé* at the provincial level to complement user fees through performance-based agreements with health facilities

- Establishment of three “think-tanks” at the national level: finance, planning, and contractual relations (private-public partnerships) to strengthen the regulatory environment; TA at the central level to support coordination and policy efforts

- Support to provincial-level planning and implementation through regional technical committees

- Support to the national health information system (SNIS: *Système National d’Information Sanitaire*) to improve data quality, develop new tools, and strengthen information flow

- Strengthening access to quality health care through rehabilitation and equipping of health facilities

- Auto-didactic and practical training of health personnel (in hospitals and model HCs)

- Strengthening of supervision, epidemiological surveillance, and support for HZ-level planning

- Support of the GDRC’s drug management system through FEDECAME, and the network of provincial depots, primarily through management, legislative, and legal reinforcement activities and development of quality control policies

The program works closely with the provincial team to assist them to develop provincial plans. The contract is performance-based and funding includes some salary (“prime”) support for up to 11 provincial personnel (but actually many more in some provinces). There are also performance-based contracts with the HZs and salary support for doctors. The salary amounts are consistent with the norms set by the MOH by cadre of health worker.

The FED9 Project implemented health activities in the field through contracts with NGOs charged with supporting selected HZs. Their focus is life-saving and emergency care and RH at the HC level, not GRHs, which were supported through a previous project. FED9 also supports weak HZs that require considerable start-up investment, including a functional drug supply system that has been problematic.

A mid-term evaluation of the program was in process while the AXxes Project assessment team was in the DRC. Preliminary results show that it took nearly two years to set up the fiduciary structures to manage the *Fonds de Développement du Système de Santé* and *Fonds d’Achats de Services de Santé* and to provide initial investments (lack of banking infrastructure makes getting money to the provincial level challenging) to start the process of improved service delivery in the many weak HZs, starting with HC rehabilitation. Implementation of rehabilitation and equipment tenders is estimated at three to four years. The paucity of legal texts has also constituted a challenge to rationalization of health service systems. Poor quality of services remains the biggest single challenge. The contracted NGOs do not appear have the experience and qualifications to
work directly with health facilities on quality improvements and, especially at the hospital level, there have been few tangible results. The drug supply system has been improved, but since the tracking system is limited to financial tracking, not to product tracking, little is known about drug use. Prescription practices remain a hurdle as providers continue to greatly overprescribe.

4. The Belgian Cooperation funds an integrated PHC initiative implemented by the Belgian Catholic NGO MEMISA, MEdische MIssie SAmenwerking (Missionary Medical Action /Belgian). This 6-year project, (2008–13) provides support to 35 HZs (€71,500 or US$3,551,473 HZ/yr) in the provinces of Bandundu (19 HZs), Equator (6), Orientale (6), Bas Congo (2), Kantanga (2), and Kasai Orientale (1) (total population: 4.1 million). Over the six years this equals approximately US$21,308,838. The choice of HZs was partially determined by the requests submitted by priests and nuns working there.26

The project cooperates with both the GDRC and the Diocesan Office of Medical Interventions (BDOM: Bureau Dioscène d’Œuvres Médicaux), reinforcing the public-private partnership. Its objectives are to reinforce the HZs and the intermediate health system levels of both the BDOM and the GDRC.

This project takes a bottom-up, participatory approach to planning. Annual plans are developed based on a COPE-like annual evaluation of quality of care at the health facility level using a standardized, detailed questionnaire. The evaluation covers the existence and use of a quarterly plan of action, the analysis of HC case management and drug receipts, hygiene and sterilization practices, emergency care, laboratory services, drug management, FP, maternity, TB, immunization, and prenatal consultation services as well as OR services in hospitals, evaluating availability and use of equipment and supplies, knowledge and practices of health personnel, cost recovery mechanisms, drug prescription practices, and other practices. This tool serves as an on-site, in-service training device and a quality improvement tool as well as an evaluation tool to identify strengths and weakness and priority actions for the next planning cycle. Following the evaluation, annual plans are developed at health facilities. These are consolidated at the district level, then at the provincial level, and finally at the national level in an annual meeting that brings together representatives from all levels of the health system.

Project components include management training of provincial and HZMT, equipment and supplies distribution, training of health personnel and quality improvement through use of case management flow charts, procedures manuals, analysis of critical incidents during supervisory visits, quarterly evaluation of prescription practices, and quarterly self-evaluations of HC functioning using another short COPE-like standardized evaluation tool. Drugs are furnished through lines of credit of €12,000 per HZ per year and €8,000 per hospital per year. Performance-based contracts with provincial (GDRC and BDOM) management teams and health facilities help determine bonuses averaging $70 per HC and 40% of health services/drug sales receipts.

Fee-for-service has been instituted at all health facilities averaging around $1 per consultation (including drugs) as set by community committees. These are coupled with a form of local health insurance system.

As this is a relatively new project results are as yet difficult to determine. However, the initial planning cycle reportedly took most of the first year to complete and field activities are just starting.

26 MEMISA, La Santé pour Tous, p. 8.
## ANNEX IX. AXXES TECHNICAL ASSISTANCE (YEAR 1-PRESENT)

<table>
<thead>
<tr>
<th>TA Organization</th>
<th>Scope of Work</th>
<th>Duration of Assistance</th>
<th>Impact of Assistance</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johns Hopkins: Informatics Department</td>
<td>Support to the development of the AXXxes HIS</td>
<td>Oct. 2006 to Nov. 2008</td>
<td>Improved data recording, interpretation, and reporting</td>
<td>$487,669</td>
</tr>
<tr>
<td>Johns Hopkins: Informatics Department</td>
<td>Support to the MOH for the development of the national HIS data warehouse</td>
<td>Oct. 2007 to Nov. 2008</td>
<td>Allowed MOH to centralize, store, evaluate, and present data from all health zones and facilities within DRC—the start of an NHIS (national health information system)</td>
<td>(included in above)</td>
</tr>
<tr>
<td>Helen Keller International</td>
<td>- Test and integrate effective routine vitamin A distribution</td>
<td>Oct 2006 to present</td>
<td>Facilitated the roll-out of zinc as an integral element in the treatment of diarrhea (first-ever experience in the DRC) and provided essential monitoring and TA in both the procurement and monitoring of micronutrient use.</td>
<td>$375,586</td>
</tr>
<tr>
<td></td>
<td>- Test and integrate zinc treatment for diarrhea in AXXxes zones</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Improve nutrition message</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Relief</td>
<td>Pilot testing and integration of the “care group” approach for improving community health activities</td>
<td>Oct 2006 to present</td>
<td>Developed, tested, and presented an effective community approach to health prevention and treatment (C-IMCI).</td>
<td>$100,000</td>
</tr>
<tr>
<td>Management Sciences for Health</td>
<td>- Leadership training for AXXxes and MOH district health teams</td>
<td>Oct 2006 to present</td>
<td>- Increased significantly the level and performance of hospital-based lab facilities in correctly diagnosing endemic diseases. - Provided vital support to all regional drug depots, including assistance with forecasting and ordering, stock rotation and storage, as well as the financial management and monitoring of the drug credit system for 57 health zones.</td>
<td>$235,083</td>
</tr>
<tr>
<td></td>
<td>- Training of laboratory staff on TB, STIs, and malaria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Development and supervision of drug distribution system and cost recovery for drugs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TA Organization</td>
<td>Scope of Work</td>
<td>Duration of Assistance</td>
<td>Impact of Assistance</td>
<td>Budget</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Innovative Resources Management</td>
<td>Train and supervise CODESAs for IGAs to support health care costs in South Kivu</td>
<td>Oct. 2006 to Sept. 2008</td>
<td>Provided support in livelihood and micofinance to CRS-supported health zones in South Kivu province, both establishing systems for sustainability and models to duplicate.</td>
<td>$225,456</td>
</tr>
<tr>
<td>PATH (BASICS/POPHI)</td>
<td>Training of trainers for improving newborn care and decreasing incidence of postpartum hemorrhage</td>
<td>Fall 2007 to June 2008</td>
<td>Introduced life-saving interventions to all AXxes project zones by the introduction and training of personnel in the use of safe delivery, including AMTSIL and new WHO protocols for newborn resuscitation.</td>
<td>~$40,000</td>
</tr>
<tr>
<td>JSI: BASICS Immunization</td>
<td>Support to AXxes and MOH for the Expanded Program for Immunization</td>
<td>Nov. 2007 to present</td>
<td>Support in the planning, training, and design of vaccination campaigns and reporting, and tracking.</td>
<td>$46,772</td>
</tr>
<tr>
<td>Brown Consultants</td>
<td>Training and supervision of PMTCT activities</td>
<td>June 2007 to Sept. 2008</td>
<td>Established PMTCT protocols for all project-supported sites. Involved in initial project design, ordering of commodities, training, monitoring, and supervision.</td>
<td>$51,500</td>
</tr>
<tr>
<td>UNC-DRC and PNLS</td>
<td>Training and supervision of PMTCT activities</td>
<td>June 2007 to present</td>
<td>Review of project material and protocols, ongoing assistance in training and supervision of activated sites</td>
<td>$174,400</td>
</tr>
<tr>
<td>Dr. Frank Baer</td>
<td>Senior consultant to IMA</td>
<td>June 2007 to present</td>
<td>- Monitoring and evaluation of project-wide activities. - Established management structure, assisted in developing teaching tools, and reviews and edits quarterly reports and work plans.</td>
<td>~$160,000</td>
</tr>
<tr>
<td>Lauren Blum</td>
<td>Research and TA on improving care-seeking behavior</td>
<td>July 2008 to present</td>
<td>Contracted to do a care-seeking behavior study in two provinces where the project is active. Helping understand low</td>
<td>$60,790</td>
</tr>
<tr>
<td>TA Organization</td>
<td>Scope of Work</td>
<td>Duration of Assistance</td>
<td>Impact of Assistance</td>
<td>Budget</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
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<td>----------</td>
</tr>
<tr>
<td>Christian Medical Institute of the Kasai, Panzi Hospital, UNIKIN Medical School faculty</td>
<td>Doctors training for VF</td>
<td>Sept. 2007 to present</td>
<td>Involved in both didactic (technique) and community (outreach) elements of fistula recognition and repair. TA teams have provided on-site and institutional training for over 18 project personnel and rendered clinic services to over 80 women.</td>
<td>$152,980</td>
</tr>
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## ANNEX X. AXXES TRAINING ACTIVITIES

