

Midterm Evaluation

of

Health Alliance International's *Central Mozambique (Manica and Sofala Provinces) Child Survival and Maternal Care Project*

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Glossary of Terms and Abbreviations

AIDS	Auto-immune Deficiency Syndrome
ANC	Antenatal Clinic
APE	Basic Health Agent (Portuguese)
CD4	Lymphocyte CD4 count
CH	Central Hospital
CLC	Community Leader Council
CNCS	National AIDS Council (Portuguese)
CS	Child Survival
DDS	District Health Directorate (Portuguese)
DPS	Provincial Health Directorate (Portuguese)
FP	Family Planning
HAART	Highly Active Anti-Retroviral Treatment
HAI	Health Alliance International
HBC	Home-Based Care
HIS	Health Information System
HIV	Human Immunodeficiency Virus
IEC	Information, Education, and Communication
IMCI	Integrated Management of Childhood Illness
IHN	Integrated Health Network
IPT	Intermittent Preventive Treatment for Malaria
ISA	Institutional Strengths Assessment
ITN	Insecticide Treated Mosquito Net
MCH	Maternal and Child Health
MNC	Maternal and Newborn Care
MOH	Ministry of Health
NGO	Non-Governmental Organization
NHS	National Health Service
OI	Opportunistic Infection
PAC	Cultural Activist Program (Portuguese)
PEPFAR	The President's Emergency Plan for AIDS Relief
PLWHA	People Living With HIV/AIDS
pMTCT	Prevention of Mother-to-Child Transmission of HIV
PVO	Private Voluntary Organization
RT	Rapid Syphilis Test
STI	Sexually Transmitted Infection
TA	Technical Assistance
TAP	Treatment Acceleration Program
TB	Tuberculosis
TBA	Traditional Birth Attendant
VCT	Voluntary Counseling and Testing for HIV
WHO	World Health Organization
YFHC	Youth-Friendly Health Center

A. Executive Summary

Brief description of the program and its objectives. The Central Mozambique Child Survival and Maternal Care Project is located in the two central provinces of Manica and Sofala. Most of the population is rural with about 35% urban. The estimated population of Sofala province exceeds 1,500,000 spread across 13 districts. Manica province has approximately 1,150,000 inhabitants in 10 districts. Of the total population, over half reside in the provincial capitals or nearby districts accessible by a major paved road (the Beira Corridor). The public sector is the main provider of health services. The project works through district-based facilities to build capacity of personnel to promote and deliver child survival (CS) and maternal and child health (MCH) services.

This five-year extension Child Survival and Maternal Care Project builds on the experience of a four-year initial grant that ended in 2002, and will therefore continue through 2007. The CS program extension goals are to bring about sustainable reductions in infant, peri-natal and maternal mortality and morbidity in the two central provinces of Manica and Sofala, and to facilitate the expansion of selected successful strategies more widely in Mozambique. The three intervention areas are STI/HIV/AIDS (40%), malaria control (35%) and maternal and newborn care (MNC 25%). Details related to intervention-specific objectives are provided in the main body of the report. The project has made tremendous achievements in expanding coverage of key interventions, piloting new activities, documenting innovations, and using operations research results to impact national policy.

Formal program beneficiaries are 120,000 pregnant women and their infants annually, as well as 97,200 children under age 5 in the four districts with intensive bednets promotion/sales and IMCI support. Additional beneficiaries include youth (for VCT and STI/HIV/AIDS prevention and support); partners of women who test positive for syphilis; adults with malaria in the bednets districts; and community members reached by the community health education for all program interventions.

A summary of main achievements to date is provided below:

- (1) STI/HIV/AIDS:** The expansion of HIV/AIDS-related services has far exceeded project targets, encompassing training of health workers and community members, supervision, logistics support, and health systems strengthening.
 - The project has supported the initiation of 19 prevention of mother-to-child transmission of HIV (pMTCT) sites, 25 general and youth-oriented Voluntary Counseling and Testing (VCT) sites, 4 AIDS care and treatment centers (known as Day Hospitals).
 - Large numbers of health workers and lay counselors have been trained, including 260 nurses in pMTCT, 90 counselors in VCT, 450 volunteers in home-based care (HBC), and 75 in AIDS care and treatment.
 - The project has provided significantly increased funding and technical assistance to local non-governmental organizations (NGOs) working in HBC, community mobilization, and organization of people-living with HIV/AIDS groups at each VCT and pMTCT site.
- (2) Malaria Control:** Malaria interventions have included expansion of earlier pilot activities in distribution of insecticide-treated mosquito nets (ITNs), initiation of intermittent preventive treatment (IPT) for pregnant women, support for the integrated

management of childhood illness (IMCI) and assessment of resistance to anti-malarial drugs. Activities have included training and intensive supervision of health workers, social mobilization via mass media, and dissemination of results to MOH stakeholders.

- Over 220 district health personnel have been trained in ITN distribution. ITN sales were expanded to cover 27 sites using community leader councils (CLCs) and commercial vendors, resulting in the distribution of 45,000 ITNs and retreatment of 8,000, and allowed testing approaches to increase coverage and retreatment of ITNs.
- Staff from ten health facilities were trained and supervised in intermittent preventive treatment for malaria (IPT) to identify practical considerations for future national roll-out. To date, 23,000 women have benefited from the program, and results have resulted in a national IPT expansion strategy. HAI has supported training of over 100 health workers from 35 health facilities, with plans to cover all facilities in both provinces.
- New PAC malaria presentations were developed and presented throughout both provinces, multiple radio spots were developed, and CLCs were trained in malaria recognition, referral and ITN distribution.
- HAI supported 4 initial IMCI courses, follow-up for trained staff, and operations research to evaluate healthworker adherence to IMCI protocols.

(3) Maternal and Newborn Care: Excellent progress has been made in expanding and consolidating MNC interventions, including rapid syphilis testing (RT), pMTCT and IPT. Activities have focused on training and supervision of health workers, updating tools for health worker use, and sustained community mobilization.

- A poster and accompanying pamphlet were developed on the danger signs during pregnancy and birth. The MOH has approached HAI about their use nationally.
- The RT was successfully piloted in 132 health facilities, including training of health workers, logistics support, intensive supervision, and operations research to identify challenges and benefits of the intervention for national application. Demand for the RT has been great, allowing an over 65% increase in women tested to over 100,000 annually, covering over 90% of ANC visits in facilities without laboratories.
- A focus on treating partners of women testing positive for syphilis has increased the proportion of partners treated to approximately 60%, surpassing the CS project target.
- Intensive community education efforts, including radio programs, CLC and religious leader training, and health worker reinforcement of the importance of early ANC, have led to an increase in early first ANC visits to exceed the target of 50% of first visits in the first trimester of pregnancy. A number of CLCs and local health workers have widely developed obstetric emergency transport plans.
- The integration of new interventions into ANC, such as IPT, pMTCT and the RT for syphilis, has included the development of an updated antenatal card, manual of norms and procedures, and supervision guide. Engaging national program managers in the development and field testing of these materials will facilitate the nationwide expansion of this integrated approach.
- Additional information on pMTCT, PLWHA groups, IPT and IMCI is provided in the HIV/AIDS and Malaria Control sections above.
- Mechanisms for providing post-natal care for women and children delivering outside of health facilities have been discussed with DPS managers.

The following are the reported problems that have impeded progress and program response:

- High loss to follow-up of patients testing HIV-positive in pMTCT and VCT.
- Insufficient HIV prevention approach with limited impact, both for HIV-infected and uninfected individuals.
- Financial and human resource capacity limitations of the National Health Service (NHS) which may impede sustainability, especially for HIV/AIDS interventions, community mobilization, and operations research.
- Centralized programmatic management of programs and financial resources that impedes allocation of funds at the local level.

The project has worked to build partner capacity through formal trainings, on-the-job training through systematic integrated supervision with MOH counterparts, and provision of technical assistance to Provincial and District Health Directorate (DPS and DPS) counterparts. This approach, and the inclusion of local health workers in developing and implementing operations research projects, has been effective in expanding services, guaranteeing a high quality standard within ANC and HIV/AIDS services, and transitioning responsibilities to local health staff. Working with local NGOs to improve their technical and financial expertise has provided new, likely sustainable community linkages for HAI-supported programs. The likelihood of sustaining project activities beyond the life of the CS grant is high for the reasons mentioned above.

Recommendations of the evaluation are listed below. The action plan responding to these recommendations is provided in Section G:

- Consider a broader view when revising strategies, including increasing dependence of the public sector on external support.
- HIV/AIDS service expansion plans should be integrated within the DPS development strategy.
- Day Hospitals should be gradually incorporated within health facilities, and outpatient and inpatient services must be strengthened to contend with the HIV/AIDS epidemic.
- Human resource policies for HIV/AIDS services must consider the overall health system needs and incentive dynamics.
- Local trainings and on-the-job training should be coordinated with provincial training institutions.
- Current HIV prevention strategies have increased knowledge of HIV transmission and prevention, but have not affected sexual behavior. Strategies should be re-thought to focus on the right of HIV-negative individuals to remain uninfected, including promotion of safe sexual behaviors among HIV-infected individuals.
- More PLWHA organizations should be fostered, and involved in provision of HBC and supporting adherence to AIDS treatment regimens.
- The CLC approach is a sound example of integrating community into primary health care, but highlights the need for supervision and support by local health workers. Substantial support for CLCs and PAC should be continued. More efforts should be made to include religious leaders in HIV/AIDS activities.
- Qualitative studies are needed on determinants of sexual behavior, stigma in an African context, and economic dynamics of PLWHA.
- Communication with MOH officials should be improved to facilitate timely approval of HAI proposals.

- IMCI activities should continue and be expanded to include supervision of a broader range of elements of the health system, including outpatient clinics, laboratories, and pharmacies.
- Malaria prevention interventions should be improved by linking resources from other organizations in the project area to the wealth of experience HAI has in this area.
- HAI should arrange opportunities to learn from other PVOs operating in Mozambique.
- As part of its MNC activities, HAI should focus on reducing maternal mortality through investments in local referral hospitals, communication and transport.
- HAI must continue to focus on post-partum care for mothers and children delivering outside of health facilities, including development of systems to integrate mothers and their children, and a tracking system to monitor trends in post-partum care practices.

B. Progress Made Towards Achievement of Objectives

Overview: This midterm evaluation is designed to:

- Assess progress in implementing the DIP;
- Assess progress towards achievement of objectives;
- Assess if interventions are sufficient to reach desired outcomes;
- Identify strengths and weaknesses in the implementation of the project activities: STD/AIDS; Malaria activities; and maternal and newborn care;
- Identify barriers to achievement of objectives;
- Determine the acceptability of the project by the communities and the local authorities.
- Provide recommended actions to guide the staff through the last half of the program extension.

Assessment Methodology: The principal methodologies used for this evaluation included interviews and group discussions with program stakeholders, direct observation of activities, and review of relevant internal and health systems data. More information on the assessment methodology is provided in **Attachment C**.