<table>
<thead>
<tr>
<th>Training Theme</th>
<th>Participants</th>
<th>Y1</th>
<th>Y2</th>
<th>Q1Y3</th>
<th>CRS Q2Y3</th>
<th>WV Q2Y3</th>
<th>ECC Q2Y3</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>F</td>
<td>Total</td>
<td>M</td>
<td>F</td>
<td>Total</td>
</tr>
<tr>
<td>PMTCT</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>PMTCT</td>
<td>TOT Provincial Level</td>
<td>21</td>
<td>0</td>
<td>21</td>
<td>6</td>
<td>1</td>
<td>7</td>
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<tr>
<td></td>
<td>Directors and Health providers in sites</td>
<td>188</td>
<td>89</td>
<td>277</td>
<td>6</td>
<td>13</td>
<td>19</td>
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<tr>
<td></td>
<td>PMTCT maternities, lab technicians</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peer educators</td>
<td>12</td>
<td>12</td>
<td>24</td>
<td></td>
<td></td>
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<td></td>
<td>Relays</td>
<td>24</td>
<td>6</td>
<td>30</td>
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<tr>
<td></td>
<td>Focal Points</td>
<td>5</td>
<td>5</td>
<td>8</td>
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<td></td>
<td>Focal Points and Medical Coordinator</td>
<td>1</td>
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<td>364</td>
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<tr>
<td>PMAC/CLinic</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMAC/CLinic</td>
<td>PMA Training of trainers</td>
<td>83</td>
<td>0</td>
<td>83</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PMAC/CLinic</td>
<td>Care providers training in PMA</td>
<td>1066</td>
<td>38</td>
<td>1104</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>Nurses</td>
<td>1066</td>
<td>38</td>
<td>1104</td>
<td></td>
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<tr>
<td>PMAC/CLinic</td>
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<td>152</td>
<td>541</td>
<td>1066</td>
<td>38</td>
<td>1104</td>
</tr>
<tr>
<td>Community-CMIC</td>
<td>PMA Training of trainers</td>
<td>83</td>
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<td></td>
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<tr>
<td>Community-CMIC</td>
<td>Care providers training in PMA</td>
<td>389</td>
<td>152</td>
<td>541</td>
<td>1066</td>
<td>38</td>
<td>1104</td>
</tr>
<tr>
<td>Community-CMIC</td>
<td>Nurses</td>
<td>389</td>
<td>152</td>
<td>541</td>
<td>1066</td>
<td>38</td>
<td>1104</td>
</tr>
<tr>
<td>Community-CMIC</td>
<td>Total</td>
<td>389</td>
<td>152</td>
<td>541</td>
<td>1066</td>
<td>38</td>
<td>1104</td>
</tr>
<tr>
<td>Community-CMIC</td>
<td>Provincial TOT on Community-IMCI</td>
<td>Targeted participants commonly identified by IPS-CRS</td>
<td>56</td>
<td>17</td>
<td>73</td>
<td>57</td>
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<td>Community-IMCI</td>
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<td>17</td>
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<td>Community-CMIC</td>
<td>CIMIC for sensitization Relays, Nurses</td>
<td>3875</td>
<td>822</td>
<td>4797</td>
<td>1653</td>
<td>147</td>
<td>1800</td>
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<tr>
<td>Community-CMIC</td>
<td>Community-care sites replication Relays</td>
<td>3875</td>
<td>822</td>
<td>4797</td>
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<td>NA</td>
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<td>Total</td>
<td>4270</td>
<td>856</td>
<td>5126</td>
<td>1653</td>
<td>147</td>
<td>1800</td>
</tr>
<tr>
<td>Training Theme</td>
<td>Participants</td>
<td>Y1</td>
<td>Y2</td>
<td>Q1/Q3</td>
<td>CRS Q2/Q3</td>
<td>WV Q2/Q3</td>
<td>ECC Q2/Q3</td>
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<tr>
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<td>F</td>
<td>Total</td>
<td>M</td>
<td>F</td>
<td>Total</td>
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<td>Reproductive health</td>
<td>HZMT</td>
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<tr>
<td></td>
<td>Nurses</td>
<td>1083</td>
<td>442</td>
<td>1525</td>
<td>73</td>
<td>17</td>
<td>90</td>
</tr>
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<td>442</td>
<td>1525</td>
<td>73</td>
<td>17</td>
<td>90</td>
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<td>27</td>
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<td>Provisional TOT for relays</td>
<td>Targeted participants commonly identified by IPS and CRS &amp; WV</td>
<td>22</td>
<td>9</td>
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<td></td>
<td>Clinic newborn (second pool)</td>
<td>MCZ, MEDECIN DIRECTEUR, Nurse Supervisor, Birth attendants from selected maternities</td>
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<td></td>
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<tr>
<td></td>
<td>Total</td>
<td>64</td>
<td>24</td>
<td>88</td>
<td>44</td>
<td>16</td>
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<td>Others Strategies</td>
<td>TB training</td>
<td>PATI 4</td>
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<td></td>
<td>CODESA Savings</td>
<td></td>
<td></td>
<td></td>
<td>28</td>
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<td>CODESA Functionality</td>
<td>HZ, Coordinators</td>
<td>57</td>
<td>103</td>
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<tr>
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<td>Y1</td>
<td>Y2</td>
<td>Q1Y3</td>
<td>CRS Q2Y3</td>
<td>WV Q2Y3</td>
<td>ECC Q2Y3</td>
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<tr>
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<td>Total</td>
<td>M</td>
<td>F</td>
<td>Total</td>
</tr>
<tr>
<td>GESIS + SNIS</td>
<td>MCZ, JS, AC, Nutrit</td>
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<td>8</td>
<td>86</td>
<td>93</td>
<td>7</td>
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<tr>
<td>GESIS + SNIS</td>
<td>Nurses</td>
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<td></td>
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<td>0</td>
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<td>0</td>
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<td>LQAS survey on newborn management in the community level</td>
<td>Data Managers from AXxes-M&amp;E Staff, PNSR, 4th, 5th and 7th Direction of MOH</td>
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<td>0</td>
<td>10</td>
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<td>0</td>
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<tr>
<td>Networking with JHU</td>
<td>Data Managers from AXxes-M&amp;E Staff and Coordinators, PNSR, 4th, 5th and 7th Direction of MOH</td>
<td>20</td>
<td>5</td>
<td>25</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>Data Mgmt using Tableau Software with JHU</td>
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<td>174</td>
<td>14</td>
<td>188</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Grand Totals by time period*** | 1753 | 630 | 2383 | 12499 | 1912 | 14411 | 1981 | 197 | 2178 | 27 | 34 | 3831 | 389 | 258 | 647 | 216 | 109 | 773

**Grand Total:** 24223

*Total number of trainings, some persons participated in two or more training sessions over the 12 month period.
ANNEX XI. HEALTH PROVIDER MORALE

Health provider morale is repeatedly mentioned throughout this document as a constraining factor. It is a serious issue that undermines the effectiveness of project inputs such as training and supervision and compromises quality of care and utilization rates in many ways.

Perceived inequities due to varying donor and local policies regarding salary bonuses, access to per diems, and training opportunities as well as acute awareness that donor projects are of short duration and thus any improvements are vulnerable to end-of-project cessation or modification all contribute to poor morale, but the principal source of low health provider morale is low income.

Remuneration for health staff is composed of three principal elements:

1. **Salary** as set by the GDRC was estimated at between 16,000 and 27,000 Congolese francs per month in one HZ. Salary support to health care workers in HZs is inconsistent and unreliable, with many health personnel not paid at all.

2. **Bonuses (“primes”),** paid by the government, estimated at 2,500 CF–7,000 CF and, in some HZs, additional bonuses paid by projects: To avoid health services abruptly ending when donor support stops, the GDRC, in collaboration with donor partners, developed a list of reasonable amounts to provide as salary bonuses. This system operates in HZs supported through the World Bank, MEMISA, and, with some adaptation, FED9. Due to USG restrictions, no salary support was included in budgets in AXxes-supported HZs.

3. **Payments to health staff paid from facility level receipts** for treatment and drug sales. These are determined by the CODESAs and COGEs and reportedly range from 11,000CF to 19,000CF per month in one HZ visited by the team. The official amount paid may be surreptitiously augmented by health staff, as has been described in the Drug Management section of this report.

If these estimates are accurate, HC staff can make $36–$65/month. If the salary component is not paid the estimates drop to $15.50–$32/month, or $0.51–$2.15 per day (based on a 30-day month). These estimates mean that health workers are not much better off than the community members they serve.

Training per diems can constitute an important source of additional revenue for more senior health workers selected to participate in donor-sponsored formal training activities.

Health workers also augment their salaries through the pursuit of other remunerative activities, such as farming, private medical consultations, commerce, and so on. These activities can and often do take health workers away from their centers, reducing access to health care for the population.

In addition to poor income levels, health staff faces difficult living conditions. One HZ Chief Doctor described how he slept in the HC next to the vaccine refrigerator for the first six months of his assignment. He eventually built a simple home near the office and brought his wife and small children to live with him. A few years later, when those children were school age, he sent his family to the nearest town, a minimum of 3½ hours drive away (when the roads are passable). He now sees his family only when he goes to town, rarely.

There is also little hope of advancement based on good performance, especially for lower-level personnel who may also not have access to the same training per diems and other bonuses as higher-level personnel. Performance-based promotions are rare. The only way for most health
personnel to improve their income levels is to leave government service for another career or to open a private clinic. Many do so, resulting in very high levels of staff turnover and undermining the long term benefit to the health system of health personnel training.

Another source of low morale is, at least in some health facilities, overstaffing combined with a low patient flow due to underutilization and lack of work planning. For example, in two HCs visited, the first with 3 staff members (nurse, midwife, and lab technician) saw an average of two clients per day and 18 deliveries per month; and the second with a staff of 12 saw five cases per day and 17 births/month. This low case load leaves long stretches of time with no activities. When asked how this time was filled, health staff replied that they occasionally made home visits or studied autodidactic learning materials. Although HCs are supposed to have a monthly work plan, these plans in fact consist of little more than a list of activities per person. There is no calendar of daily activities. Having such a calendar might allow staff to use their time more efficiently, engage in more outreach activities (a key strategy needed to achieve 80% population PHC coverage), and have a sense of accomplishment at the end of each day. Accomplishment of the daily workplan could also provide input to supervisory visits.

Positive exceptions exist, however. For example, the assessment team met a very positive and dedicated nurse working in an HC considered a community clinic, where the community had supported him to get trained. The village chief and CODESA in this HA were very involved and had organized a fundraising effort to rebuild and re-equip the clinic after it had been robbed and destroyed. This suggests that the more community is involved and feels ownership of the HC, the more issues of payment and morale can be addressed at that level. For example, CODESAs can organize for the community to contribute to offset HC staff living costs (food, water source) and help to build and maintain staff lodging.
ANNEX XII. MEASUREMENT ISSUES

OVERALL TARGET POPULATION SIZE

The last national DRC census was conducted in 1984. Annual population estimates have been officially calculated since that time assuming a 3% national growth rate. The original (contracted) project budget, target population sizes, and performance indicator levels were all determined based on this historic way of updating annual numbers (3% increase per year). Recently, a census was conducted as the basis for the polio eradication campaign. This resulted in an increase in overall population size in the 57 targeted HZs from 7,286,142 to 8,027,086. For Year 2, the project adopted these updated values as the basis for its indicator target calculations. While better reflecting reality on the ground, this led to challenges in indicator comparability over the two years. The modification also had resource (including budgetary) implications as more program effort was needed to increase indicator rates towards expected levels. Year 3 denominators used were the same as for Year 2.

An initial key project activity was supporting an updated census of the number of people in each targeted HZ. The census is conducted by facility nurses responsible for supervising the health area villages via updating the list of village members. This is an annual responsibility of the HZMT, working with HC staff, but was not carried out routinely before the project. Annually updated census values provide a more accurate basis for provincial and HZ planning but have not been incorporated into the project’s denominator estimates as this would make comparisons over time and assessment of project target achievement even more difficult to interpret. Consequently, HZ-specific rates are less accurate than the overall averaged estimate, i.e., population size is overestimated in some HZs while in others the targeted coverage population size is underestimated. This introduces problems for HZMTs using project-determined denominators for their own planning and budgeting exercises.

Recommendation:

Accommodating annual increases in denominators is a predictable need, inherent in all projects involving changing population sizes, regardless of data quality. Based on historic information, the project should have initially accounted for annual increases of approximately 3% for both target-setting and budgeting purposes. For example, assuming Year 2 values are more accurate and a 3% annual increase, Year 3 denominators should be increased by 240,813 persons to 8,267,899 (less if the annual increase between Year 2 and Year 3 is considered <3%).

To investigate and better understand project-wide trends over time, the project should consider undertaking a series of comparative analyses incorporating different denominators and different assumptions about population increases over time to assess how denominator changes affect observed trends in indicator values.