The evaluation included two weeks of fieldwork from mid to late September, beginning with planning, document review, and evaluation preparations. Site visits were followed by further discussions with HAI staff and their counterparts to clarify questions. Feedback was provided to key HAI staff on the evaluation results. Further meetings were held with national MOH program managers to discuss the evaluation and HAI's program approach. A draft of the final report was provided to the CS Program Manager and the Director of Mozambique Operations based in Seattle two weeks prior to submission for feedback and further clarification. The final report incorporating appropriate suggestions from HAI program managers was approved by the Evaluation Team Leader for submission on October 26, 2005.

1. Technical Approach

1.1 Brief Overview of the Project

The Central Mozambique Child Survival and Maternal Care Project is located in the two central provinces of Manica and Sofala. Most of the population is rural with about 35% urban. The estimated population of Sofala province exceeds 1,500,000 spread across 13 districts. Manica province has approximately 1,150,000 inhabitants in 10 districts. Of the total population, over half reside in the provincial capitals or nearby districts accessible by a major paved road (the Beira Corridor). More information on the project area is provided in **Annex I**.

This five-year extension Child Survival and Maternal Care Project builds on the experience of a four-year initial grant that ended in 2002, and will therefore continue through 2007. The extension program goal is to bring about sustainable reductions in infant, peri-natal and maternal mortality and morbidity in the two central provinces of Manica and Sofala, and to facilitate the expansion of selected successful strategies more widely in Mozambique, through a focus on STI/HIV/AIDS (40%), Malaria Control (35%), and Maternal and Newborn Care (25%). The total five-year budget is 1,250,000, with an anticipated completion date of September 30, 2007. The project approaches each intervention at both 1) the health systems level (through staff

training, supportive supervision, logistics support and setting up sustainable management systems), and the community level (working primarily through Community Leader Councils or CLCs, religious leaders, local NGOs, and local theater groups). Objectives are listed in the progress report section below.

1.2 Progress Report by Intervention Area

Table 1. Level of completion of indicators

Indicator	Completion in Mancia	Completion in Sofala	Likelihood of EOP* Completion
AIDS #1: Prevention of HIV transmission	Achieved	Achieved	Already done
AIDS #2: Decrease stigma of HIV/AIDS	Begun	Begun	Very good
AIDS #3: Prevent HIV/STI infection and care for those infected	Halfway	Halfway	Good
AIDS #4: Youth VCT and support groups	Achieved	Achieved	Already done
AIDS #5: “Mini-PAC” youth theater groups	Achieved	Achieved	Already done
Malaria #1: Malaria understanding among pregnant women	Halfway	Halfway	Very good
Malaria #2: Increase use of ITNs in 8 areas	Halfway	Halfway	Good
Malaria #3: Treatment of malaria in children	Halfway	Halfway	Good
Malaria #4: ITNs will be widely available	Achieved	Achieved	Already done
Malaria #5: Upgrade malaria control policies	Halfway	Halfway	Good
MNC #1: Improve appropriate birth practices	Halfway	Halfway	Good
MNC #2: Increase syphilis screening	Achieved	Achieved	Already done
MNC #3: Assure availability of pMTCT	Achieved	Achieved	Already done
MNC #4: Integrated ANC norms	Halfway	Halfway	Very good

*EOP = End of Project

1.2.1 STI/HIV/AIDS

Funding in the estimated amount of \$509,929 (40% of effort) has been obligated under the grant to support STI/HIV/AIDS activities. Because of the increasing availability of funds for HIV/AIDS programs, and the growing interest of different donors in fostering AIDS-related services through an experienced and well-rooted organization, there has been a substantial increase in matching funds for the CS project. An area of particular emphasis has been in scaling-up HAART, which has resulted in a change in priorities since the initiation of the CS extension project in 2002.

AIDS Objective #1: Increase motivation and skills for women and adolescent girls to protect themselves and their infants from HIV infection.

a) 70% of mothers in the program area will know that mother-to-child transmission of HIV can be reduced or prevented.

No data are currently available. Results will be available after the end of project survey in 2007.

b) 70% of mothers with access to voluntary counseling and testing (VCT) will be tested for HIV during their last pregnancy.

To date, a total of 19 pMTCT sites have been established in the two provinces, with an additional 13 planned by the end of 2005, exceeding the CS project target of 12 (see MNC Objective #3). By the end of 2004, nearly 21,000 women were tested at the pMTCT sites; this number rose to over 18,000 during the first eight months of 2004 due to the increase in number of pMTCT services. By the end of 2004, a total of 74% of women accepted testing in ANC where pMTCT services were available (62% in Manica and 86% in Sofala). This number fell to approximately 60% in the first eight months of 2005. Sero-prevalence rates among women tested were 18% in 2004 and 15% in the first 8 months of 2005, which likely reflects the expansion of testing sites to more rural areas with lower sero-prevalence rates rather than a fall in prevalence.

The fall in testing from 2004 to 2005 may be explained by a number of factors, including the expansion of new pMTCT sites short of personnel, sick leave for some nurses at existing sites, and decreased staff motivation at some sites where monetary incentives for counseling nurses were terminated in January, 2005.

Major Activities:

- A total of 260 health workers have been trained in pMTCT (149 in Sofala and 121 in Manica), and 90 health workers and lay counselors have been trained in VCT counseling and service orientation. Integrated supervision has improved on-the-job-training since its implementation in March, 2004.¹
- PMTCT and VCT targets have been largely surpassed, with 19 pMTCT and 25 VCT (both youth-focused and general) sites in operation with HAI support.
- “Girl days” at youth VCT sites were promoted until November 2004.²
- 1 drama group (the Cultural Activist Program, or PAC) has been active in Chimoio, and 5 offshoot “mini-PACs” have been created in adjoining districts. Theater pieces and meetings are held routinely in the project area, promoting key CS messages. Activities have focused more in urban centers, and lack of transport has been identified as the primary obstacle to expanding to more rural settings. PAC has been particularly successful in spreading information on the initiation of new services, such as launching of VCT sites. Technical support for development of theater pieces is provided by HAI and health facility staff, and messages are adapted based on responses from those attending drama presentations.
- Each PMTCT site has a weekly post-test club. At each meeting a nurse/counselor is available to give clinical support and referrals as well as offer advice on nutrition, safe breastfeeding, disclosure, HIV testing of children, HIV treatment options, and social support. Subsidized ITNs are also available as well as food rations and complementary multivitamins and iron-sulfate.

¹ The integrated supervision approach entails program assistants supervising all services in a defined geographic zone, rather than being responsible for supervising only one service. As a result of these supervisions, refresher training has become more individualized to health facility personnel needs.

² After November, 2004, follow-up at YFHCs declined due to the new integrated supervision. Subsequently, more emphasis has been placed on supervising YFHC activities.

AIDS Objective #2: Decrease stigma associated with HIV/AIDS in the program area.

60% of mothers will acknowledge that they know someone who has HIV/AIDS.

Data are currently not available. Results will be available after the end of project survey in 2007.

Major activities:

- Intense, sustained social mobilization has focused on radio campaigns, including short spots, vignettes and debates focusing on the availability of new HIV/AIDS services. According to multiple national and local studies, radio is the most widespread means for learning about HIV prevention programs and services. HAI is also working with youth groups and PLWHA groups on the production of new messages.
- Initial trainings and refresher trainings for health workers have been carried out to build capacity and integrate new HIV/AIDS services. As noted in Objective 2, above, VCT and pMTCT counselors were trained in counseling and organization of VCT and pMTCT services.
- Outreach training and mobilization of religious leaders have been carried out but merit more emphasis, as these leaders are more consistently involved in prevention activities at the local level (Pfeiffer, 2004). Lack of financial resources has hampered this initiative.

AIDS Objective #3: Improve capacity of health systems and communities to prevent further HIV/STI infection and care for those already infected.

a) All district and provincial clinical health staff will be able to:

-Correctly implement updated STI protocols. STI diagnosis and treatment protocols were expected in 2004. However, to date the new protocols have not been finalized and there are no expectations that they are forthcoming. Therefore, HAI is planning on carrying out refresher trainings using the existing protocols.

-Explain the basis principles and practical implementation of universal precautions. Health personnel have been extensively trained in universal precautions, including MDs, medical officers, nurses and ancillary health workers. In addition, orderlies have participated in these trainings, which is noteworthy as these staff have the most exposure to contaminated medical supplies, and are often ignored by training initiatives. In addition, HAI has supported meetings and refresher trainings for hospital and health center chief-nurses in conjunction with provincial Nursing Departments.

-Assess and provide appropriate treatment for AIDS opportunistic infections (OIs). In 2005, 75 health workers were trained in AIDS care and treatment, which is expected to increase to 180 by the end of the year. There are currently plans for both provinces to train all clinical staff in both inpatient and outpatient wards in care and treatment with substantial support from HAI.

To date, four HAI-supported Day Hospitals, or outpatient centers for HIV-related care and treatment, were operational in the project area. By July, 2005, over 13,000

PLWHAs have sought care at these Day Hospitals, and nearly 1,500 patients were receiving HAART. The number of patients enrolling for care and treatment has risen steadily, with over 100 patients initiating HAART per month. By the end of 2005, at least nine additional health facilities will begin providing HAART, including four new Day Hospitals and five peripheral health facilities located in the catchment areas of existing Day Hospitals.

A recent focus has been the integration of HIV/AIDS and tuberculosis sectors. Norms have been developed for HIV and tuberculosis co-infected patients, which will soon be developed into new protocols and trainings. HAI is at the forefront of this initiative, both locally and nationally. The CORE-group developed a best practices document based on HAI's work in this area.³

b) The three program-supported church/community groups will be able to provide community-based home care and support for persons with AIDS that meets standards for acceptable quality. The religious/community groups working in HBC include *Kubatsirana*, *Kuphetzana* and *Kubatana*, which combined cover all CS project focus districts. HBC volunteers work under the supervision of a nurse responsible for HBC in the district. Currently, over 2,600 patients are being followed by HBC activists.

HAI and local church/Non-Governmental Organization (NGO) partner organization staff accredited by the MOH as HBC trainers have trained over 450 HBC volunteers using standardized training curriculum in basic palliative care, health-facility referral for critical patients, the importance of HIV-testing, and psychosocial support. No data are currently available on the quality of services provided by HBC volunteers, though HAI is attempting to establish a functional link between the HBC groups and health facility clinicians to improve coordination and follow-up of patients. In general, the nationally managed HBC program shows various shortcomings. Management has not been sufficiently decentralized to the provinces. Many HBC volunteers are elderly, non-literate, and have limited technical capacities. The national training curriculum is reduced to basic nursing and assistance, and psychosocial support. Basic supplies are often not available. However, it is generally thought that the initiative fosters consciousness about HIV/AIDS and solidarity in the community.

c) Day Hospital and STI clinic for adolescents will be established at Beira Hospital. Since 2000, matching funds for the YFHC program were provided through UNICEF. As a follow-up to this support, and to facilitate transition of management to the DPS, financing for the youth and adolescent clinic were provided to the DPS directly. HAI staff provided assistance in designing the program, designating an appropriate space, and orienting the program. Since launching of the clinic, however, HAI technical support has not been requested.

AIDS Objective #4: Establish VCT facilities and community support groups for youth with HIV/AIDS in five districts of the Beira Corridor,

and

³ http://www.coregroup.org/working_groups/HAI_Mozambique_TB-HIV_case_study.pdf

AIDS Objective #5: Train and support five “Mini-PAC” youth theater groups in sites with youth VCT facilities.

Presence of five youth-focused VCT facilities, community support groups, and mini-PAC groups along Beira Corridor.

With additional support from the USAID-supported PACT-REACH initiative, five YFHCs along the Beira Corridor have been enhanced to include testing and counseling for HIV.

Major Activities:

- VCT sites were identified, facilities rehabilitated, counselors trained, basic materials provided, and supervision was carried out on a routine basis.
- Referral guides developed jointly with health personnel and youth PLWHA to facilitate referrals of youth testing HIV-positive.
- PAC successfully developed youth-led “mini-PACs” in each site, and provides ongoing supervision and technical support with HAI staff.
- The development of youth-PLWHA support groups took longer than expected, partially due to the low sero-prevalence among those tested at these sites and few PLWHA to catalyze the creation of these groups. However, the youth-PLWHA groups have strengthened over time, with support provided by district health staff.

1.2.2 Malaria Control

Funding for malaria activities at 35% of effort in the grant totals \$446,188.

Complementary funding has been provided by a 4-year grant from the Association of Schools of Public Health (ASPH) that was completed in September 2005. Malaria activities in the grant years ahead will focus on the provision of IPT through a new integrated prenatal care initiative and continued information, education and communication (IEC) support for malaria-related messages. New sources for bednets in Manica and Sofala anticipated in 2006, including the Red Cross initiative to supply up to 400,000 long lasting nets in the provinces, provide new opportunities for promotion of malaria messages, while reducing the need for continued HAI involvement in net distribution.

Malaria Objective # 1: Increase malaria understanding among program women.

80% of program women will know at least two ways to prevent malaria.

To be measured in 2007 survey.

Major Activities:

HAI supported development and ongoing dissemination of radio, theatre, CLC, and health facility messages concerning insecticide treated bednets, priority use of nets, and danger signs in feverish children and pregnant women that require referral. Radio messages have been regularly broadcast. PAC and mini-PACS have periodically produced theater pieces on malaria etiology, symptoms, prevention, and treatment means. Surveys have been conducted on bednet use to evaluate effectiveness of campaign efforts and plan future activities.

One week trainings for CLCs and religious leaders on malaria were conducted in 4 districts in Sofala (Beira, Dondo, Nhamatanda, Gorongosa) and 4 in Manica (Vila

Manica-Vanduzi, Chimoio, Sussundenga, Barue-Inhassunge). About 30% of the two province population was covered. Follow-up of CLCs and religious leaders has been achieved through supervision visits and routine meetings.

Malaria Objective #2: Increase use of insecticide-treated bednets in 8 target areas.

- a) **60% of mothers in the eight target district areas will sleep under a treated bednets during their last pregnancy, and**
- b) **60% of children under five in the eight target district areas will sleep under a treated bednet during their last pregnancy.**

To be measured in 2007 survey.

According to a community survey carried out in 2004 to evaluate ITN distribution as part of the CDC/ASPH malaria project, ITN use rose from 4% at the first antenatal visit to 27% at the fourth antenatal visit in the target areas. In this study, presence in the household of pregnant women and children under 5 did not predict ITN ownership. The most commonly cited reason for lack of ITNs was their relatively high cost. Subsidized sales of ITNs did not produce adequate use of ITNs in the target-population and did not reduce inequalities (actually, it increased them). Results have been reported in Mozambique through a presentation at the *Jornadas de Saúde*. Other presentations occurred at the MOH, in Atlanta (CDC), Seattle (HAI, University of Washington), and in international journals (forthcoming paper by Brentlinger et al). See also Malaria Objective #3.

According to our evaluation, consensus exists among health managers to reduce the bednet price by two-thirds, but not to distribute the nets free of charge. In the towns, nets have been increasingly sold. Before the rainy season up to 300 per month were sold by one respondent. Traders earn 15,000 MZM per net unit (approximately \$0.65) and report that they are satisfied with this return. Bednet distribution through commercial circuits has proven much more effective than CLC and religious leader channels. Community leader's activities have shifted from direct sales to IEC about bednets and malaria.

It was not possible to implement a pilot voucher system for subsidized bednets targeting pregnant women because of MOH opposition. Instead, social mobilization for increased and improved utilization of bednets occurred, including the basics on malaria prevention, the role of bednets, procurement details and proper utilization criteria, with a special focus on re-treatment. Commercial vendors and community leaders have been trained at the beginning of the bednet program implementation, and these vendors have been followed-up at least monthly by HAI staff and with greater frequency by local health personnel. Social mobilization has included radio spots, PAC and mini-PAC presentation, and free "dip your net" days to encourage re-treatment.

Major Activities:

Planned activities have been duly performed, including:

- Training of 221 district health personnel, community leaders, and commercial vendors from sales sites.
- Monthly supervision and on-the-job training for bednet vendors.

- Provision of key materials, such as insecticide for re-treating nets, focusing on vulnerable groups.
- Re-treatment of nearly 8,000 ITNs.

HAI's current malaria strategy has been revised. The new Red Cross long-lasting net (*Olyset*) distribution in 2006 may obviate the need for future community-based or commercial net distribution supported by HAI. However, continued IEC on malaria and bednet utilization will be necessary to ensure effective utilization of new nets coming into the community.

c) 40% of homes with bednets will have had the nets retreated within the past 8 months.

To be measured in 2007 survey.

Community mobilization days for carrying-out free “dip your net” days continue. However, this system has proven to be very costly; the number of re-treatments is much less than the total of sold nets (see table, malaria objective #4). Currently, long-lasting *Olyset* bednets are currently preferred, and new net distribution initiatives beyond HAI will use *Olysets* or other long-lasting nets.

Malaria Objective #3: Increase appropriate treatment of malaria symptoms in children.

a) 80% of children under age 2 with fever in the past two weeks will be treated with appropriate anti-malarial drugs.

To be measured in 2007 survey.

b) 70% of mothers/caregivers of children under 2 will know at least 2 signs of childhood illness that indicate the need for immediate medical treatment.

To be measured in 2007 survey.

Major Activities:

IMCI has been implemented in all the health facilities of Manica and Sofala. HAI supported the IMCI program at the beginning of its implementation in pilot districts (2001). In 2003 and 2004 HAI funded 4 training courses in Manica, while in Sofala a number of courses were funded by John Snow (Manica and Sofala) and DPS (Sofala). A refresher course for DDS staff on Community Based-IMCI messages has been implemented in Manica. CLCs and religious leaders have been trained in established Community Based-IMCI messages, within other training activities about signs of danger in children, need of referral to the health facility, and emergency home management (such as homemade rehydration and fresh bath to control high fever). Technical assistance (TA) has been given to the DPS to implement IMCI scale up. Integrated supervision supported by HAI has also encompassed IMCI.

The IMCI program was evaluated in 2001 and 2005. The first survey, implemented by HAI and based on a very limited sample of health workers, found that health professionals trained in IMCI over-diagnosed malaria, over-prescribed antibiotics, and did a better clinical examination and anamnesis with a longer visit time. Parents education was insufficient. IMCI training had failed to improve performance

according to the required standard in the central provinces of Mozambique.⁴ The second evaluation – an internal survey - showed a noteworthy improvement from 2001, related to “three common signs of danger in children”, as cough, diarrhea and fever. The survey concluded that standard quality care for children increased substantially at the primary health care level⁵. However, it was an IMCI program internal survey. Mid-term evaluation results were not straightforward: however it seemed that good diagnostic and treatment principles were diffused in a rather theoretical way, i.e. as a vertical, top-down initiative, without taking into account the context. For example, drugs established for emergency were not available because they are not in the Essential Drug kit list. Real working conditions (number of patient observed, lab and pharmacy functioning, referral possibilities etc.), and high level cadres were not appropriately approached by the teaching program and therefore did not help to implement IMCI.

During supervisions, many suspected HIV+ children were found, especially from malnutrition pediatrics wards. Lack of standardized norms of conduct prompted HAI to promote a revision of high risk child card and related guidelines and algorithms. A working group was set up by joining the DPS, HAI, the NGO CUAMM, the Health science Institute of Beira and the Catholic University of Beira. A proposal will be sent to the MOH by beginning 2006.

Malaria Objective #4: Insecticide-treated bednets widely available in both provinces.

Insecticide-treated bednets were made available in at least 20 commercial outlets in the two provinces. HAI has distributed approximately 45,000 ITNs at 27 sale points in 10 localities, using CLCs, local vendors, or health units to sell them (see table below). Additional information on activities are included in Malaria Objective #2, above.

Table 2. ITN distribution

Situation	Manica*	Sofala*	Total
Distributed	31,381	13,508	44,889
Sold	20,708	6,216	26,924
Re-treated	4,817	3,207	8,024

* Sofala: until July 2005; Manica: until August 2005

Malaria Objective #5: The provincial health departments of Manica and Sofala provinces will have upgraded malaria control policies and procedures.

a) The Manica and Sofala DPS will be conducting regular malaria drug resistance testing/surveillance.

Surveillance sites have been established, including the implementation of three surveillance studies since initiation of the extension project.⁶ The results of these

⁴ Breitlinger, P.E. Morris, S. Sherr, K. Correia, MA. Tavede, E., Gloyd, S. Machaieie, M. Corda, P. O Desempenho dos Trabalhadores de Saúde em Atenção Integrada às Doenças da Infância (AIDI) nas Condições de Campo na Região Centro de Moçambique. Presentation at the 12th Jornadas de Saúde, Maputo, June 13-16, 2005

⁵ Mondlane, S.B. Gulamo, C. Rungo, I. Dimande, J. Amiel, O. (2005) Avaliação das Unidades Sanitárias no âmbito da implementação da estratégia AIDI. MISAU-DSC. Presentation at the 12th Jornadas de Saúde, Maputo, June 13-16, 2005

⁶ Note that one study was stopped due to insufficient numbers of malaria cases as a result of unanticipated spraying for mosquitoes in the study area.

studies have been widely disseminated both in Mozambique and at a regional meeting held by the CDC in Atlanta. However, ongoing surveillance has not yet been carried out. Negotiation and planning continues with the MOH concerning system development. Since the surveillance system is not functioning, some planned activities have not yet been implemented.

b) The Manica and Sofala DPS will have integrated IPT into prenatal care protocols (DPS records, site visits).

IPT has been integrated into national prenatal care protocols, hence the objective has been fully achieved. The MOH recently approved a new set of national norms and guidelines to implement the national IPT roll-out as proposed by HAI, and based on the lessons learned in Manica and Sofala. Currently, trainings for IPT expansion are underway in Manica and Sofala; all the training will be concluded by the end of 2005. Afterwards, the follow-up and supervision phase will take place. The MOH has requested that HAI provide technical advice for IPT expansion in the rest of the country, and for monitoring quality standards.

c) Health facility staff will be trained in implementation of new drug regimens for malaria.

During IPT training, norms recently introduced for malaria treatment have been addressed, including: dosage, side-effects, counter indications, and drug interactions.