One set of assumptions is required for project reporting to USAID, and final project reporting on indicator values should be based on the above exercise, adjusted as needed for data quality based on consensus between USAID and the project regarding adjustment assumptions (this is a standard practice as part of data cleaning for, e.g., survey datasets). Similarly, confirmed HZ-specific deviations from the updated polio census or annual percentage population increases (based on annual HZ census data) should be considered in special analyses of HZ-specific achievements to better understand HZ level planned versus achieved results (also reflected in differences in results by IP).
SUBGROUP TARGET POPULATION SIZES

Subgroup denominators for intervention target groups (e.g., children under 5, infants, etc) have been standardized by the MOH incorporating assumptions based on various data sources, including the latest MICS survey. Use of MOH target population assumptions supports system strengthening. However, as with annual population increases, these assumptions may not hold in some HZs as reflected by updated census data. HZ-specific deviations from assumptions (e.g. % women of reproductive age or % children <5) explains why some indicator values (e.g., immunization coverage) are measured as >100%. Also, the assumptions are based on data sources that may need validating through other means. For example, the proportion of the population falling pregnant each year is estimated at 4%, the same estimate as live births. The latter does not incorporate estimated pregnancy losses (natural or induced), which in some areas could contribute to substantial differences between the two. The table below points out where the accuracy of subgroup population size or other assumptions may affect the validity of project indicators

**Recommendation:**

Where valid updated HZ-specific census data on subgroup proportions (e.g., children <5) are available, the project should incorporate these into special analyses to better understand observed trends. This should be done initially at the HZ level to determine how changes in these assumptions (as well as deviations from annual population increases) affect HZ-specific results. Interpretation of these analyses may help explain questionable overall project results. As appropriate, and time and resources permitting, changes to HZ-level assumptions can be incorporated into special additional analyses of overall project results as a final project evaluation exercise.
# Table 1. Explanation of and Issues Related to Indicator Assumptions

<table>
<thead>
<tr>
<th>Indicator</th>
<th>% of Total Population</th>
<th>Target Population</th>
<th>Year 3 Target</th>
<th>Explanation/Issues</th>
</tr>
</thead>
</table>
| Maternal and Child Health                                                 |                       |                   |               | **1. Number of postpartum newborn visits within 3 days of birth in USG-assisted programs** 4% 321,083 70% = 224,758 The estimated number of women delivering a live birth per year is 4% of the total population. This is similar to but more than the estimated number of children between 0–11 months (3.49%) to account for infant mortality. However, data collected during the project-supported HZ population censuses revealed that the actual number of children between 0–11 months was higher than 4% of the population. The target for Year 3 does not include estimated annual population growth increases (up to 3%). According to AXxes, because non-facility births are discouraged by national policy, this indicator is measured among the subgroup of women delivering in a maternity facility, for which one visit within 3 days of delivery should be easy to achieve. The target is 70% of this subgroup. The denominator assumes all women deliver at a facility. For areas where almost all women do deliver in a facility, the denominators will be similar but this is not the case in all areas. This will result in an underestimated visit rate. According to MOH norms, visits should occur three times (6th hour of birth, at the 6th day, and at the 6th week). Measuring one visit within 3 days thus does not conform with MOH standards. Also, it is unclear how the date of the visit and timing relative to delivery date are reconciled when data are recorded. The indicator as written is visits, not people, while the denominator used is the estimated number of women delivering. If only one visit per woman is recorded, the two are equal but this may not always be the case. If the indicator is kept, consideration should be given to revising the indicator to: “number of women delivering at a public maternity unit within project-supported HZs visited for post-partum and newborn care**
<table>
<thead>
<tr>
<th>Indicator</th>
<th>% of Total Population</th>
<th>Target Population</th>
<th>Year 3 Target</th>
<th>Explanation/Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. ANC rate in USG-assisted facilities</td>
<td>40%</td>
<td>321,083</td>
<td>90%</td>
<td>The numerator is measured as the number of pregnant women who present for the first time (during that pregnancy) for an ANC visit. The estimated number of women delivering a live birth per year is 4% of the total population. The target for Year 3 does not include estimated annual population growth increases (up to 3%). The indicator measures proportion of estimated pregnant women who go for at least one ANC visit during a pregnancy. The accuracy of this measure depends on how multiple ANC visits by the same woman are recorded and considered as well as the estimated pregnancy rate. The indicator is useful for programs promoting increased use of ANC; however the rate has been high in most places from the start of the project, leaving little room for improvement as a result of project efforts. A more meaningful indicator might be to focus on preventive malaria treatment during pregnancy (already a malaria indicator) and/or ANC kit payment (proportion of women presenting for ANC at least once who have paid for their ANC kit) as an indicator of willingness to pay and how this affects ANC visits.</td>
</tr>
</tbody>
</table>
**TABLE 1. EXPLANATION OF AND ISSUES RELATED TO INDICATOR ASSUMPTIONS**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>% of Total Population</th>
<th>Target Population</th>
<th>Year 3 Target</th>
<th>Explanation/Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Number of people trained in maternal/newborn health through USG-supported programs</td>
<td></td>
<td>394</td>
<td>100%</td>
<td>Two people in each structure maternity/hospital were to be trained in this. This is an output measure that could be modified to measure “training coverage” by including a denominator, i.e., proportion of project-supported HZ maternities in which at least 2 persons have been trained in maternal/newborn care. In light of staff turnover issues, a potential outcome indicator to consider is “the proportion of project-supported HZ maternities in which 2 staff trained in maternal/newborn care (or any technical area) remain posted” at time X. This indicator is more difficult to measure and requires that a specified time period be indicated, e.g., in the last reporting period. If measured more than once a year, the value may fluctuate throughout the year. An alternative indicator could be mean number of trained staff per maternity throughout the year in project-supported HZ maternities.</td>
</tr>
<tr>
<td>4. Number of deliveries with a skilled birth attendant (SBA) in USG-assisted programs</td>
<td>40%</td>
<td>321,083</td>
<td>70%</td>
<td>The estimated number of women delivering a live birth per year is 4% of the total population. The target for Year 3 does not include estimated annual population growth increases (up to 3%). This is a useful indicator as it not only provides an indication of reduced risk of maternal death but also indicates access to services, care-seeking behavior, and opportunities for preventive education. While this value has been impressively high throughout the project, it is more sensitive to change than the indicator “at least one ANC visit that can occur any time during the pregnancy.” The definition of “skilled,” however, is not standard across all provinces/HZs, affecting which births are included in the numerator. For example, in one province, “assisted” is defined as the staff person having at least an A2 level nurse diploma. Consequently, all births assisted by midwives, even those trained, working in HCs, and supervised do not count and are</td>
</tr>
<tr>
<td>Indicator</td>
<td>% of Total Population</td>
<td>Target Population</td>
<td>Year 3 Target</td>
<td>Explanation/Issues</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>-------------------</td>
<td>---------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5. Number of people trained in child health and nutrition through USG-supported health area programs</td>
<td>1,330 (divided by males and females)</td>
<td>100%</td>
<td></td>
<td>The target for the project was 2 trained persons per HC. This training was done in the early years. The MOH norm is for there to be 1 volunteer/15 households. To approach this level, the project set a target for additional training of 10 volunteers/health area/HZ. Dividing the target by males and females was a means of increasing the gender balance of community structures. This is an output measure that could be modified to measure training coverage by including a denominator, i.e., proportion of HZs in which at least 2 persons/HC have been trained in child health and nutrition. For the community level, the indicator would be proportion of HZs in which at least 10 volunteers/health area have been trained in child health and nutrition. At the lower levels the indicator would be measured as number of trained staff in that HC (or volunteers in the health area). In light of staff turnover issues, a potential outcome indicator to consider is “the proportion of project-supported HZs in which 2 staff trained in child health and nutrition (or any technical area) remain posted” at time X. This indicator is more difficult to measure and requires that a specified time period be indicated, e.g., in the last reporting period. If measured more than once a year, the value may fluctuate throughout the year. An alternative indicator could be mean number of trained staff /HC (or volunteers/health area) throughout the year in project-supported HZs.</td>
</tr>
<tr>
<td>6. Number of women receiving active management of the third stage of labor through USG-supported</td>
<td>60% of 321,083 (assisted births)</td>
<td>192,650 (assisted births)</td>
<td>100%</td>
<td>The target denominator was estimated at 60% as this was the estimated Year 2 proportion of women whose delivery was assisted (measured was 64%). Year 3 target for assisted deliveries is 70%, so this denominator should be the same.</td>
</tr>
<tr>
<td>Indicator</td>
<td>% of Total Population</td>
<td>Target Population</td>
<td>Year 3 Target</td>
<td>Explanation/Issues</td>
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<tr>
<td>programs</td>
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<td></td>
<td>Target for AMTSL is 100% of assisted deliveries. The numerator is defined as the number of births for which AMTSL is used (oxytocin injection, controlled cord traction, uterine massage). In some maternity units, Ergometrine has been used in the place of oxytocin and staff did not report these women as having received active management of the third stage of labor, leading to lack of standardization and an underestimation of the indicator value.</td>
</tr>
<tr>
<td>7. Number of newborns receiving antibiotic treatment for infection from appropriate health workers through USG-supported programs</td>
<td>16,054 (pop X .04 X .05)</td>
<td>Target 90%</td>
<td></td>
<td>The denominator is calculated assuming a 4% live birth rate (of the total population); among these, 5% will have a bacterial infection, based on an MOH study in maternity units in which 5% of women presented with signs indicative of a bacterial infection. The target is for the project to treat 90% of estimated cases. The indicator measures antibiotics provided to newborns with a bacterial infection by an “appropriate” health worker (undefined). The extent to which newborn infection is suspect or confirmed (through laboratory test) is unclear. To determine the value of this indicator measured as a proportion, the 5% infection estimate should be validated in select HZ maternity units.</td>
</tr>
<tr>
<td>8. Number of newborns receiving essential newborn care through USG-supported programs</td>
<td>60% of 321,083</td>
<td>192,650 (assisted births)</td>
<td>Target 100%</td>
<td>The denominator was 60% of estimated deliveries = estimated Year 2 proportion of women whose delivery would be assisted and for which newborn care could be immediately provided. Year 3 target for assisted deliveries is 70%, however, so this denominator should be the same. The target for receiving ENC is 100%. The numerator is defined as newborns in assisted maternity units having received basic preventive care, including clean delivery practices and exclusive breastfeeding; early detection of danger signs; and treatment of problems such as sepsis and birth asphyxia. As ENC involves a number of items, the</td>
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<tr>
<td>Indicator</td>
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<tr>
<td>9. Number of children reached by USG-supported nutrition programs</td>
<td>1,605,917 (pop. X .20)</td>
<td></td>
<td>80% target</td>
<td>The denominator was that used for the preschool program (0–59 months) including EPI (i.e., 20% of the population). This indicator was omitted in Year 3 as the main nutritional interventions supported were micronutrients, measured elsewhere. Given the importance of malnutrition as a child health problem, an indicator of nutrition should be included in USAID-supported HZs. As nutritional interventions could be supported at the household and community levels, an indicator on nutrition should more appropriately be measured through a community population-based survey (see M&amp;E section).</td>
</tr>
<tr>
<td>10. Number of cases of child pneumonia treated with antibiotics by trained facility or community health workers in USG-supported programs</td>
<td>481,626 (pop. X .20 X .30)</td>
<td></td>
<td>80% target</td>
<td>The denominator was that used for the preschool program (0–59 months) i.e., 20% of the population multiplied by the average health facility utilization rate of 30%. The latter assumption is problematic as the rate is likely to be much higher for this age group than on average for the whole population. The numerator is cases of acute respiratory infections treated with antibiotics either in a health facility or by a...</td>
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<td>Indicator</td>
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<tr>
<td>Number of children less than 12 months of age who received DPT3 from USG-supported programs</td>
<td>280,145 (pop. X 0.349)</td>
<td>90%</td>
<td>The denominator assumes 3.49% of the population is &lt; 1 yr. old and eligible for vaccination (less than 4% to account for mortality in this age group). The overall objective of the immunization component is to reinforce routine vaccination programs to attain and sustain 80% vaccination coverage or higher. The Year 3 target is now 90%. Despite high coverage, the project reports disparities among HZs, some reporting more than 100% coverage due to the fact that denominators are overall averages, not HZ specific. DPT3 measures not only coverage for these important diseases but provides an indication of the ability to provide, and population understanding of the importance</td>
<td></td>
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<tr>
<td>Indicator</td>
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<tr>
<td>12. Number of children under 5 years of age who received vitamin A from USG-supported programs</td>
<td>1,403,526 (pop X 0.18)</td>
<td>95%</td>
<td></td>
<td>The denominator is the estimated proportion of children 6–59 months, less than the 20% of those aged 0-59 months as those 0–6 months old do not receive vitamin A supplementation.                                                                                             Children in the eligible age range are supposed to receive vitamin A supplementation twice a year. However, this indicator is designed to measure at least once per year. Also, the indicator is supposed to measure children “covered.” If the number of tablets distributed is counted (versus children who receive a tablet), if children receive more than one a year, there could be overreporting of the percent covered at least once. This is an easy and useful indicator to measure. As with all coverage indicators, it is better measured through a community population-based survey. A measure of the number of vitamin A tablets distributed (and, e.g., vaccinations given) would be a useful complement to the population-based survey results. Given the high numbers, alternatively, the indicator could measure the number of children to whom the second vitamin A dose was administered, to reveal progress with this aspect of the intervention.</td>
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<tr>
<td>13. Number of children under the age of five with diarrheal illnesses cared for correctly by health structures following national policy guidelines</td>
<td>401,354 (pop. X .20 X .25)</td>
<td>70%</td>
<td></td>
<td>The denominator assumes that 25% of all children under age 5 have diarrhea badly enough that the mother brings them for treatment at least once each year (out of the average 3 cases of diarrhea that each child will have). National guidelines indicate that both ORS and zinc will be provided to reduce the severity of and death due to the disease. At first, zinc was not readily available and some HZs were recording that they</td>
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<tr>
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<tr>
<td>14. Rate of use of health services</td>
<td>8,027,086</td>
<td>35%</td>
<td></td>
<td>The denominator is everyone in project-supported HZs, based on the Year 2 census update (see measurement section). The numerator is defined as one episode (critical condition), and the indicator assumes people go only once a year to either an HC or the GRH as a new patient for curative treatment. The target (35%) is based on previous use rates and the amount of change in care-seeking behavior the project expects, given inputs and challenges outside of its manageable interest. If people have more than one disease episode for which they seek treatment, the indicator will overestimate the population rate. If people seek treatment more than once during the same episode, and this is counted as two visits, that will also overestimate the rate. In the SNIS the indicator is defined as new cases of disease. While it is assumed people only go to health facilities for one disease, under this definition a person can be counted many times, depending on the number of diseases they present for</td>
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<tr>
<td>Indicator</td>
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<tr>
<td>15. Percent of pregnant women received TT2 or 5 doses of TT</td>
<td>321,083 (pop. X 0.4)</td>
<td></td>
<td>90%</td>
<td>Throughout the year. Data are also recorded when someone is a new patient, using the facility for the first time that year. This appears to be the definition for this AXxes indicator. This may be less measured according to usual standards and thus SNIS and project data for this indicator may differ. While health facility use for curative care is an important aspect of PHC and HZ revitalization, and overall health status, the 35% target is problematic for a number of reasons. It should not be considered an accurate reflection of utilization rates, or to compare rates across HZs, but can be used to measure relative performance over time within the HZ, assuming the same inaccuracies persist over time. The denominator is the same as for newborn care. The numerator is defined as the number of pregnant women who, during the course of their ANC visits for the current pregnancy, received a complementary tetanus toxoid (TT) vaccination. If they have not received TT before, they should receive 2 doses during this pregnancy. The norm is to receive a total of 5 throughout all pregnancies /life; if a woman received TT before, she should receive a 3rd, 4th or 5th dose, according to the MOH’s vaccination schedule. This is a more useful indicator than just counting women who got TT but is difficult to operationalize as women come with different TT histories. Women who have had all 5 shots already and do not need a booster will not be counted but in fact are adequately covered. It is suggested, therefore, that the indicator be revised to measure the number of women adequately TT-vaccinated. This would be measured only once during a woman’s full ANC visits, which could similarly be difficult to operationalize. To address this, because facility deliveries are so high, the indicator could be measured among women delivering at the hospital.</td>
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</table>
### Table 1. Explanation of and Issues Related to Indicator Assumptions

<table>
<thead>
<tr>
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<tr>
<td>16. Proportion of children receiving measles vaccination</td>
<td>280,145 (pop. X .0.349)</td>
<td>90%</td>
<td></td>
<td>and the indicator measured after delivery, verbally or through reference to their ANC cards. For women coming without a vaccination card, HC staff need to verbally confirm whether they received TT before. This may yield accurate data on ever received a TT shot but may not be accurate as a source of information on number of previous TT shots. A standard approach needs to be established for what to do in the absence of vaccination cards (i.e., how many total shots that pregnancy).</td>
</tr>
<tr>
<td>17. Percent of drop-out DPT1/DPT3</td>
<td>280,145 (pop. X .0.349)</td>
<td>10%</td>
<td></td>
<td>This indicator is defined as the number of 0–5-year-olds that dropped out of their DPT vaccination cohort. It is very hard to measure as it requires individual-level manipulation of routinely recorded data (versus developing summary tallies by adding up in one column of numbers). This indicator has been dropped from project use, as was recommended.</td>
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<tr>
<td>Family Planning</td>
<td></td>
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<tr>
<td>18. Couple years of protection (CYP)</td>
<td>60,000</td>
<td></td>
<td></td>
<td>This is defined by the project as the estimated level of protection against pregnancy of a couple during one year of FP method use. It is calculated by multiplying conversion factors by methods distributed to determine the number of CYP equivalent “units.” The sum of all CYPs from the different methods distributed equals total CYP. This is a standard FP indicator that is very appropriate to be measured at the facility level. It should continue to be used and staff trained in correctly measuring what goes into the combined measure. CYP will change as a result of increases in use as well as changes in method mix to long-term methods. To determine what is contributing to changes in CYP, this indicator should be measured and reported separately by method. To avoid issues with inaccurate conversion calculations, HCs should send</td>
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<tr>
<td>19. Number of people trained in RH and FP</td>
<td>1,938 over 3 years</td>
<td>456 per year</td>
<td></td>
<td>See other training indicators. The target was surpassed by the project.</td>
</tr>
<tr>
<td>20. Number of new FP acceptors in USG-supported FP clinics</td>
<td>1,685,688 (pop. X .21)</td>
<td></td>
<td>20%</td>
<td>The denominator (21%) is the estimated proportion of women of reproductive age, 15–45, in Project HZs. The definition of new acceptor is a woman who has been counseled and who accepted a modern contraceptive method for the first time during the reporting period. In the field, the indicator is not always operationalized as defined. In at least once HZ visited, the HZMT indicated that they measured number of women new to the method as this is how the register is organized and the data recorded. If all users are new users this will not constitute a measurement error. However when method switching begins (if it has not already), recording “new users” as new to the method overcounts new users. This is a standard FP indicator and should continue to be used, defined as new ever to modern FP. An important issue is ensuring that all providers define “modern FP methods” incorporating the same methods and that new to modern FP is not counted separately every year. A user is new to modern FP methods the first time, and only the first time, she accepts a modern method. This indicator measures progress from traditional to modern methods and is particularly useful for young programs. Method continuation is also important but cannot be measured from routine statistics. A community population-based survey is the appropriate source for method continuation and overall contraceptive prevalence.</td>
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<tr>
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<tr>
<td>21. Number of USG-assisted services delivery points providing FP counseling or services</td>
<td>969 estimated, but actually 929 HC</td>
<td>Up to 864 in Year 2</td>
<td>100%</td>
<td>This indicator is defined as the number of HCs offering the full package of FP methods. The initial denominator was set as the estimated number of health areas, assuming one FP service delivery point (HC) per area. The project needs assessment revealed that there were 929 rather than 969 health areas, which is why the population size changed. The target is 100% (all health areas), and project reports indicate that this objective has been achieved. An issue with this indicator is the definition of “full package.” The project defined this as offering Depo, pills, cycle beads, condoms, and breastfeeding. The project trained providers and gave contraceptives, guidelines, and counseling material that established the site as an FP service delivery point. The indicator is defined as “ongoing” provision, which is more difficult to measure, as if there are stock-outs then the full package cannot be provided. Now that FP sites have been established, it is recommended that an indicator of quality be substituted. Much work has been done in this area (by e.g., the Population Council) and the indicator should incorporate availability of contraceptive methods and attitudes of the providers. An annual facility-based survey could be used to complement the population-based survey. An LQAS strategy could be employed, as appropriate, to reduce required sample sizes.</td>
</tr>
<tr>
<td>22. Number of service delivery point reporting stock-outs of any contraceptive commodity offered by the service delivery point (SDP) at any time during the reporting period</td>
<td>929</td>
<td>5% = 46</td>
<td>5% = 46</td>
<td>Stock-out is measured as 1+ days without a method in stock. However, as reporting is monthly, many stock-outs could be recorded if methods were supplied and then ran out again. The indicator should be revised to a stock-out of any contraceptive method (pills, condoms, Depo, beads) at any time during the month. A more meaningful annual indicator at the HZ level could be the mean number of months in which each HC reported a stock-out and the mean number of HCs in a HZ</td>
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### TABLE 1. EXPLANATION OF AND ISSUES RELATED TO INDICATOR ASSUMPTIONS

<table>
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| **Malaria** |                       |                   | 180,000 | reporting a stock-out at any time during X months or more (X to be determined by project objectives).  
This indicator could be better measured as part of an annual facility survey as whether there was any stock-out recorded during the year at that facility.  
The target is no more than 5% of SDPs reporting a stock-out during any specific reporting period. |
| 23. Number of ITNs distributed, purchased, or subsidized with USG support | | | | **Target**  
10,000 per HZ X 57 = 570,000  
Yr. 1: 215,000  
Yr. 2: 180,000  
Yr. 3: 175,000 | | 180,000 | The MOH target in 2008 was at least 2 bednets per household and 80% of households covered. The MOH now also has a mother and child indicator = 80% of women and 0–5-year-olds covered with an ITN.  
The project cooperative agreement (CA) states that 10,000 ITNs will be purchased per HZ during the project period (57 x 10,000 = 570,000). This represents an estimated 50% household coverage, assuming 6 persons per household.  
395,000 ITNs were purchased in Years 1 and 2 leaving 175,000 to be purchased in Year 3 to attain the total of 570,000 ITNs distributed.  
The CA states that extra nets solicited from the Global Fund, UNICEF, World Bank, etc. will be needed to attain 60% coverage (20% per year) and AXxes had purchased or solicited (from UNICEF, SANRU, and NGOs) a total of 937,576 as of the end of Year 2 to achieve this target. Those bednets did not arrive in time, however, and therefore Year 2 achievement was low compared to the target.  
Also, the household coverage estimate does not consider population size increases (as reflected in number of new households per year).  
Coverage indicators, including ITN rates, are very useful but due to denominator estimate issues are better measured through community population-based surveys. |
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<tr>
<td>24. Number of medical and paramedical practitioners trained in evidence-based clinical guidelines</td>
<td></td>
<td></td>
<td>1,187 per year</td>
<td>See other training indicators. The other training indicator had 1,189 as the target so the two are slightly different.</td>
</tr>
<tr>
<td>25. Number of service delivery points reporting stock-outs of any commodity offered by the SDP</td>
<td></td>
<td></td>
<td>&lt; 10% = &lt; 50</td>
<td>This indicator is intended to measure any stock-out in the HC or GRH of any antimalaria medication. Rather than measuring any stock-out, the SNIS indicator measures number of days of a stock-out for each health facility. This indicator was not reported on in Years 1 and 2. See FP commodity indicator for suggestions.</td>
</tr>
<tr>
<td>26. Percent of pregnant women in targeted health zones received IPT</td>
<td>321,083</td>
<td></td>
<td>90%</td>
<td>The denominator used is the same as for newborn care. This indicator was developed to measure the number of pregnant women having received their 2nd dose of Fansidar. In the SNIS there is a column for women receiving the 1st dose and women receiving the 2nd dose. The project measures only those having received the latter. This is a useful indicator and should be used although the issue mentioned above for TT similarly applies (that is, does the number measure women or doses given out?).</td>
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<tr>
<td>Tuberculosis</td>
<td></td>
<td></td>
<td>95% = 11,438</td>
<td>The indicator is defined as the number of new cases that have at least 2 out of 3 positive sputum smears or one positive slide out of 3 together with clinical signs strongly suggesting they are HIV+. The latter may be difficult to operationalize and standardize across HZs. Also, the definition could be difficult to apply in cases where 3 smears were not taken. The estimated incidence rate of TB for the target comes from WHO = 0.15%. This rate could be highly underestimated or overestimated in some areas.</td>
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<tr>
<td>28. Percent of USG-supported laboratories performing TB microscopy with over 95% correct microscopy results</td>
<td>124 Yrs 1 and 2</td>
<td></td>
<td>70 in Yr 3 is considered 100%</td>
<td>It is unclear how correct microscopy results can be determined unless all sputum smears are reanalyzed by a gold standard procedure or lab.</td>
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<tr>
<td>29. TB cure rate</td>
<td></td>
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<td></td>
<td>This is defined as the number of TB+ cases that are cured as measured by finishing their course of treatment and receiving a negative sputum test.</td>
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<td>Two denominators exist for this measure:</td>
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<td>• The number of TB+ cases in the treatment (PATI 4) cohort</td>
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<td></td>
<td></td>
<td></td>
<td>• The number of TB+ cases detected (whether they enrolled in treatment or not – WHO definition).</td>
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<td></td>
<td>The national indicator is measured as #1 above (treatment success rate) but the project measures both. It was not initially included as a performance monitoring plan indicator but is in the M&amp;E guide.</td>
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The Project target is to detect 95% of the estimated 0.15% of new cases. The MOH norm is to detect 70% of these cases.
PMTCT PROGRAM OVERVIEW