1.2.3 Maternal and Newborn Care

Funding in the amount of \$318,705, or 25% of the total grant, is obligated for MNC activities. Substantial matching funds have been provided by the Bill and Melinda Gates Foundation for syphilis control, and the USAID Mission in Mozambique via the President's Emergency Plan for AIDS Relief (PEPFAR), the WHO and UNICEF for implementation of prevention of mother-to-child transmission of HIV (pMTCT) programs. MNC activities focus on improving birth practices and post-partum care for mothers and newborns, building on previous successes in the area of syphilis screening in pregnancy, expanding pMTCT, and integrating the many new, vertical new interventions in ANC.

MNC Objective #1: Improve appropriate birth practices among program women.

a) 70% of pregnant women will have emergency transport plans.

At this time no data are available for this objective. Results will be provided by the end of project survey in 2007.

b) 50% of women in program area will have an early prenatal care visit during their last pregnancy.

According to routinely collected data, in 2005 50% of women in Sofala and 55% in Manica had their first ANC visit during the first trimester of pregnancy. These results indicate marked improvement in Manica, with a smaller increase in Sofala. The trend in early ANC visits is encouraging, and has important ramifications for the success of syphilis control efforts.

c) 70% of women who deliver at home will have an early (within 2 days) post-partum visit.

At this time no data are available for this objective. Results will be provided by the end of project survey in 2007.

Major Activities:

To date, improving generalized appropriate birth practices has received less attention than activities in the context of the more specific MNC interventions (such as pMTCT). The following activities have been carried out relative to this objective:

- Post-partum care visit protocols and approaches are still in development with DPS counterparts; activities will include quarterly reports on postpartum checkup and will to be integrated into other MNC programs.
- Radio spots, debates, and vignettes were developed and aired on a variety of reproductive health issues, including the benefits of early prenatal care and early post-partum visits for those delivering outside of health facilities. These radio programs have been aired frequently throughout both provinces in Portuguese and local dialects.
- A poster and related pamphlet focusing on danger signs in pregnancy and birth was designed, tested, reproduced and widely distributed to health facilities, CLCs, and other community members in the project area. The national MOH's Health Education and Reproductive Health Divisions, with the WHO, have adapted these materials for national distribution.
- The expanded approach to working with CLCs and religious leaders has included the incorporation of key birth practices messages into trainings. See the Cross-Cutting Approaches section below for more on HAI's community mobilization approach.
- Multiple videos have been produced on a variety of key health messages, including appropriate birth practices. The videos will be shown to women waiting for ANC services where electricity and video equipment is available.
- Training CLCs and religious leaders has included messages on the development of emergency transport plans. However, no data are available on progress made in the development of these plans.
- HAI and counterpart MOH staff have identified mechanisms for providing early post-partum care for women delivering outside of health facilities. However, at present no reporting system has been developed to track advancements in this area.

MNC Objective # 2: Increase health facilities' implementation of syphilis testing and treatment in antenatal care.

a) 50% of partners of antenatal women testing positive for syphilis will be tested and treated if necessary.

According to routine program management data, this target has been successfully achieved. In the first six months of 2005, 61% of partners were treated in Sofala, and 58% in Manica.

b) 80% of women in antenatal care at facilities without laboratory access will be tested by the rapid strip test (RT) for syphilis (DPS antenatal clinic information system).

By the end of the first semester, 2005, 88% of women in Sofala and 96% in Manica seeking ANC at facilities without laboratory services were tested using the RT. All women were not tested due to stock outages of tests and outreach ANC visits, where the RT has not been approved for use by the MOH. The expansion of testing to sites without laboratories has reached 132 health facilities which previously did not provide syphilis screening, thereby testing an additional 40% of women seeking ANC in both provinces.

The cost per RT is currently between \$0.35-0.55, while RPR is approximately \$0.15 each. However, after modeling additional health systems costs, including testing materials and staff time, the cost per person tested is only 15% (or \$.013) higher for the RT. There is consensus among health personnel and HAI staff that the RT initiative is feasible and preferable to using the RPR, and advantages including safety, simplicity, immediate results, higher proportion of positive women treated, and better sensitivity and specificity outweigh the slight cost differences.⁷ In addition, those interviewed about the program agreed that the initiative should be expanded nationally as both a means of increasing access to a key service, as well as ensuring equity in service delivery by expanding to more rural, underserved areas. National MOH managers are planning for the eventual expansion of the RT nationwide. See **Attachment F** for a list of presentations and publications on the RT initiative.

Major activities:

All planned activities were accomplished, including:

- A needs assessment to define training, material, and other needs at health facilities prior to introduction of the RT.
- Simple notebook registers and data collection/reporting systems were set up to collect information about rapid testing, ANC visits, and partner notification. These registries were integrated with existing data collection systems already in place.
- Health worker trainings were carried out across both provinces, covering over 250 health workers, to provide practical information on the use of the RT.
- RT reagents and testing materials (including lancets, gloves, and capillary tubes) were purchased, logistic systems designed, and materials distributed to all health facilities. Drug and syringe stocks were monitored to ensure adequate supplies of penicillin given the increased demand due to the screening program.
- Intensive supervision was regularly carried out to ensure proper adherence to testing and treatment protocols.

⁷ Montoya, P. Breitlinger, P Lukehart, S, Blanco, A.J. Sairosse, J. Floriano, F. Gloyd, S. Desempenho do Teste Imunocromatográfico rápido e o teste da reagina plasmática rápida para o despiste da sífilis na gravidez em Moçambique Presentation at the 12th Jornadas de saúde, Maputo, June 13-16, 2005.

MNC Objective #3: Assure the availability of services for prevention of mother-to-child transmission of HIV in antenatal care.

At least 5 maternal care clinics in each province will have pMTCT services.

As noted in AIDS Objective 1, above, a total of 19 pMTCT centers are currently in place, with plans for an additional 13 by the end of 2005. All sites provide pre-test counseling, testing services, and follow-up services at both health facilities and PLWHA support groups (including pMTCT-specific support groups). Furthermore, both mothers and their families are referred to HIV care and treatment facilities where available. Further details on results to date are described in AIDS Objective 1.

Major Activities:

In addition to the major activities described in AIDS Objective 1, the following activities have been carried out related to this objective:

- Establishment of Positive Mothers Support Groups at each pMTCT site, which provide follow-up counseling on a range of topics, including appropriate breast care, breastfeeding options, nutrition, and treatment adherence.
- Provision of bednets to HIV-infected pregnant mothers.

MNC Objective #4: Create, with the national MOH, unified prenatal care norms that include pMTCT, IPT, and syphilis screening.

a) One MOH revised manual for prenatal care, and

b) One revised prenatal card accepted for national use.

Integration of ANC activities has been a priority for field staff, as well as MOH and the WHO in Maputo. A draft revised prenatal card and manual have been adapted based on the practical experience in Manica and Sofala, and initiatives from other countries, and it is hoped that the

Major Activities:

- A consultancy was funded by HAI to work with MOH program heads and policymakers to develop new norms, guidelines, information systems and other tools for integrating ANC activities. The consultancy resulted in a draft ANC card and manual.
- Plans have been developed to pilot test the new materials, after which adaptations will be made and it is hoped that new ANC norms will be approved and disseminated for national use.

1.2.4 Institutional/Human Resource Strengthening

HR Objective # 1: A plan for wide dissemination of HAI's CS lessons learned will be developed and implemented.

Evidence of dissemination plan and implementation.

HAI headquarters staff developed a dissemination plan as part of its 2003 institutional strengths assessment (ISA) workshop. A number of opportunities were identified for disseminating best practices and lessons learned, including headquarters-led activities (publications in peer-reviewed journals, development of case studies, presentations at meetings and conferences, and Seattle-based community presentations), and Mozambique-led activities (including presentations at the bi-annual medical

conference called *Jornadas de Saúde*, and other appropriate national and regional venues). HAI headquarters and field staff have been active in presenting project results in Seattle and at a number of appropriate conferences (including CORE-group semi-annual meetings, APHA, the International AIDS Conference, 25 presentations at the bi-annual *Jornadas de Saúde*, and others). Results of one component of the syphilis screening program were published in the Bulletin of the WHO, and a case-study of HAI's HIV/TB work was presented. See **Attachment F** for a list of studies and conference abstracts.

HR Objective #2: At least one additional HAI headquarters technical staff member will be competent in managing and evaluating a CS child survival program.

Information regarding the additional HAI headquarters technical staff member.

The CS project benefited from two new additional headquarters technical staff members. A Director of Mozambique Operations position was created in 2004 to support Mozambique-specific activities across all programs, and filled with James Pfeiffer, PhD, MPH, who brings substantial Mozambique experience from over four years of leading HAI's activities in Mozambique. The Director of Mozambique Operations has visited Mozambique three times since his hiring in 2004, attended a CORE annual meeting (and continues to participate in the HIV/AIDS working group), and provides continual support specific to Mozambique.

In addition to the Director of Mozambique Operations, a Malaria Technical Advisor was hired in 2002 to provide technical support for the malaria program. Paula Brentlinger, MD, MPH has been oriented to the CS program, was involved in the preparation of the DIP, attended a CORE-group meeting, and continues to provide substantial assistance in developing manuscripts for publication in order to disseminate best-practices in HAI's malaria work.

HR Objective #3: At least 10 Mozambican HAI or counterpart staff will be skilled in participatory training methods.

Evidence of successfully conducted 5-day participatory training of trainers for HAI field and counterpart staff.

To date the training of trainers in participatory methods has not been conducted. A formal training is planned for the first quarter of 2006.

HR Objective # 4: At least 5 Mozambican HAI or counterpart staff will be able to design, conduct and report on an operations research project related to their area of expertise.

5 presentations at bi-annual *Jornadas de Saúde* by Mozambican first authors and/or completed reports of operations research projects.

A four-week, two-phase training was carried out in 2002 and 2003 for 25 MOH provincial health managers. The training involved basic research principles, development of research protocols in malaria, implementation of the research studies, and analysis and presentation of the results. All five research projects were presented at the bi-annual national medical conference (*Jornadas de Saúde*) by Mozambican first authors.

1.3 New Tools or Approaches and Operations Research

- As a result of the CS project's involvement in several key aspects of antenatal care, the value of integrating services and supervision has become increasingly clear. HAI has played a key role in developing pilot integrated supervision guidelines and implementing integrated supervision visits with the DPSs in target provinces. HAI has also been successful in helping draft and promote a new pilot integrated antenatal card. It is anticipated that it will be adopted as a national norm by the MoH. This integration of services will improve access to cost-effective interventions in antenatal care and promote local problem solving in contrast to the vertical orientation of the previous NHS programs.
- HAI has been instrumental in promoting TB/HIV program integration through HIV testing and counseling for TB patients at TB program sites, provision of CTX immediately to those found to be HIV+, and referral of HIV+ TB patients to HIV treatment centers. HAI is also promoting new measures to improve detection of TB cases in HIV clinics.
- In order to broaden access to HAART, HAI is currently playing a key role in promoting decentralization of treatment services in its target provinces, with an emphasis on integrating HIV/AIDS treatment into routine services in a manner that will help improve primary health care.
- HAI has recently helped construct and open an NHS Operations Research Center in Beira that will be the focal point for a range of operations research and program evaluation initiatives in the years to come that include the following:
 - Evaluation of patient flow in day hospitals, identification of key bottlenecks, and development of recommendations to improve efficiency;
 - Evaluation of the effectiveness of CD4 testing in PMTCT sites to speed the identification and referral of ART eligible patients to treatment centers;
 - Identification of bottlenecks in the flow of patients among the components of the IHN, and development of recommended solutions.
- HAI has conducted a number of operations research projects during the first half of the project period ranging from studies on IPT, malaria, drug resistance, bednet utilization, HIV testing and counseling, and syphilis rapid tests to antenatal care integration and IEC assessment. The results of these studies have either been presented at the Mozambique 2005 *Jornadas de Saúde* conference, submitted for publication in research journals, or disseminated in other venues. These projects are listed in **Attachment F**, "Special Reports".

2. Cross-Cutting Approaches

2.1 Community Mobilization

CLCs: During the extension phase, community mobilization has continued through Community Leaders Councils (CLCs), PAC, mini-PAC, and religious groups. CLCs function with the support and supervision of the community health heads at the DDS, nurses/health assistants placed at the local health facilities, and HAI program

assistants. In Manica, 72 CLCs have been created for each of the 72 existing health facilities; they tend to be strongest in the Corridor districts. In Sofala, CLCs have been formed in Beira, Dondo, Gorongosa and in some areas of the Nhamatanda district. In addition to providing routine communication between health facilities and local communities, CLCs have been enlisted to support promotion activities in several distinct areas of the HAI project. These include: Local obstetric emergency plans, local AIDS plans, bednet distribution and education, malaria IEC, IMCI more generally, and HIV/AIDS education.

Most activities in which community leaders have been involved are described analytically in the sections above. However, CLCs are included in nearly all the MOH initiatives whenever community participation is due; vaccination campaigns, cholera outbreaks, pit latrine promotion, and so on. Interaction between community members and the health system occurs through educational activities using participatory methodologies that include meetings where local health conditions are discussed, distribution of pamphlets and other materials, and local priority setting. CLCs have an important role in improving reciprocal comprehension and trust between the health sectors and the communities. Also noteworthy, most of the community leaders met during the present evaluation were women.

Religious groups: Since 2004, religious leaders have been increasingly involved in the educational and information activities about HIV/AIDS (especially HBC, social support, and prevention), malaria, and sanitation in the districts of Beira and Chimoio. Lack of funds is currently hindering expansion of CLC and religious leader involvement in other areas and districts.

PACs: PAC and mini-PACs are present and active in many districts through dozens of performances that have focused on malaria, bednets, HIV/AIDS, family planning, and maternal and postnatal care. Their development and activities are described in the previous sections.

2.2 Communication for Behavior Change

Behavior change is promoted through different and complementary activities: CLC, activists, PAC and mini-PAC; involvement of community based churches; educational work within the health facilities, collaboration with other local civil society groupings, and IEC materials including radio messages.

Effectiveness: Modest indicators of behavior change (available now) that measure behaviors related to malaria, bednets, IMCI and other programs described above suggest that HAI's strategies have been appropriate given the significant barriers faced in such a resource poor setting. More easily measurable success at this stage of the project has been achieved in bednet utilization, increases in HIV testing, and prenatal care utilization. The only mass media communication tool is radio that transmits in Portuguese and local languages. Many studies show that radio is widely accessible. Community organizations and theater groups are rather effective in the districts where community leaders keep contacts with the health system, and where groups such as PACs and mini-PACs have been created (some urban areas and some of the most populated districts).

The program has attempted to surmount the many barriers to behavior change in a variety of ways. The project has been attempting to promote more community involvement in order to ensure that people receive and understand the correct messages. More attention is being directed toward listening and dialoging with people in group meetings and project settings. Support to special groups, such as positive mother groups, PLWHA organizations, religious groups and CLCs has helped communities identify barriers to change and communicate these findings to the Health System and HAI. HAI managers are now contemplating a more gender-specific message strategy around AIDS prevention, i.e. to help women be able to deny non-protected sex through specific girl days and so on.

Technical adequacy of messages: CLC, PAC, and media messages have been developed with the MOH or DPSs using standard UNICEF and WHO approaches. PAC plays have used pre and pos-test surveys to modify and approve their approaches and messages. HAI and DPS staff regularly assess and approve PAC and media messages and IEC materials before dissemination, ensuring appropriateness. CLCs and PAC presentations are especially effective at teaching skills, negotiating change and influencing behavioral norms since they engage communities in dialogue about health problems and use discussion formats. CLCs use leaders as behavior change agents who influence communities as role models and trusted exemplars.

There has been some community misunderstanding about functioning of AIDS related services. This issue has been identified as a potentially important cause for HIV-infected tested individuals defaulting in referring themselves to the Day Hospitals. Hence, VCT, pMTCT, YFHC counselors have been better informed about AIDS related services organization and functioning in order to improve communication with patients. Similar messages about service availability have been spread among the population through PAC, mini-PAC and CLCs. New messages emphasize that everybody needs to know her/his HIV status. Finally, a new operations research study is under way in the Day Hospitals to better understand user “wrong ideas”, which associate Day Hospitals with stigmatization and payment requirements.

Measurement: Measurement of behavior change is conducted through a variety of techniques and obtained from a number of sources for each program area. Health systems data are used to measure changes in service utilization in areas such as HIV testing, prenatal care utilization, institutional deliveries, or partner STI testing. The project-specific behavior change measures are primarily derived from community surveys conducted at the beginning and end of the project. Most indicators will be measured in the 2007 survey as indicated above.

HIV/AIDS behavior change is measured indirectly through changes in HIV prevalence (HIV prevalence records in surveillance sites, VCTs, pMTCTs, tuberculosis patients). Their evolution over time is the most valuable indicator that sexual behavior has evolved in the desired direction. Specific surveys (e.g. about sexual behavior in HIV+ individuals on HAART offer important clues. A number of surveys and nearly all respondents interviewed during the present evaluation agreed that there has been substantial knowledge increase about AIDS risks and prevention means. However, sexual behavioral change is much more difficult to monitor and evaluate, and there is no evidence to show any significant improvement in the target areas. Condom use is still very low. HIV prevalence figures are increasing, and,

worryingly, they are apparently increasing among younger age groups. Messages and strategies directed toward reduction in HIV transmission need to be re-examined and perhaps redeveloped to become more effective.

Behavior change data use: HAI program managers and assistants (particularly those involved in health community activities) and their institutional counterparts use the data on behavior change activities regularly to calibrate their strategies and develop annual plans. Community utilization of data is difficult to determine, because there are so many communities and forms of interaction between local populations and CLCs, PACs, VCTs, supervisors, and health facility workers. The program is designed so that in normal circumstances data and study findings can be shared with communities through CLCs, religious groups, PACs, and local NGOs for discussion and action.

We found during our evaluation a gap between HIV/AIDS knowledge on the one hand and sex behavioral change, rejection of promiscuity, concern for the young generations, and a pragmatic approach to the condom use in the religious groups, on the other. More data need to be shared with communities on these crucial issues.

Innovative approaches: CLCs, PACs, and mini-PACS are to a large extent HAI's creation, as is the rather original involvement of grassroots religious organizations for promoting health in Mozambique. Their role in linking communities and health facilities may have produced interesting results in promoting trust in Western medicine. Prompt action during cholera epidemics and high anti-polio coverage during the mass campaign are also some exemplary results.

2.3 Capacity Building Approach

Capacity building activities refer to HAI, the MOH (health workers and health facilities), community and religious leaders, and local partner NGOs. Activities include training, joint planning, and follow-up support.

Strengthening the PVO Organization

A second ISA was conducted at headquarters with field input uncovered organizational strengths and weaknesses, resulting in the establishment of specific goals and strategies to reinforce HAI's capacities. Since the ISA, steps have been taken to increase these capacities, including expansion of both technical and administrative staff at headquarters and in the field who have capably managed an expanding health program with multiple, complex inputs. Additional recommendations from the ISA that have been put into practice are the need to increase dissemination of best practices and lessons learned, which has been carried out via national and international presentations at major public health conferences and the development of specific reports for publication in peer-reviewed journals.

HAI's field staff of mostly Mozambicans has strong health experience. Technical upgrading of staff skills has been carried out via seminar participation, formal on-the-job training, and frequent meetings both internally and with DPS counterparts. Special initiatives to increase technical skills have been carried out in operations research, including the practical design and application of research projects, data

entry, data analysis, and presentation of results. Over 20 senior technical staff and their counterparts presented 24 research projects at the bi-annual Jornadas de Saúde national medical conference, after presenting the projects to widely attended provincial audiences. It is expected that these initiatives assist in promoting skills to use data for program management and evidence-based policy making.

Strengthening Local Partner Organizations

With the increased AIDS funding, HAI has expanded existing partnerships (PAC, OMES) and entered into partnerships with new local NGOs (Kubatsirana, Kubatana, Care for Life) at much higher levels of funding than before. As part of this funding, HAI administrative staff carried out an adapted ISA to identify strengths and challenges of local NGO partners, and define a plan for addressing these challenges. As a result of this plan, the increased funding, and frequent coordination and monitoring (technical, managerial and financial), HAI's local partner organizations have successfully absorbed the increased resources and expanded the reach and quality of their community-based activities.

Health Facilities Strengthening

HAI endeavors to work within the health system to bring about long-term, effective, appropriate and sustainable changes. HAI's dual approach of working to build health system capacity and increase demand for its use is consistently applied. HAI works closely with DPS staff in promoting joint planning, supervision, training, supervision, and monitoring and evaluation using national approved systems.

Using matching funds, HAI has invested substantial funds to rehabilitate and equip spaces for new AIDS-related interventions, and has provided logistic support in acquiring medical supplies (such as syringes, gloves, lab reagents) and transporting these materials to peripheral health facilities. At present the MOH has taken more responsibility for the procurement and transport of supplies for these new services, while HAI reserves a contingency fund for stock outages.

HAI has been particularly keen to promote linkages between health facilities and communities since the beginning of the program. CLCs have been trained in specific technical areas (such as malaria, obstetric emergencies, HIV/AIDS, etc). The key to success with these community activities continues to be with district and health facility staff willingness and aptitude to develop this program. HAI staff, therefore, works closely to train and supervise these health workers to build their technical capacity and motivation for this community component.

Strengthening Health Worker Performance

Reinforcing health workers is carried out primarily through staff training and post training supervision visits. Supervision guides, including the new integrated ANC supervision manual, are used during these visits to instruct the on-the-job training and ensure appropriate use of data at the local level for service improvement. In addition, these supervision visits are carried out with DDS and DPS supervisors to build their capacity for continued supervision. Furthermore, DPS/DDS managers and health facility staff have confidence in HAI's technical staff because of their experience and

low turnover rates, resulting in efficient and ongoing strengthening of health worker performance. It is expected that the regional operations research center in Beira will serve as a mechanism for further improving data analysis and application capacities to complement on-the-job trainings.

Training

HAI staff and MOH counterparts are clearly adept at training both health workers and community members (such as CLCs, religious leaders, shopkeepers, HBC volunteers, VCT counselors, etc), evidenced in the rapid and widespread expansion of new AIDS, malaria and MNC interventions. Much of this success is attributable to each program manager being responsible for training in their sector, manages a specific training plan, and controls a budget for these trainings. Continual post-training supervision is emphasized to ensure retention and proper application of training messages.