PMTCT services in the Democratic Republic of the Congo commenced in 2003 with support from UNICEF and GTZ. There are multiple partners working to provide PMTCT services in several health zones, including the Global Fund for Tuberculosis, AIDS, and Malaria in 296, UNICEF in 190, and CDC/UNC in 36. Quarterly meetings including these partners, USG, and MOH are held to collaborate and share experiences through the national PMTCT Working Group. However, coordination among donors remains challenging and has impacted the scale-up of PMTCT services. Though government guidelines call for a movement to more complex prophylactic regimens, due to logistic constraints the vast majority of sites are offering only sdNVP. Laboratory capacity is severely limited, with very little CD4 testing available and no infant PCR testing nationwide. Exclusive breastfeeding is fairly common up to 4–6 months of age but beyond that mixed feeding is the norm as foods begin to be introduced, but due to rampant food insecurity early weaning is usually not possible.

The PMTCT portion of the AXxes project was intended to cover a 30-month period from March 2007–September 2009. However, services did not begin until October 2007 and in the Lodja health zone not until October 2008. Currently, of the 57 health zones supported by AXxes, 40 have PMTCT activities, covering 126 of the 129 sites originally intended.

1. The three additional sites are anticipated to be in place by the end of April 2009. Due to time and logistical constraints, the only sites visited for the purposes of this assessment were 3 of the 5 present in Lodja as well as a non-AXxes site supported by the CDC-UNC program in Kinshasa. The primary objectives of the program outlined in the AXxes cooperative agreement (No 623-A-00-06-00058-00) are:

2. Create an atmosphere that supports and encourages pregnant women and their partners to be tested for HIV.

3. Provide PMTCT services to women and their newborns.

Footnote 27: Information gathered during field visits was limited to three PMTCT facilities in one HZ and one in Kinshasa. These were probably not representative of the AXxes project PMTCT activities as a whole. The PMTCT centers in the zone visited, Lodja, were the last of the project’s 126 PMTCT sites started, in Year 2 of the Project. PMTCT training was initiated in May 2008 and services were started only in October. PMTCT training activities have not yet been completed there. Overall, the HZ started with a very low level of functionality, having received little or no support for the previous three years and benefitting prior to that primarily from humanitarian assistance (Merlin). This is unfortunate as a 2007 GDRC surveillance study found the highest HIV prevalence in the country in Lodja, at 6.9%. One additional site supported by CDC-UNC was visited in Kinshasa and is also not representative of all PMTCT sites even in Kinshasa. This model site is in its ninth or tenth year of operation and benefits from a full-time project-paid staff. Nonetheless, the insufficiencies identified in Lodja provide insight into the kinds of quality issues that require attention, while the site in Kinshasa serves as a standard for what is possible with sufficient time and resources. (Footnote added by another assessment team member)
4. Provide post-birth follow-up services

5. Integrate PMTCT health interventions into regular health zone activities and strengthen linkage to other adjuvant services for HIV-positive persons.

6. Engage at the national level to create an opt-out policy as standard protocol for women presenting for prenatal services in the DRC.

Target populations include the MOH, national policy makers, pregnant women attending ANC, infants of HIV-positive women, male partners of ANC attendees, and staff members at all levels. Specific activities are described in the cooperative agreement but in general include:

- promote national policy development and guideline revision and integration of PMTCT indicators into MOH HMIS
- arrange national PMTCT conference based on WHO guidelines
- develop health zone and hospital level policies encouraging PMTCT providers to be tested
- recruit and train national project coordinator and implementation/supervision team (trainers, logisticians, and data manager)
- train trainers and health care workers in PMTCT guidelines, counseling, testing, delivery of results, prevention messages for those who test negative, post-delivery care, and counseling for those testing positive
- identify volunteer/peer counselors for result disclosure, counseling, and support
- involvement and testing of male partners, including community mobilization
- referral to TB testing for infected women and their infected partners
- referral to HIV clinical care for infected women and their infected children and partners
- tracking of mother-infant pairs and partners and provision of free medical care
- individual health information cards for positive mothers and their infants and partners, including referral and treatment information
- establishment of at least one support group facilitated by PMTCT counselors in each health zone
- family planning counseling and services for positive women and their partners
- nutritional counseling including promotion of exclusive breastfeeding for 6 months
- quality assurance activities
- assurance of ARV for children through the Clinton Foundation and attempts to facilitate treatment for mothers (no plans to procure ARVs other than sdNVP for mothers and infants)
- provision of commodities (HIV test kits, maternal and infant sdNVP, CTX, and multivitamins)
- rehabilitation of facilities
- monthly monitoring of activities and data collection.
Please note that findings are based on discussions with key stakeholders and site visits to three AXxes-supported sites, all in the Lodja district. Due to time and logistic constraints, visits to other districts were not possible.

Finding: Start-up of AXxes PMTCT site level activities was significantly delayed at all sites and particularly in the Lodja district.

Based on discussion with national AXxes personnel, several factors contributed to these delays, including logistic challenges, waiting for finalization of national guidelines, finalization of workplan approval, and a widespread nursing strike that severely limited availability of staff to participate in training sessions and ultimately provide services. Additionally, CRS, one of the three primary AXxes IPs, was restricted by a headquarters policy not allowing for the provision of sdNVP, which at the time was the national policy. AXxes has since worked with the GDRC MOH to update national guidelines to include combination prophylaxis, which will be the standard at CRS sites. Services were most severely delayed in Lodja District, with initial introduction of training in May 2008 and actual service delivery starting October 2008. Lodja was not one of the districts originally included in the AXxes Program Description and Workplan but was added later as some districts intended to be covered by AXxes began to receive PMTCT support from other partners. USAID resources were redirected to address unmet need in Lodja, where a 2006 GDRC ANC surveillance study found the highest prevalence in the country at 6.9%.

Recommendation:
Immediate, intensive support to Lodja sites is essential to bring training, commodity supply, and services up to speed. The AXxes national PMTCT coordinator should spend time working with the team in Lodja to augment the technical capacity of the local AXxes PMTCT coordinator, conduct training sessions, and provide hands-on support and supervision for site-level PMTCT providers. When greater capacity is built, this support could be gradually weaned to consist primarily of regular site visits, but ongoing, close contact between the national and local coordinators will be necessary to trouble-shoot problems as they arise and ensure sustained quality. Additionally, it would be very helpful if the USAID/Kinshasa HIV/AIDS Program Management Specialist received specific updates from the AXxes PMTCT national coordinator on progress made as well as conducting site visits to ensure quality, technical soundness and rapidity of progress in PMTCT activities.

Finding: There were problems with the quality of HIV testing being performed for PMTCT at all three sites visited.

High Percentage of Indeterminate Results

GDRC guidelines call for a three-step testing algorithm, consisting of Determine as the first line test, to be confirmed by serial testing first with UniGold and finally with Double Check as a tie breaker. At the Diangenge Health Center, for the months of February and March respectively, 9/48 (19%) and 13/53 (24.5%) of tests were recorded as indeterminate. Upon further discussion, it was found that the clinic had problems with frequent stock-outs of the second test (UniGold) of the three step series. When the test was not available, patients who tested positive on the first test (Determine) were listed as indeterminate and told to return later for subsequent testing, hoping the tests would be in stock. At the Lodja Hospital, where there were no stock-outs of HIV tests during our visit or recently, the indeterminate results in March 09 were 5/106 (4.7%). Of note, a similar problem with high levels of indeterminate test results was mentioned in the March 2008 Assessment of HIV/AIDS Programs in DRC by HIV/AIDS technical experts from USAID/WDC.
Two of the three sites visited had very low numbers of positive test results in the PMTCT program, which were inconsistent with prevalence identified through co-located VCT testing. In both the Lodja District Referral Hospital and St. Francois d’Assise Secondary Hospital, prevalence rates differed dramatically between the PMTCT and VCT testing centers, both located on site at each hospital. For example, at St. Francois d’Assise Secondary Hospital, of the 193 women tested via PMTCT since October 2008, only 2 were found to be positive (1.04%) while the VCT program identified 6/106 (5.7%) positive with another 4/106 (3.8%) indeterminate. At the Lodja District Referral Hospital, no women have tested positive since May 2008 in PMTCT while the VCT counselors reported an average prevalence of 15%. (For March 2009, 13/106 [12%] tested positive.)

Recommendation:
Additional attention to training, supervision, and supply chain management, including commodity forecasting, is urgently needed in the Lodja district. This should be provided by the national and local AXxes PMTCT focal points with close collaboration with the USAID/ Kinshasa HIV/AIDS Program Management Specialist. When confirmatory test kit stock-outs do occur, women who test positive should be treated as positive and provided prophylaxis, as tests are highly sensitive and specific and there is such tremendous benefit and potential for preventing transmission to the infant if appropriate prophylaxis is provided. When test kits are available again, all efforts should be made to confirm serostatus and refer the mother for treatment eligibility evaluation as indicated. The USAID/Kinshasa technical team should consider raising the issue of provision of ARV prophylaxis to women who test positive initially but are unable to undergo confirmatory tests as a policy-level question.


The most commonly reported items identified as experiencing stock-outs included HIV test kits (especially UniGold and Double Check), infant (suspension) cotrimoxazole, infant doses of nevirapine, essential medicines also used for HIV/AIDS symptom management including antipyretics (adult and pediatric), aspirin, and nystatin, as well as multivitamins and iron, which are supposed to be available for ANC clients. Stock-outs in various combinations were witnessed at all three health facilities. Of note, one health center had been out of UniGold tests for 1 month resulting in the status of many patients being documented as indeterminate. During a visit to the district medication depot with representatives from the AXxes program, a box of UniGold test kits was identified. The medical director of the depot commented that he had mentioned this box to his contact person at AXxes multiple times over the past several weeks but there was no reply about whether it was needed or not. Later that day, AXxes arranged for it to be delivered to the health center experiencing the UniGold stock-out via the government supply distribution system. Of note, other AXxes-supported sites in the Lodja district had abundant stock of drugs and commodities that may be useful to share when another site experiences a stock-out.

Recommendation:
The supply chain for test kits and medications needs to be examined and mechanisms introduced to identify and remedy factors contributing to health centers experiencing stock-outs. Accurate and regular forecasting of medical commodities should be conducted to prevent such situations and systems established to rapidly respond when a stock-out does occur. Additional HQ TA from either the DELIVER or SCMS programs may be useful in this process. Additionally, through regular supervision, the local PMTCT focal point should be able to identify stock shortages or abundance in sites and coordinate redistribution of supplies if needed to avoid interruption of
service delivery, with reimbursement to the site providing assistance with the next distribution of supplies.

**Finding:** There are very few treatment and care and support services available for those women or infants who test positive.

- **Treatment:** ARV treatment is available at the Lodja District Referral Hospital for adults and 3TC (150mg)/AZT (300mg)/NVP (200mg) combination tablets with appropriate expiry dates were observed in the pharmacy. Other than single-dose NVP for PMTCT, no other ARV formulations were observed. For children, no pediatric formulations are available, so portions of adult tablets are broken off, crushed, and given to children, resulting in inaccurate and potentially inappropriate dosing. Currently, the referral hospital has only three children on treatment. CD4 testing is not available, and treatment decisions are made based on clinical staging and total lymphocyte count. The evaluation of positive patients sent to the referral hospital by health centers includes integrated screening for other conditions, such as hemoglobin (anemia), rapid plasma regain (syphilis), and sputum for TB.

- **Care and support:** Cotrimoxazole for adults was observed in all three sites. Infant cotrimoxazole was not observed anywhere, but health providers interviewed all mentioned it as an important medicine for exposed infants. All three sites have made attempts to start general support groups for infected adults but not specifically for pregnant women or their partners. Results have been variable and there do not appear to be any support groups meeting on an ongoing, regular basis.

The dearth of care and support services places severe strain on providers, particularly counselors who inform patients of positive test results. One VCT counselor relayed to us that since the community is small and providers often know clients, she has had clients whom she has informed of a positive test result begin coming to her home requesting financial and other assistance from her directly. She says clients often feel that since she has given them this bad news, she owes it to them to provide assistance. This obviously creates an extremely difficult situation for counselors and has significant negative impact on job motivation and satisfaction. Other counselors related similar situations, including one who has even experienced marital trouble due to male clients showing up at her home wanting to speak privately with her and asking for assistance.

- **Nutrition:** Nutritional support services are virtually nonexistent. At all sites visited and in meetings with all stakeholders, inadequate nutrition and food insecurity was identified as a major challenge. This has a profound direct impact on general maternal, infant, and child health and patients’ ability to adhere to care recommendations and treatment regimens, as well as indirect effects on issues such as access to services, household financial resource allocation, and care-seeking behavior. It also affects infant feeding options. Exclusive breastfeeding was reported to be the cultural norm up to about 4–6 months of age. After this, other foods are introduced to the diet but breastfeeding is continued as the supply of other foods is not adequate as the sole source of nutrition, and replacement infant feeding options are generally not available.

There are some small community organizations organized through the local PNLS and PNMLS offices that supply limited quantities of supplemental monthly food staples (rice, vegetables, cooking oil, etc.) to about 60 families, but these are nowhere near sufficient to meet individual or population level needs. This support includes provision of $20 for food purchases and $70 for IGA. In addition, a group IGA activity has been set for $2,500 in order to support additional PLWHA. This activity is just beginning and covers very few people (50–60 total). PNMLS plans to move from Lodja to the PARSS-supported HZ to align with the new MOH SRSS. The implication of this move for the existing community support activities is unclear. There is no
local NGO led by PLWHA receiving support from PNLMS. The referral system between clinical settings and the PNMLS-supported community organization is weak.

**Recommendation:**

Treatment, care and support, and nutritional support services need to be strengthened. Given the current USAID/Kinshasa portfolio and resources available, it is unlikely that USAID programs would be able to provide for such a large and complex undertaking. If further resources should become available, there is certainly tremendous need for these services. Meanwhile, leveraging and coordination with other partners active in the area could be one strategy to begin to provide and link patients to such activities. Working closely with the existing PNLS and PNMLS programs to connect patients in need at USAID-supported clinical sites with existing government and nongovernmental programs should be emphasized. Also, it will be critical for USAID and the AXxes program to discuss the PNMLS care and support program strategy as they transition out of Lodja and plan follow-up actions accordingly.

**Finding:** Infant testing is by antibody assessment at 18 months of age. There is no early infant diagnosis with PCR available.

Currently, national guidelines are to antibody-test exposed infants at 18 months of age. However, in discussion with key stakeholders, there is tremendous desire on the part of government, IPs, and health care providers to test infants earlier using PCR. At the CDC/UNC site visited, some introductory training on PCR was conducted and testing was supposed to begin, but site staff stated that the PCR machine (located off-site at the national referral lab, which was not visited due to time constraints) has never worked properly so the program is on hold.

**Recommendation:**

The ability to offer early infant diagnosis at 4–6 weeks of life with DBS PCR would improve the quality of PMTCT services offered and holds great potential for reducing morbidity and mortality of infected infants. However, doing so will require significant investment in lab infrastructure, personnel training, and logistics capacity as well as scale-up of pediatric treatment services so infected infants could be started on therapy, as per WHO guidelines recommending immediate ARV initiation for all positive infants less than 12 months of age. Establishing PCR capacity in the national and provincial referral hospitals would be most appropriate, with health centers sending DBS cards for testing. Coordinating with CDC, which has expertise in lab system strengthening, would be most efficient.

**Finding:** Health worker motivation is extremely low.

Interviews with health care workers (HCW) at all levels revealed generally low job satisfaction and poor motivation. While HCW feel the work they do is important and gain satisfaction from assisting their communities, the multiple responsibilities, limited training and support, and minimal financial compensation they receive, along with poor working conditions, inadequate or nonexistent support services to refer patients to, and frequent stock-outs of necessary supplies all negatively impact morale. Many HCW have not received their state salaries for several months and have subsequently been on strike. Some receive primes (bonuses) depending on which IP supports their program. AXxes does cover per diem for supervisors conducting visits or trainings but generally does not provide primes. As different IPs have worked in different areas on different programs, some HCW may have previously received and become accustomed to primes under a different mechanism but are now not receiving them through AXxes, which has led to frustration. In the site where USAID funds are being leveraged with Global Fund support, the Global Fund is paying $20 per month for primes to health workers.
**Recommendation:**
Improving HCW morale is essential to ensure a well-functioning program. Primes are one way of providing incentives; however, if this is not possible, other sources of motivation identified during interviews included improvement of physical space and working conditions, assistance with transportation, per diem or reimbursement for special activities, improvement of other support services to be used for referrals, taking the burden off the individual HCW and ensuring adequate training and supportive supervision to allow HCWs to feel confident in the quality of care they are providing. Creative approaches to this problem will be necessary given the unique situation in-country and the incredible demands on HCW.

**Finding:** PMTCT providers have not been appropriately trained in use of tools for data collection, which has a negative impact on data quality and service provision.

Sites reported they have been abundantly provided with registers and forms for PMTCT data collection but have received little, and in some cases no, training in how to use them. Staff have generally been trying to figure out for themselves how best to fill in the registers, leading to inconsistent approaches, suboptimal utilization, and potential data errors. When the assessment team sat down to go through registers with staff and began looking at actual information recorded, there were frequent gaps, data were not reconciled between different registers, and the way registers were arranged was not efficient. For example, at one site visited, there were 12 different registers being used for PMTCT-related data collection, including different books for basic ANC information, lists of women offered testing, women tested, partners invited to test, partners receiving testing, postnatal follow up, women receiving prophylaxis, etc. At this site the ANC focal point was able to do a Determine test for ANC clients. If this was positive, the woman was then referred to the lab for subsequent UniGold and Double Check testing. If the ANC clinic was busy, women were referred to the lab for all three serial tests. If the lab was busy, all three tests were sent at once (in parallel) rather than following the serial protocol, thus defeating the purpose of serial testing. Information was scattered at different locations, depending on where testing was performed on a given day. Positive results from the lab were written on a piece of paper and eventually sent back to the ANC clinic, where the PMTCT officer reviewed them but did not have a place to document them. Thus, these results may be kept in the lab register but not in any of the PMTCT registers and may not make the link back to the patient to provide appropriate clinical care. When asked about supervisory visits from AXxes staff, HCWs stated that visits were made about once a month but were very general—asking how things are going, any problems—but not actually sitting down together to review registers, provide instruction, or identify/troubleshoot issues. Sometimes, instructions and recommendations provided by different supervisors were contradictory.

**Recommendation:**
Sites need training, intensive support, and close supervision to appropriately collect, analyze, and make corrections based on data analysis. Registers should be integrated and streamlined to make collection of information more efficient and usable for programmatic and service delivery improvement. The AXxes national PMTCT focal point should work with local AXxes PMTCT focal points to ensure technical capacity and data quality. Data audits with inspection of registers and constructive feedback should be conducted at regular intervals to ensure problems are identified and corrected as early as possible.

**Finding:** High levels of stigma and discrimination contribute to limited uptake of testing.

General knowledge and understanding of HIV/AIDS appears to be quite limited, particularly in peri-urban and rural areas. Fear and discrimination are common and contribute to patient reluctance to test. No community sensitization activities or messages were reported to be taking place and none were observed. Health care workers relate that for those women who do test
positive, disclosure to partners and family members is extremely difficult and at times has led to blame, social isolation, or even violence. Positive women often have to hide that they are taking medicine and are reluctant to give medication to the infant for fear of raising suspicion. This also complicates issues around infant feeding as breastfeeding until well past 6 months and mixed feeding beginning around 4–6 months is the cultural norm.

**Recommendation:**

*Community education and sensitization messages should be a high-priority activity for PMTCT and general HIV/AIDS programs. Working with a partner with significant experience in developing and effectively disseminating technically accurate and culturally appropriate IEC materials would be extremely helpful. Other activities, such as PLWHA or PMTCT support group,s would also help as a resource and safe discussion place for those who do test positive.*

**Finding:** National guidelines exist for provision of both combination and sdNVP prophylaxis. The vast majority of sites are providing only sdNVP. Prophylaxis is only distributed once the pregnancy has reached \( \geq 28 \) weeks.

In the Lodja district all sites visited were providing only sdNVP. According to the national AXxes PMTCT focal point, other sites, particularly those supported by CRS, are planning to introduce combination prophylaxis soon. In total, 66/129 AXxes-supported sites will transition to combination prophylaxis in the next few months. While this certainly offers significantly reduced transmission benefit, given the logistical problems and existing implementation difficulties with provision of sdNVP, transition should be approached with caution and close supervision. In Lodja, with intense support and monitoring from AXxes, the District Referral Hospital may be able to transition but really will need a lot of help. Given the issues of discrimination and infected women having to hide taking or giving NVP to their infant, adherence to the more complex prophylactic regimen will likely be problematic.

**Recommendation:**

*Before transitioning to combination prophylaxis, it would be worthwhile to first improve the existing supply chain, data collection and monitoring, and technical capacity challenges. Introduction of community sensitization, public awareness, and support group services would also be very beneficial. This would help to ensure a strong foundation and increase the likelihood of success for more complicated regimen introduction and adherence.*

**Finding:** Achievement of AXxes PMTCT targets has been problematic over the past two years and continues to be an issue in the Year 3 Quarter 1 results.