2.4 Sustainability Strategy

HAI seeks to promote sustainability of all its activities by working within the existing NHS. The Child Survival project seeks to both 1) strengthen valuable existing health service programs and 2) introduce innovative and appropriate new approaches to health challenges in Mozambique. Program sustainability can be achieved when these new approaches become routinized with the health system and when national health policy is changed to include these strategies. The team found that HAI has been very successful in both areas over the first period of the current project, and is on track to achieve sustainability for most of its other programs by 2007.

MNC and Antenatal care activities (malaria IPT, syphilis screening, iron utilization): The team confirmed that initial objectives have been achieved in a sustainable way. Other new objectives, identified as priorities during the implementation of activities including pMTCT integration within the ANC and CD4 count within the pMTCT, are going to be achieved by 2007 or before. Provision of IPT during pregnancy as a health system norm has also been fully achieved, as discussed above, and IPT is now being rolled out as national policy as a result of HAI promotion. The ITN program has shown shortcomings related to economic barriers, difficulties reaching priority groups, and poor re-treatment results. Important strategy changes are underway, and the anticipated arrival of large numbers of long-lasting *Olyset* nets in 2006 mean that previous distribution and retreatment modalities will be outdated. The program has been successful in raising widespread demand for malaria prevention tools (nets) and in promoting proper use. However, the new integrated supervision program promoted by HAI and the new integrated prenatal card soon to be approved by the MOH will help further institutionalize and sustain an integrated approach to prenatal care. The IMCI strategy on a national level has been struggling primarily because of its vertical programmatic orientation that has led to management challenges. HAI's involvement with IMCI at the provincial level has been most successful in local contexts where support is provided through on-the-job training. HAI's continued involvement will be framed by national decisions and progress on the IMCI initiative.

The development of national norms and targets for innovations may be considered substantially achieved, notwithstanding some hindrance and delay at the MOH level. Hence *activities designed to become routine have actually become routines*. HAI has been keen to gain the support of the MOH national and provincial level. It may be said that, in that way, HAI contribution *entered in the DNA of the system*, which set the new norms and compromised itself for the predictable future to acquire the needed drugs, reagents, and to distribute and use them in all prenatal and HIV/AIDS related services which have been shaped in the desired way. Operations research and the practical use of its results has been the key of this outcome.

HIV/AIDS: The project has been successful in producing routines, protocols and indicators that have had an impact at the national level, strongly influencing MOH strategy, and benefiting an increasing number of PLWHA. HAI's activities in both prevention and treatment are embedded within the national AIDS plan and are conducted within the health system. Their sustainability is therefore more likely since most services and activities have become routinized. HAI clinical advisors do not actually conduct clinical work in Day Hospitals, but rather offer technical advice and support for Day Hospital functioning. Mozambican Health System physicians, physician assistants, and nurses provide clinical care thus ensuring future sustainability. However, the complexity of scaling up HAART and its associated services means that external technical assistance will be required for some years to come. Also, HAI funds the AIDS activists that support patients in the integrated network. A sustainability strategy for this component of the program is still being developed.

IEC and community mobilization strategies, as described above, are conducted together with health system workers and form part of the local DPS strategies. CLCs, radio messages, and PAC performances are conducted with DPS support, but normally require external funding from HAI or other agencies. The CLC approach has been institutionalized and routinized in the two provincial health systems, but their individual sustainability often rests on the quality of local community leadership.

Scaling up: The HIV/AIDS treatment scale-up raises some concerns for overall system sustainability. PMTCT has expanded very quickly, well above the strategic plan target (currently 27 pMTCT are functioning; the target was 5 in every province by 2005). Day Hospital expansion (9, possibly 13, at the end of the year) far outnumbers initial targets (four Day Hospitals by 2005). This expansion has the potential to strain resources in a way that impacts other health care services. New available staff may be pulled to work in the AIDS-related services to the detriment of the overall system. Expansion has to be considered at the light of the system sustainability.

The IHNs are integrated only within their internal components (pMTCT, VCT, YFHCS, Day Hospital); their links with the general health system have not been well developed yet. HIV/AIDS network scaling up has often occurred independently of the rest of the system. Lack of integration between the "general" system and the AIDS/HIV IHNs also can delay patients' arrival at the Day Hospitals. Fortunately, pre-existing distortions are slowly being corrected, and integration has begun. HAI has been playing a key role in promoting further integration and ameliorating the effects of rapid scale-up.

Sustainability and community health. Many previous experiences in Mozambique with APEs (basic health agents), traditional birth attendants (TBAs) and other community cadres have shown that without strong inputs and financial availability for supervision, equipment and/or drugs, these community health agents do not act properly and/or tend to leave. To implement health action through voluntarism among people slanted by strict survival rules without a strong support by the health system seems to be, therefore, rather unsustainable.

Progress on monitoring indicators: Most HAI monitoring data are derived from the health service's system. In this way, HAI regularly contributes to the sustained improvement of the health information system and data collection. Some additional data on project specific indicators is gathered by HAI separately. The quality of collected data is fair and output is monitored monthly. HAI program heads generate monthly reports with data for key indicators; these reports are reviewed collectively in Mozambique and sent to Seattle headquarters for further analysis. Currently, a new data-base is being elaborated to replace the spreadsheet system previously used to analyze information. See also "information management" section.

Groundwork for the phase-out strategy: MNC components, malaria, and HIV/AIDS activities are now managed completely by national staff within the NHS, with HAI technical assistance. Therefore the phase-out strategy has been successfully established with project staff and local partners in the first two years of the project.

Approaches to build financial sustainability: Since HAI conducts its activities within the NHS, financial sustainability is more likely if activities become routinized in health systems, embedded within DPS annual plans, and supported by national policy. For the great majority of HAI activities, future financing will therefore come from the health system. The question of NHS viability to sustain itself is a larger question. Structural dependency on external aid has increased because of international concern about the worsening AIDS epidemics (and, to a lesser extent, malaria, tuberculosis, maternal mortality and other reproductive health issues). Cost recovery for ITNs was not especially successful and led to inequitable distribution. The arrival of large numbers of free nets will support longer term sustainability. Support for community partners in HBC activities and other community activities still requires development of sustainable financing probably through other donors and partners.

Beneficiary community concerns about sustaining project services: Community organization support after the project ending may not be guaranteed by the DPS, because it lacks of sufficient funds. Also beneficiary communities, whose members mostly live under the poverty line do not have sufficient resources to pay for activity implementation and cost recovery schemes for health programs do not have a record of success in Mozambique. Therefore, in the resource-poor setting of Mozambique, the question will not be easily answered in the near future. HAI's strategy to date has been to enlist other agencies and donors as alternatives to HAI for support of community initiatives. HAI has helped many of its community partners, including PAC, CLCs, and local NGOs, learn how to seek funding from other agencies thereby broadening their potential bases of support.

Formal Sustainability methodology (CSSA): HAI did not use the formal CSSA design methodology in developing its DIP. HAI's own approach to ensuring

sustainability of its activities centers on its strategy of supporting programs within the national health system. The approach systematically design strategies to routinize innovative programs in its local settings and promote policy change at a national level based on on-the-ground success in the provinces. The strategy has evolved somewhat in that last two years as HAI has recognized that its personnel must become even more active and visible at the national level in promoting policy changes. Monitoring and evaluation plans have been in part designed around showing critical results that can influence national policy makers. M&E strategies have evolved along with sustainability efforts to become more effective at promoting lasting systemic change.

3. Family Planning

Family planning (FP) is not an activity directly supported by the project; however, the general appreciable ANC improvement has increased access to FP, which is an activity managed within the MCH sector. FP activities are systematically reviewed during integrated supervision. Within the MCH services, relevant information about FP is given to the women by the MCH nurses. According to the 2004 DHS results, the quality, recording and figures of FP in Manica and Sofala have substantially increased since 1997.

C. Program Management

1. Planning

Program managers, assistants, and DPS counterparts participate directly in HAI's program planning. PVO partners are consulted and involved where appropriate in the planning process. Communities are represented indirectly by community assistants to the programs. Workplans are submitted in a timely way, after complete review by the interested parties and the program's objectives appear to be well-understood by headquarters managers, partners, and fieldworkers. CLCs and other grassroots organizations are engaged in explaining program objectives to the communities (see **Annex II**).

Copies of the program's objectives and monitoring/evaluation plan are routinely distributed to the program managers, the MOH, and DPS counterparts. Program assistants receive copies of the parts that are relevant and specific to their area of activity. Health staff within the health facilities know the supervision guideline items used for their supervision areas. Program monitoring data are the main source of information used for planning and/or revising program implementation. Review of monitoring data is a key stage in the annual planning process.

2. Staff Training

Staff are evaluated annually and results are used to review training objectives and contents. Training information is used in the work and activities assessment. Supervision and activity reports are analyzed by the program managers and coordinators. Critical points are discussed with the program assistants and other staff. According to the assigned tasks and the actual performance, on-the-job-training is focused on identified knowledge gaps. On-the-job training for the personnel hired to

work in the Day Hospitals is conducted by the clinical advisors. Important topics of more general interest are treated in meetings and workshops.

Trainee performance is monitored through analysis of reports and direct observation of the worker performance. Further supervisions and follow up are focused on the detected gaps. Joint discussion for resolving practical problems is another technique used both to increase managerial skills and to monitor staff capacity; program managers and assistants are called to propose new solutions, fresh ideas, and to define how to measure the changes, through open debates.

Program training has been a constant concern and it has been translated into different activities. The program managers guarantee that the technical staff are competent and updated on the program component they are responsible for. In fact, all program assistants and program managers have been trained in their specific area of competence at least once through formal training courses that follow the MOH norms (e.g. malaria treatment, counseling and testing for HIV, etc.). Other nontechnical cadres have been sporadically trained in specific areas to improve their performance, such as management, computing, logistics and English. Trained HAI professionals train MOH staff, strengthening their own competence in the teaching process.

3. Supervision of Program Staff

Most of the program activities are increasingly comprised of supervision, information analysis, and operations research. Systemic, integrated supervision has proven to be very effective. Periodic evaluations show improvement of supervisory performance. First, supervision visits identify priorities, and establish objective for the following visits. Meanwhile, supervisory skills and self confidence are enhanced, trust grows between supervisor and health professionals, and supervisors learn how to integrate information to identify shortcomings and define the level (health facility, DDS, DPS) in the health system to provide a solution.

Program managers and coordinators frequently, but not systemically, supervise the technical activities. However, reports, statistics and supervision results are routinely reviewed. Communication between the provinces and to the headquarters is continuous, through E-mail, monthly reports, weekly conference calls with the field director, and routine visits to the field. It may be fairly concluded that managers with supervisory duties are skillful and sufficient in number to successfully perform their tasks, and to respond to the program's managerial needs.

4. Human Resources and Staff Management

Technical staff directly contracted by the program grew to a total of 109 by September 2005; 110 more health professionals have been contracted on behalf of the NHS, mainly HIV/AIDS related services, and are waiting to be formally absorbed into the civil service. The program is under the responsibility of the Director of Mozambique Operations based in Seattle, who works under the Executive Director and with support from a number of Technical Advisors with experience working at the field level in Mozambique. Activities in Manica and Sofala are coordinated under a Field Director, who is supported by two Provincial Coordinators who are responsible for coordination of activities in their respective provinces. Three Program Managers are responsible for

planning and monitoring their sector activities, and are supported by 11 program assistants who do much of the fieldwork. In addition, AIDS care and treatment activities in the Day Hospitals include two MD Clinical Advisors, as well as a number of Social Workers and Data Managers. Administrative personnel work under a National Administrator who reports to the Field Director.

Program managers plan activities by involving all appropriate MOH counterparts. Program assistants are also involved in planning. Provincial coordinators do the global plan reviewing and activity coordination; they also plan and promote activities in their specific areas of competence. Every manager and coordinator is responsible for budgeting the plan in her/his area. The Resident Director is responsible for coordinating activities between the two provinces, and the MOH and donors in Maputo. The Director is responsible for communicating and coordinating program plans with the Seattle headquarters.

All the technical staff in Mozambique interact with Seattle, following hierarchical lines, for writing new proposals, criticizing current approaches, and bringing new ideas into program planning. The Seattle headquarters broadly defines the programs, monitors and supervises activities, and evaluates program plans and output in light of the public health reports from other international settings.

Key personnel policies and procedures are generally in place. A manual of policy and procedures for human resources and a manual for other administrative issues are currently used. The manuals were written in Seattle and reviewed in Mozambique, to ensure conformity with local in-country regulations. In particular, the human resource manual has been conceived according to the Mozambican human resources policy with regard to the personnel management. All the posts have job descriptions. There is a Committee of policy and procedures in Seattle and a parallel one in Mozambique; the Committees are constituted by elements representing each personnel category: support staff, program assistants, administrators, etc.. The Mozambican Committee periodically reviews the norms and occasionally sends new proposals to the Seattle Committee that then examines and responds to the proposals. Topics discussed by the two Committees include: policy of staff education, salary policy, health allowances, and others.

Morale, motivation, and cohesion of the workforce may be described as high. Some concerns over salaries have not had any negative impact so far (but should be assessed in future). The issue has been recently discussed openly and presented to the Seattle headquarters. HAI usually hires its employee for a 3-12 months period and afterwards an indefinite contract period is normally offered. In 2004 just one worker left after her first term contract expired. No other worker left HAI in 2004, nor in 2005. Therefore, staff turnover has been extremely low.

HAI follows Mozambican labor legislation and an indemnity is paid when a program component expires and the staff members leave. The organization often re-employs these workers as soon as new vacancies are available and they are consistent with the workers CVs. Health staff experience with HAI is valuable in securing other paying positions, particularly in the burgeoning NGO market. Most HAI technical staff are on unpaid leave from the MOH and may return to the civil service after leaving HAI. The skills they have learned will give them good qualifications for top positions in the MOH.

5. Financial Management

The global HAI budget has grown a great deal since 2004 to almost US\$6M in 2005 through a number of projects and donors (now totaling 11). The most significant grants in 2005 came from PEPFAR (USAID \$1.96M), the World Bank's Treatment Acceleration Program (TAP, \$1.239M), Clinton Foundation, M \$0.439 and CDC/ASPH-UW \$0.314. A system was created that allowed more flexibility for managing successfully a much greater budget than the initial one. The administrative sector was strengthened with staff and additional computing resources and a complex and flexible "job code" system helps more accurately identify and sort expenditures by grant. All donors' grants except TAP and a National AIDS Council (CNCS) grant flow to one bank account in Seattle. TAP and CNCS transfer funds to separate accounts to Beira as required by each grants' terms. Every program manager develops her annual plan together with the Resident Director based on specific objectives. Each program manager normally uses funds from 2 or more different grants creating an intersecting system of grants and program areas. The financial reporting system allows easy tracking of expenses to fund sources for every activity, with no room for overlap. In fact, clean external audits for more than ten years confirm good and accountable financial management. Activities have generally spent their funds on the timelines established in their workplans. In fact, 91% of the available budget adjusted for the elapsed time was spent by July 2005.

6. Logistics

The strong functioning of HAI's logistics component has been a key factor in the program's success. Procurement, internal purchase, importation, distribution, use and maintenance of equipment, vehicles, consumables and drugs have occurred without major hindrances. Norms and procedures issued by the funding agencies and by the counterpart (MOH) have been consistently accomplished. The challenges presented by such a resource-poor environment make the logistical achievements of the project even more notable. The eventual phasing out of HAI activities implies that the MOH must entirely guarantee the viability of the procurement and distribution system related to drugs, equipment, reagents, and basic equipment maintenance.

7. Information Management

Monitoring and evaluation indicators are collected for all the CS program areas. Most indicators were defined in 2002 CS DIP and are incorporated into annual program plans. Others were added to monitor the HAART scale-up. Most indicators are also routinely used by the National Health Information System (HIS). About 20% of measures are "project indicators", that is, indicators that respond to the donors' requirements. They are collected monthly with MOH staff. Some of the indicators established in 2002, have been subsequently adopted by the MOH Health Information System (HIS). Operations research also has been useful to monitor program progress towards objectives and to redefine strategies. A new data-base is currently being created for each program component to allow for easy data collection, analysis, and monitoring. A total of 97 indicators are routinely collected; 35 indicators refer to VCT, 24 to pMTCTs, 17 to HIV/AIDS treatment, 8 to MCH, 7 to malaria, and 6 to HBC. According to respondents, the system proved to be effective. Data are consistent and very detailed.

They have been used continuously for discussing progress and making decisions about health policy and strategy modifications.

Program coordinators, managers, assistants, health workers, MOH-HIS staff, and informatics specialists hired by HAI are involved in data collection and analysis. Data are collected routinely by the integrated supervision visits, and on a daily basis by the HIS and HAI recording systems within the health facilities at the points of service delivery. Activity and process indicators are mainly reported monthly while outcome indicators are reported at more extended time intervals. Finally, a number of indicators are used for operation research that HAI is implementing on behalf of the NHS. HAI has conscientiously avoided creating a parallel data collection system that would increase workload and confusion within the health system.

The HAI and MOH information systems generate mainly quantitative data (as absolute numbers and as percentages). Mutually exclusive answers (yes/no) are collected by the supervision guides. Qualitative information is routinely collected by anthropological and sociological studies, and by program assistants engaged in health facility supervisions and community mobilization. Data monitoring is a continuous process. Scheduled grant reports are done monthly, quarterly, bi-quarterly and yearly. Meetings with counterparts at the provincial and national level are occasions for in-depth data analysis and discussion. All health policy and program strategy decisions have been taken based on data analysis.

8. Technical and Administrative Support

Technical Assistance Received to Date

Technical assistance from the Seattle headquarters has been provided by program staff (the Executive Director, the Director of Mozambique Operations, the malaria technical advisor, and the technical adviser in HAART and HIV/AIDS service scaling up). Other consultants have been contracted on an ad hoc basis. All the operations research protocols are discussed and all other field initiatives are discussed in Seattle for feedback and approval. The Executive Director and Director of Mozambique Operations normally visit the field 2-3 times per year to provide supervision and support. Seattle headquarters also provides support to the field through its administrative staff. The chief accounting officer provides frequent advice and support to accountants. The Seattle human resources specialist works regularly with field staff in all aspects of the hiring and contracting process. The Seattle headquarters grants manager works on a daily with field staff in analyzing expenditures by grant and providing grant-based guidelines for resource use. The Grants manager visits Mozambique once per year to support budget development, while the human resources administrator will visit Mozambique in early 2006 to help improve human resources field systems.

Technical assistance needs for the remaining life of the program:

- TA for the informatics area of system management will be very valuable to data collection and storage, and to overall project management.
- TA is also necessary from pediatricians for HIV+ child follow-up and for training of the health clinical staff who work with children in the clinical diagnosis and management of HIV+ children.

9. Mission Collaboration

The mission has been intimately involved in supporting and monitoring CS program activities. Special attention has been given to IMCI and HIV/AIDS interventions over the first years of the project extension. Numerous visits by Mission staff were made to the project field sites in the first years of the program extension. However, challenges created by recent expansion of AIDS funding and activities has made integration and monitoring of project activities far more complex. Continued and enhanced coordination of support to HAI's field projects is becoming even more important as HAI moves into the next two years of the project.

D. Other Issues Identified by the Team

We preferred to discuss "other" issues in boxes inserted within the document or as annexes which are related to specific sections.

E. Conclusions and Recommendations

GENERAL

The evaluation has shown that the HAI CS project accomplished its key objectives defined in the DIP; most of the project targets have either already been achieved or are on course to be achieved by 2007. Operations research has effectively focused on key gaps and constraints in programs, allowing for appropriate strategy modifications. New knowledge and skills have been continuously transmitted to Mozambican counterparts and to HAI staff. However, important challenges remain, especially around the scale-up of HIV/AIDS testing and treatment. In 2005, according to an estimate by the Ministry of Finance, only about 53% of the NHS budget was funded by internal sources, which may under-represent the amount of external aid provided to the MOH. The increasing AIDS burden will certainly increase health system external dependency in the years ahead. Expansion of new AIDS services, especially HAART, are raising healthcare costs more quickly than internal financial capacity. It will continue to be difficult for the MOH to manage and scale-up AIDS/HIV related services and keep quality standards high, primarily because it lacks sufficient managerial capacities

New large-scale funding for HIV/AIDS programs, rapid program expansion, increasing dependency of the Mozambique health sector on external aid, and the growing important role of HAI in operations research all suggest that a thorough revision of future HAI strategic objectives will be important for the last program extension period. HAI is currently expanding its overall range of activities, objectives, staff, and resources, rather than adopting a phase-out strategy. The CS program should continue with its planned activities until 2007, while re-strategizing around its role in addressing these new challenges to the Mozambican health sector. It is also highly recommended that USAID/GH/HIDN/NUT/CSHGP continue funding HAI activities after the expiration of the present grant in order to build upon HAI's momentum and progress in supporting the health sector during this critical period.

TECHNICAL ISSUES

STI/HIV/AIDS

The AIDS activities in the CS program have largely been successful. All the targets related to PTV, VCT, and Day Hospitals have been largely exceeded while HAART, PTV, and VCT utilization have been steadily increasing. On the other hand, major challenges remain in the scale-up of HIV/AIDS services including coverage, human resources, capacity building, quality improvement, and behavior change,

*** Recommendations for HAI**

1. High default rates among HIV+ women in the MTCTs, both for niverapine prophylaxis and CD4 count, has prompted HAI to adopt a variety of new strategies to move HIV+ women into treatment. Integration of MTCT within ANCs and making CD4 counts available within the PTV services should be continued in order to screen women faster for HAART. Continued emphasis on follow-up and referral is critically important at this stage.
2. HAI should help expand coverage of health system workers receiving OI training and integration into other services. Initial training in OI must be followed up by supervision and on-the-job training.
3. Integrated supervision should be continued and expanded, and include health facility pharmacies and lab area, in order to monitor quality standard of basic lab examination.
4. HBC performance should be enhanced through support for improved management of collaborating organizations and helping HBC activities link directly to Day Hospitals and health services generally. PLWHA associations should be involved in HBC together with religious grassroots organizations. Their solidarity approach must be fully exploited to support HAART adherence.
5. HIV/AIDS IEC should be better integrated with other broader IEC messages and campaigns and linked to larger scale outreach and mobilization of civil society.
6. The “Girls’ days” that HAI promotes may be effective but it might be useful to consider education strategies that focus on boys to emphasize respect and individual responsibility around sexual behavior. ‘
7. HAI should share its best practices and lessons learned from its HIV/AIDS programs with other PVOs and agencies in Mozambique in addition to its regular discussions with the MOH in Maputo.
8. While HAI has been very active in disseminating operations research findings nationally, some key MOH personnel were not always aware of HAI’s studies and surveys. HAI should explore additional means of disseminating reports and findings through even more face-to-face meetings, hand delivery of study hard copies, and follow-up with program heads to ensure receipt of materials.