Table 1 provides some examples of results presented in AXxes reports. Fundamental PMTCT components, such as return of results, provision of ARV prophylaxis, and exposed infant testing, are very low. This may be partially explained by delayed initiation of PMTCT activities but raises concerns about the quality of programming and services delivered, PMTCT technical and implementation capacity, and the appropriateness of target setting.
TABLE 1. SELECT PMTCT INDICATORS AS REPORTED BY THE AXXES PROJECT

<table>
<thead>
<tr>
<th>Indicator</th>
<th>FY 07 Target</th>
<th>FY 07 Result</th>
<th>FY 07 Result (%)</th>
<th>FY 08 Target</th>
<th>FY 08 Result</th>
<th>FY 08 Result (%)</th>
<th>FY 09 Q1 Target</th>
<th>FY 09 Q1 Result</th>
<th>FY 09 Q1 Result (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant women receiving HIV counseling and testing and receiving test results</td>
<td>22,000</td>
<td>698</td>
<td>3%</td>
<td>44,000</td>
<td>7,607</td>
<td>17%</td>
<td>12,672</td>
<td>8,524</td>
<td>67%</td>
</tr>
<tr>
<td>HIV-positive pregnant women who received results</td>
<td>1,100</td>
<td>68</td>
<td>6%</td>
<td>1,100</td>
<td>230</td>
<td>21%</td>
<td>203</td>
<td>104</td>
<td>51%</td>
</tr>
<tr>
<td>HIV-positive pregnant women provided with a complete course of ARV ppx for PMTCT</td>
<td>1,000</td>
<td>5</td>
<td>1%</td>
<td>1,000</td>
<td>112</td>
<td>11%</td>
<td>203</td>
<td>48</td>
<td>24%</td>
</tr>
<tr>
<td>Exposed newborns with a complete course of ARV ppx</td>
<td>950</td>
<td>5</td>
<td>1%</td>
<td>950</td>
<td>109</td>
<td>11%</td>
<td>193</td>
<td>46</td>
<td>24%</td>
</tr>
<tr>
<td>HIV-positive women receiving CTX and MVI post-counseling</td>
<td>1,000</td>
<td>0</td>
<td>0%</td>
<td>1,000</td>
<td>19</td>
<td>2%</td>
<td>203</td>
<td>62</td>
<td>31%</td>
</tr>
<tr>
<td>Newborns receiving CTX and MVI</td>
<td>950</td>
<td>0</td>
<td>0%</td>
<td>950</td>
<td>19</td>
<td>2%</td>
<td>193</td>
<td>38</td>
<td>20%</td>
</tr>
<tr>
<td>Exposed infants tested at 18 mos.</td>
<td>950</td>
<td>0</td>
<td>0%</td>
<td>950</td>
<td>1</td>
<td>0%</td>
<td>193</td>
<td>24</td>
<td>12%</td>
</tr>
</tbody>
</table>

**Recommendation:**

Program progress should be monitored closely in the coming quarter. Site visits by the USAID/Kinshasa HIV/AIDS Program Management Specialist may be useful to have a better sense of how programs are actually running and whether sites are receiving the support they need to accomplish their intended goals. For future procurements, including a partner with a strong history of PMTCT technical expertise and program implementation success may help to more rapidly introduce and scale up services.
Finding: Medical waste is not properly collected, handled, or disposed of, creating unsafe work and community environments and potential for accidental exposure for staff and community members.

At all sites visited, point of care–generated medical waste was collected in small open trash cans or cardboard boxes. These items were then collected by the housekeeper. Appropriate sharps containers were not available. At one hospital and one health center visited, no incinerator was present and waste was simply deposited in a shallow hole behind the clinic. Both such holes were not covered, had no barrier around them, and were in very close proximity to homes and community walking paths and, in one case, immediately next to a primary school. At the district referral hospital, a new incinerator was present and being used, but the old incinerator next to the new one continued to be used as a depository for medical waste, with syringes, broken glass, test tubes and such simply scattered in and around it. Before medical waste was incinerated, it was hand-sorted into separate piles of gauze, needles, glass, gloves, etc. by the housekeeping staff as supervisory medical personnel felt burning all these items together would lead to the release of dangerous fumes.

Recommendation:
Appropriate medical waste disposal needs urgent attention. Medical and housekeeping staff as well as general community members are at high risk for exposure to contaminated materials. Sharps boxes and training in appropriate disposal of medical waste needs to be provided as part of any HIV testing program. This knowledge would have a beneficial impact on other programs with exposure to blood and body fluids as well, such as immunization and lab activities. The district medical hospital personnel need instruction in appropriate use of the incinerator, which the team was told was built via the AXxes program. Further TA from HQ injection safety and/or medical waste experts may be useful, and future procurements should include appropriate waste management as a required portion of their activities.

Finding: Although challenges exist, the CDC-UNC site visited was generally functioning very well and can serve as a source of information for future procurements.

The CDC–supported, UNC-implemented site in Kinshasa (Maternite BOMOI Clinic) sees approximately 80–100 new and 130 follow-up ANC clients per week. Staff estimates HIV testing uptake is around 98%, loss to follow-up rate 15%, and prevalence 2%. A family-centered approach is used and approximately 15%–20% of partners come for testing. Women who test positive are referred to onsite care and treatment services, which were also visited and observed to have sufficient stocks of within-expiry infant and mother ARVs, cotrimoxazole, and other medications for symptom management, such as antipyretics and nystatin. CD4 testing is used to determine treatment eligibility, with samples sent to the national referral lab and result turnaround time at 7–10 days. Early infant diagnosis remains problematic as the PCR machine has been broken for “a very long time,” so in actuality testing is done via antibody at 18 months. Challenges cited by staff include high levels of discrimination, making disclosure and treatment adherence challenging for infected women; severe food insecurity, leading to poor maternal and infant nutritional status; difficulty in taking medications; and inability to completely cease breastfeeding at 6 months, as well as some impact of religious influence leading women to seek pastoral care rather than medical treatment for illness. The site is in the early stages of transitioning from sdNVP to more complex prophylactic regimens but has not fully rolled this out yet.
**Recommendation:**

Though the urban clinic setting differs from the more peri-urban and rural sites where USAID IPs work, the CDC/UNC site offers great opportunity for garnering lessons learned and troubleshooting problems that arise with introduction and scale-up of PMTCT services. CDC also has tremendous expertise in lab capacity strengthening and would be a valuable resource if CD4 or PCR testing is added at the district hospital level. There is a good working relationship between the USAID and CDC Kinshasa HIV/AIDS focal points, which provides a strong foundation for ongoing collaboration and communication to ensure complementary rather than duplicative activities.

**Finding:** The AXxes project covers multiple health areas, and while the national level PMTCT officer is technically competent, neither the current prime nor subpartners appear to have sufficient technical or practical experience in initiating and implementing PMTCT activities.

Discussion with the national level PMTCT AXxes technical officer provided evidence of her technical and programmatic competence, commitment, and ability. However, it did not seem that either the AXxes program or any of its three partners has had extensive PMTCT technical or practical implementation experience. The local AXxes PMTCT focal point had some basic technical knowledge of PMTCT but had difficulty with more than surface aspects of the material. For example, the main district referral hospital has had no women test positive since inception of activities in May 2008, while the VCT testing center located at the same site has an average prevalence of 10–15%, which raises concern for a potential systematic error taking place in the ANC setting, resulting in missed cases and requiring correction. The local AXxes PMTCT focal point has been visiting the site once a month but has not recognized or responded to this issue. As test result data are channeled up to the national AXxes level, this red flag should also have been noticed there but was not. The national AXxes PMTCT focal point has not yet been out to the Lodja sites; thus the programs there are dependent on the local focal point for technical direction and supervision.

**Recommendation:**

For now, enhanced training for local AXxes PMTCT focal points is necessary both for technical knowledge and supervisory/managerial capacity. Close attention and support from the national AXxes PMTCT coordinator, including actual time at the Lodja sites, is needed along with close communication with the USAID/Kinshasa HIV/AIDS Program Management Specialist. For future activities, working with a partner with extensive technical and programmatic PMTCT experience is advised. It may be helpful for the local AXxes PMTCT focal point to attend a practicum at the UNC/CDC-supported site in Kinshasa to improve technical skills in managing PMTCT activities.

**Finding:** The USAID/Kinshasa team has substantial HIV/AIDS technical capacity, particularly via the HIV/AIDS Program Management Specialist, and is well-positioned to oversee a high quality program.

The USAID/Kinshasa HIV/AIDS program manager clearly has a strong and thorough understanding of the PMTCT technical area and is personally dedicated to the success of this program. This will surely be a valuable resource, helping to ensure a high-quality program as activities move forward.

**Finding:** Staff at all sites visited were enthusiastic about the PMTCT program and felt it to be an important service to offer clients.

Though substantial challenges exist for providers of ANC and PMTCT services in the DRC, all staff members with whom the assessment team interacted were positive and supportive of the
program. There was a uniform understanding of and belief in the importance of this work and the need for and benefit of these services within the communities served. Staff were eager to help us learn more about their activities and to hear ideas for how they could do even better. Finding creative ways to address threats to staff morale will be important to maintain momentum and counteract the potential for burnout and fatigue.

**Finding:** The DRC is an extremely difficult environment in which to implement activities, due in large part to the severe infrastructure constraints and logistical challenges.

Through meetings with key stakeholders and the experience of team members traveling to conduct site visits, it became clear just how difficult it is to provide sustainable, high-quality services in the Congolese setting. There are very few roads and those that do exist are largely in very rough condition. Travel to sites outside Kinshasa required the assessment team to charter flights and travel by 4x4 vehicle or motorcycle over tenuous bridges and muddy, crater-pocked roads. Getting essential medicines and supplies to sites commonly takes weeks to months by boat or must be done via charter aircraft or private vehicle. There were also reported difficulties with clearing items through the government customs process, causing distribution delays. The AXxes project has done a tremendous job identifying creative ways to address these problems and has leadership personnel with a long and thorough understanding of the unique challenges and workable solutions in the country.

**Recommendation:**

Practical, applicable, creative knowledge of the DRC is essential to implementing effective programs here. When considering future procurement criteria, DRC-specific expertise should be a priority and could be complemented by inclusion of partners with depth and experience in the technical program areas to be addressed.

**Finding:** Though the HIV epidemic is commonly felt to be primarily concentrated in urban centers, estimates of prevalence in peri-urban and some rural ANC settings ranges from 2% to 21%.

The 2007 DHS in DRC found national HIV prevalence to be 1.3%. The 2007 GDRC ANC surveillance found prevalence ranging from 2% to 6.9%. Through looking at PMTCT registers while on site visits, the team estimates VCT prevalence was as high as 21%. Variation in these estimates may be due to quality of testing performed, test interpretation, technical knowledge and skill of the test administrator, and other factors. However, it is clear that sites beyond Kinshasa are seeing and caring for infected pregnant women in peri-urban and rural settings. With further supervision and ongoing quality control activities, prevalence estimates can be further refined.

**Recommendation:**

PMTCT programming should be data-driven and respond to epidemiologic need. This is particularly true for the Lodja district, where the highest GDRC ANC surveillance prevalence was found and where it was also high upon inspection of registers. Lodja and other areas are also at risk for increasing transmission rates as infrastructure development continues and population movement / traffic through these areas increases. PMTCT services in these areas should be continued and strengthened and should include strong data collection and analysis components to monitor a potentially shifting epidemic. The ability to provide lab services and care and treatment at district referral hospitals would greatly enhance program impact and should be an area of emphasis for future procurements. Collaboration with CDC colleagues who are also conducting PMTCT activities in country will be important to coordinate activities and share lessons learned and best practices.
ANNEX XIV. WATER, SANITATION, AND HYGIENE (WASH)

Report by Rochelle Rainey

DRC WASH SECTOR OVERVIEW

At present (March 2009) there is no overall national strategy guiding the sector in DRC, although a national water law is currently being developed. The DRC’s National Water and Sanitation Committee (CNAEA) is developing key indicators for monitoring and evaluation (M&E) of current and future water projects. The development of these performance measures and their use in a comprehensive M&E system will help improve transparency in the sector.

Drinking water in the rural areas is the responsibility of the National Rural Water Service (SNHR). The SNHR has 17 offices throughout the country but has very few resources or the institutional framework to provide water supply. About 60 percent of the country has easily accessible water from springs, either alone or connected to a piped distribution system, that can be protected fairly inexpensively. Spring water typically has low turbidity, and simple disinfection is adequate treatment to ensure the water is microbiologically safe. In parts of the country, particularly the southeast, the hydrology is different, and wells may be more appropriate for developing community drinking water supply. Some populations use surface water for their drinking water source, and many lakes and rivers in DRC suffer from high levels of suspended solids, which requires a filtration or coagulation step to clarify water before disinfection.

Virtually all sanitation facilities in rural areas are constructed and maintained by private parties, such as nongovernmental organizations and religious missions. There is no government agency responsible for rural sanitation, and the lack of governance, coordination, and financing is evident. Despite the lack of focal point in the government, some small-scale sanitation improvements are currently being implemented via donors working through health zones.

Key donors in DRC’s WASH sector include the World Bank, the African Development Bank, the European Union, France, Germany, the United Kingdom, and Belgium. Donor activities range from institutional reforms and better cost recovery to infrastructure projects that focus on increasing access to basic services by the poor. These efforts are in line with the DRC’s poverty-reduction strategy and are coordinated through a Water Management Sector Sub-Group chaired by MINE, or through the Water and Sanitation Thematic Group that monitors the Growth and Poverty Reduction Strategy.

DRC WATER AND SANITATION COVERAGE AND HYGIENE PROMOTION

DRC has abundant water resources but access to improved sources of drinking water is very low in rural areas (80% urban compared to 24% in rural areas, DHS 2007). From a health perspective, even the indicator of “improved sources” is not useful, because water quality typically declines as it is contaminated during transportation from the water source to the household, and during storage and use in the household. Access to basic sanitation overall is very low, although still showing an urban bias (22% urban versus 15% rural).

Very few of the springs are capped and improved with cement, but there are local, traditional methods of protecting sources that do not require cement. Often the health facilities and schools use the same water sources and have the same access as the rest of the village. Based on the 2007 DHS, there are very few villages that use a well with a hand pump for their water source. It was not possible to determine if this is due to hydrogeology (water is too deep and would require a motorized pump) or because of the well-documented challenges with supply chains for spare
parts for hand pumps, and/or because of the low cost to provide readily available ground water from springs in the low areas.

The full benefit of promoting preventive behaviors related to water, sanitation, and hygiene takes place in the community and in households, not at facilities. The relais, who are volunteers tasked with visiting households in their area on a regular basis, have very little training or support. The team’s hygiene specialist was not able to visit a weekly market in the zonal center to see what hygiene goods are available (soap and liquid or powdered bleach), nor to observe any household hygiene behaviors related to water management in the household, sanitation, or hand-washing.

Lack of convenient access to water supply has profound gender implications, as the time-intensive pursuit of water collection often prevents women from taking up income-generating opportunities or girls from attending school. Similarly, the impacts of water-related disease are often borne by female members of the family, since they are the primary caretakers of children and the ill. There is also a strong gender dimension to sanitation because of the special needs for privacy and safety for women. WASH-related activities are an excellent vehicle to promote women’s empowerment in resource access and decision-making, recognizing women’s participation as a critical factor for achieving sustainable service delivery as well as household hygiene.

**DRC DIARRHEAL DISEASE BURDEN**

According to the 2007 DRC DHS, 16% of children under 5 were reported to have diarrhea in the past two weeks, but the prevalence jumps to 30% in children 6–11 months (when they are typically exposed to contaminated drinking water). This diarrheal disease burden is reflected in the high rates of stunting reported in the DHS (46% overall: 37% urban and 52% rural), a sign of chronic malnutrition that is associated with diarrhea. An estimated 112,200 children under 5 die each year in DRC from diarrheal disease.

Diarrhea is an important area of focus for child survival due not only to its high prevalence and associated health costs, but also because a large percentage of diarrhea cases are preventable. Over 80% of diarrheal disease is associated with contaminated drinking water and poor sanitation and hygiene. The 2007 DHS results emphasize the need for improved water and sanitation services as a major component in addressing childhood illnesses, malnutrition, and mortality.

**WASH INTERVENTIONS**

Hygiene improvement is a method of primary prevention for diarrheal disease by breaking the routes of transmission between feces and a new host. The three key hygiene behaviors that have been shown to reduce diarrhea (household water treatment and safe storage, hand washing with soap at critical times, and proper use of improved sanitation) all have a required hardware element (access to improved water supply, hand-washing stations, latrines), as well as significant needs for promotion of behavior change.

These behaviors need to be promoted, demonstrated, and adopted at the community and household level. This will require capacity building and pictorial training materials for the community volunteers. Sanitation in particular needs intensive community work on demand creation, using participatory methods like community-led total sanitation, as well as creating capacity on the supply side through sanitation marketing. Access to microfinance can help support the development of this sector both for households and for artisans. UNICEF is developing a manual on low-cost latrine options for DRC that will be useful in promoting household investments in sanitation. UNICEF is also in the process of finalizing hygiene promotion materials that should be used by USAID implementers to ensure the messages are consistent.
The Ministry of Health has developed a "Village Assaini" (and an "Ecole Assainie") program, under the 9th Division, to reduce illness and death from water-borne disease, based on a model piloted under SANRU. It is a national strategy based on community participation using the Participatory Hygiene and Sanitation Transformation methodology and is being implementing in nine of the AXxes zones with UNICEF funding. After a process of awareness-raising activities about the routes of transmission of water-borne disease and the importance of key hygiene behaviors, the community develops a prioritized action plan and budget for improving the water/sanitation/hygiene situation in the village, which may include water source development or support for improved latrine construction. UNICEF and the community sign a protocol that includes the roles and responsibilities of each party. The community-led process, which is considered as important as the infrastructure, takes about two years and is budgeted at about $70K per health zone, and DFID is planning to fund about one-third of the national program.

RECOMMENDATIONS

- AXxes water/sanitation/hygiene investments to date have focused on protecting a limited number of springs and building some latrines. To complement these investments, USAID should consider promotion of other low-cost appropriate technologies for water supply (capping springs, with or without gravity-fed piped distribution systems; low-cost manual drilling methods; and locally manufactured durable rope pumps); water storage (rainwater harvesting cisterns); water quality through socially marketed point-of-use water treatment technologies (PUR sachets and Aquatabs); hand-washing stations (tippy taps that use very little water for hand-washing); and a range of latrine options using locally available materials. Note that water supply and sanitation differ in the actors involved in making investments and in operating and maintaining infrastructure, and require different approaches. It is not recommended to install any hand pumps in health facilities or schools until the history and the feasibility of the use of this technology is better understood in the DRC context.

- All water supply and sanitation infrastructure investments should increase access for domestic purposes. At the same time, USAID/DRC should explore strategic, innovative, and integrated approaches that build on domestic service access and address a wider range of needs for water supply and sanitation to enhance resiliency, build food security, and increase incomes, including through extensive training and capacity building.

- In order to achieve desired health impacts of these investments, provision of infrastructure should be complemented by AXxes support to the health zones to intensively promote appropriate hygiene behavior change activities in the communities and households.

  Through the Animateur Communautaire and Charge Hygiene Eau Assainissement, AXxes should strengthen the capacity of the volunteers to promote the three key behaviors shown to reduce diarrhea in children under 5. Train volunteers to negotiate feasible behaviors in the household through an approach such as trials of improved practices, where the promoted behavior is not ideal but moves the person away from a known harmful practice (not washing hands with soap after using toilet) to washing hands with soap at at least one critical time to interrupt disease transmission.

  AXxes should train the zonal Animateur Communautaire and Charge Hygiene Eau Assainissement to work with the CODESA (or the community water users group for that specific source, since many communities have more than one source) to strengthen their capacity to protect and to manage community water sources. This could include capping springs (with project funds, and/or using local contributions to purchase cement and labor, and the technical assistance of the zonal Charge Hygiene Eau Assainissement for the design) or the CODESA taking the leadership to improve the source with local, traditional methods.
Drinking water will still need to be transported and stored in households, so there is a need for complementary water quality interventions.

AXxes should train and use nurses, animateur communautaires, charge hygiene eau assainissement, and volunteers to promote the lowest-cost behaviors to improve water quality, including using traditional methods of protecting the springs (or capping with cement if financially feasible), and using only jerry cans (available in rural markets for CF 2,000 and widely accepted) for drinking water. Water carried in open buckets should not be used for drinking in the household, only for cleaning. Build on the existing messages to boil water, but focus more on proper handling of the water after boiling, since it is very vulnerable to recontamination with dirty hands or cups.

- Any existing promotional materials for volunteers should be distributed. AXxes should coordinate hygiene promotion activities with UNICEF (and mine the SANRU files) to ensure that hygiene messages are consistent and to avoid duplicating effort in developing materials if they already exist.

- Medentech, the manufacturer of Aquatabs for household water disinfection, is scheduled to launch its product in DRC with PSI in May 2009. AXxes should support the promotion and distribution of this product to complement the PUR product (which is appropriate for use in turbid water) promoted in the East.

- USAID should not rehabilitate the piped system in Bulape hospital because all pipes, from the source and the cisterns to the tank and from the tank to the buildings, have been unused for at least 10 years and would probably all need to be replaced, along with the issues of fuel and maintenance of a new pump and motor. However, it would be very inexpensive to rehabilitate the rainwater harvesting system, where many of the gutters have corroded and leak, and create a storage site for the stick and bucket to ensure that they do not provide a source of contamination to the water in the cisterns.

- USAID investments should increase access to water supply and sanitation infrastructure in USAID-supported health zones through the government’s Village Assaini approach. At the village level, the Village Assaini includes improving or developing water supply and sanitation facilities and training and building capacity in governance, roles, and responsibilities to manage drinking water systems, and the Mission can support expansion of this national program in USAID health zones. Proposed sanitation service provision interventions should take a demand-driven approach in both the selection of technologies and program implementation mechanisms, and actively test and promote lower-cost methods for drinking water supply. To complement the facility-based sanitation infrastructure, train volunteers on the community or school-led total sanitation approach to eliminate the practice of open defecation, as well as training masons/artisans on the supply side to provide a range of low-cost latrine options.

- Other activities could include training entrepreneurs in new technologies for drinking water supply and sanitation, identifying areas where access to credit at various levels creates bottlenecks in providing services in drinking water supply and sanitation, and facilitating entry of microcredit providers. Social marketing of household water treatment products will complement the investments in improving source water quality by ensuring that the water is safe to drink at the moment of consumption, recognizing that much contamination occurs during transportation and water storage in the household. Potential areas for microcredit to encourage sustainability include distributors and/or manufacturers of manual and mechanized pumps, piped system construction companies, well-drilling or digging enterprises, water transport and storage container manufacturers and distributors, motor
and non-motorized pump repair, latrine slab manufacturing, artisanal latrine construction, etc. Financing is a major barrier for sanitation because it is not perceived as income-generating, so people are not so willing to go into debt for sanitation. The amounts of funding required for the Sanplat molds and other construction materials are very small, but if available could stimulate the private sector to begin to supply a range of choices to consumers who want to invest in sanitation. UNICEF is developing a booklet on low-cost sanitation options for DRC that should be useful to support this work.

**MONITORING**

The project could use the following illustrative indicators:

- Number of people (male and female) with access to an improved water supply increased
- Number of people (male and female) with access to improved sanitation facilities increased
- Number of community water systems with functioning management committees and sustainable long-term financing increased
- Number of new businesses (man-owned and woman-owned) providing water supply/sanitation products and services increased
- Number of female caretakers of children 0–59 months old living in households correctly storing treated water
- Number of female caretakers of children 0–9 months old living in households with positive chorine residual in drinking water treated with a chlorine product
- Number of female caretakers of children 0–59 months old living in households with soap and water at a commonly used hand-washing station by family members
- Number of communities certified as Village Assaini
For more information, please visit
http://www.ghtechproject.com/resources.aspx