9. Given the burgeoning patient populations and increasing demand for Day Hospital services, HAI should promote and conduct OR studies on improving patient flow and developing more efficient fluxograms.
10. Since human resource shortages present one of the greatest barriers to HIV/AIDS service scale-up, HAI should support significant operations research on the effectiveness of service integration on reducing the human resource burden. Integration should be further expanded and supported.
11. HAI should continue and expand its support to local training institutes and centers in Beira, Chimoio, and Nhamatanda by providing technical assistance, offering fieldwork opportunities for students, and employing students in operations research projects.
12. The program used nearly all available channels – mass media, community organizations, health facilities, meetings, theater pieces and so on, to transmit information, in agreement with national policy. An anthropological study on religious leaders has prompted the program managers to take into account religious communities and to adapt their messages about condom promotion. There is evidence that the message has arrived and people know about AIDS and its transmission modalities. However, sexual behavior has not changed a great deal. HAI should and investigate and consider new forms of engagement with communities to promote greater dialogue and mobilization on AIDS and behavior in a more comprehensive prevention strategy.

* **Recommendations for Collaborating Partners (MOH)**

1. A difficult balance still needs to be achieved between expanding AIDS programs and general service needs. Continued integration of services in the two provinces is essential and should help to produce this balance while helping to alleviate human resources constraints. System shortcomings created by a vertical “project” approach can be seen in the difference in treatment quality between the new Day Hospital and the Beira Central Hospital. Several key steps should be taken to enhance this critical integration process:
 - counseling, HIV and CD4 easily available to hospitalized patients;
 - a progressive integration of the information channels between AIDS and tuberculosis service;
 - improved communication between Day Hospital and inpatient wards;
 - a consistent salary policy that reduces disparities with the system between Day Hospital and Central Hospital workers.

The final objective should be a complete integration of the Day Hospital within the structure and organogram of the Beira Central Hospital. For the predictable future, HAI will still need to supply management skills, financial resources, technical support for data collecting and processing and operations research.

2. The MOH should help ensure a sufficient and reliable supply of materials for HBC activities consider institutionalizing NHS linkages to HBC organizations to support follow-up and HAART adherence.
3. Because of increasing demand and enormous need, Day Hospital capacity is being overwhelmed. Capacity needs to be increased quickly and effectively by the NHS; this will require both infrastructure development and human resources planning. Improved fluxograms are needed, while food and financial resources are increasingly necessary to support adherence.

* **Recommendations for USAID**

1. USAID should be prepared to supplement funds for additional community mobilization involving HBC, adherence support, PLWHA groups, and churches during this critical stage in AIDS treatment scale-up.
2. Additional funding for HIV/AIDS integration into the broader health system will be needed after 2007 and USAID should consider funding to continue this important process to ensure long term sustainability of current programs.

MALARIA

The project has had considerable success in meeting its planned objectives and in producing rich new information for development of malaria policy. IPT has now become a national policy an initiative for which HAI is providing scale-up advice. The projects experiences with ITN distribution and IEC have produced valuable insights into the efficacy and utilization of ITNs. Three resistance studies were completed, and IMCI objectives were largely achieved amidst a complex national policy environment.

* **Recommendations for HAI**

1. The planned Red Cross intervention to distribute 400,000 free ITNs in Manica and Sofala will make HAIs involvement in ITN procurement and distribution less necessary. However, HAI should continue to promote IEC around malaria and bednet use while promoting bednet ownership among pregnant women and vulnerable populations. Bednet promotion in IPT services should be continued.
2. Given continuing concerns over malaria drug resistance, HAI should conduct operations research on adherence to malaria diagnosis and treatment quality standards, and on the quality of epidemiological surveillance.
3. Changing procedures in malaria diagnosis and treatment entail the need for professional retraining. HAI should continue support for refresher courses and on-the-job retraining on dosages, basic pharmacology, drug resistance, side effects and drug interaction.
4. IMCI activities have suffered nationally because of its vertical funding and resulting management difficulties. The future of the program is currently in jeopardy for this reason. However, if the initiative continues HAI should provide support for IMCI primarily through on-the-job training rather than theoretical workshops.

* **Recommendations for Collaborating Partners (MOH)**

1. The MOH must define and finalize a surveillance system to regularly monitor malaria drug resistance. Currently, only sporadic evaluations are conducted and not integrated.⁸

MATERNAL AND NEWBORN CARE

Most of the project's MNC objectives and targets have been achieved. Notable successes include the testing, expansion and anticipated national approval of rapid syphilis testing; the implementation and expansion of pMTCT; and the introduction of integrated prenatal care and supervision. Post-partum care activities are still in development, including quarterly reports on postpartum checkups after delivery, but these will be emphasized as priorities in the final years of the current extension.

* **Recommendations for HAI**

1. Given the ongoing challenge of persistently high maternal mortality, HAI should continue support for development of waiting houses and emergency obstetric referral plans using CLCs. The potential use of cell phones in some areas to mobilize emergency transport should be explored especially for peripheral areas with phone coverage.
2. Training in OR to monitor and identify the causes of maternal mortality in specific localities to design appropriate interventions would also be a useful intervention for HAI to pursue.
3. HAI will hopefully continue advocacy for use of syphilis rapid tests in outreach antenatal care to promote broader access to this important and cost-effective intervention.
4. HAI should follow through on its plans to conduct research on the causes of stillbirth in the Beira and Chimoio hospitals to help better measure the efficacy of rapid testing and treatment.

* **Recommendations for Collaborating Partners (MOH)**

1. The MOH should quickly adopt the antenatal care rapid test for syphilis and using approving for use in other STI sector, outpatient and inpatient wards, and peripheral health facilities.
2. Given the continued high levels of maternal mortality both outside and within the health facilities, the MOH needs a comprehensive strategy to build better infrastructure and improve training for health workers so that obstetrical emergencies can be transported to health facilities, and once there, receive quality treatment. Systems for monitoring maternal deaths should be improved, supervision enhanced, ambulance numbers increased, and ambulance networks established.

⁸Hussene Camissa, Fernando Inácio João, Armando Cunguara, Flávio Wate, Pedro Corda, Virgínia Saldanha, Pablo Montoya Avaliação do sistema de vigilância epidemiológica no distrito de Chibabava, Sofala, 2004. Presentation at the 12th Jornadas de saúde, Maputo, June 13-16, 2005. Chilundo, B. Sundby, J. Aanestad, M. (2004) Analyzing the quality of routine malaria data in Mozambique Malaria Journal 2004 3:3

CROSS-CUTTING ISSUES

The HAI project has engaged in a number of cross-cutting strategies that have been instrumental in achieving many of its mid-term objectives. Experience with these approaches has provided important lessons learned and suggested modified methods. Challenges to sustainability will require careful assessment and monitoring of current interventions and appropriate tailoring to the changing Mozambique context.

COMMUNITY MOBILIZATION

*** Recommendations for HAI**

1. CLCs are a sound example of integrated primary health care at the community level. CLCs can provide a useful articulation between the health system and communities by referring emergencies to health facilities, promoting educational activities, and mobilizing for emergencies. However, HAI's experience also shows that primary health needs supervision and support. The CLC program has been effective when well-supported and when follow-up is strong. But future sustainability will require continued investment, and HAI should continue to promote strong support from the NHS to ensure that the program remains viable
2. The Cultural Activist Program (PAC) and mini-PAC organizations play a critical role in IEC and community mobilization around a range of HAI program objectives. They receive a great deal of support from HAI so their sustainability needs to be addressed. PAC has been very successful in securing a number of outside grants from alternative funding sources in recent years, but HAI should continue to provide a foundation for future sustainability for these important groups.
3. According to HAI operations research, the most influential community figures, especially in the urban areas, are religious leaders. The old and new syncretic and protestant churches need to be further understood and HAI should consider implementing new strategies that include churches in community mobilization strategies especially around AIDS treatment scale-up.
4. Community based organizations of PLWHA have been created in some districts to assist, mobilize, teach and educate. HAART introduction in many districts will also increase the scope of HBC, so HAI should consider involving PLWHA organizations more directly in HBC to support adherence, provide information, and promote responsible behavior.

*** Recommendations for Collaborating Partners (MOH)**

1. Many health projects involving communities in Manica and Sofala have started since Independence with varying approaches and differing degrees of success. A review and assessment of these initiatives - their relative strengths and shortcomings - would be useful to guide the development of the program after 2007.

HUMAN RESOURCES

*** Recommendations for Collaborating Partners (MOH)**

1. Payment policies implemented within the HIV/AIDS related services have generated appreciable differences between professionals with similar qualification and job descriptions. The MOH should reconsider incentives for HIV specific workers such as VCT counselors. A wider performance-based approach to incentives would be helpful in reducing disruptive disparities.

ON-THE-JOB-TRAINING

The projects training activities have been successfully performed and have involved most of the health professionals and support staff in the two provinces:

*** Recommendations for HAI**

1. HAI should continue to support horizontal integration between initial training, the refresher training sector (*Formação Continua*), and provincial human resources at the provincial level to enhance coordination around critical human resource needs. On-the-job training activities should be planned and monitored within the DPS, involving all the sector heads and the human resources managers. Strong links should be created with the HAI sponsored Beira Research Centre.

*** Recommendations for Collaborating Partners (MOH)**

1. Staff participation in on-the-job training activities should be recorded in human resources information files that carry individual data for every health worker. Information on the training courses, participants, course quality and duration, and results should be recorded to help rationalize the system and fairly allocate training opportunities. Didactic materials should be evaluated, stored, and re-used if considered effective.

F. Action Plan

The evaluation report indicates the accomplishment of most project objectives and provides recommendations for future project activities. This action plan was developed by HAI program managers and their DPS counterparts in response to the issues identified by the mid-term evaluation and in the context of DPS priorities for the coming project period.

General

1. Given the important problem of human resources constraints HAI will actively provide technical support and operations research for the DPS to develop a human resource plan that can be presented to the MOH. As an overall strategy HAI will continue to support and facilitate the integration of current and projected project objectives and activities within the health provincial service development strategy.
2. For the sustainability of all the programs and for the provision of quality services it is critical to improve district capacities in monitoring, evaluation, and decision-making. HAI/MOH will conduct regional training courses on improving quality of information collection and basic interpretation. These activities will be linked with the establishment of committees that will respond to relevant local public health issues (i.e. study of maternal, malaria or cholera deaths, low coverage of institutional deliveries, or vaccination coverage, etc.).

STI/HIV/AIDS

1. Increase the number of women and children receiving ARV prophylaxis and the number of qualified pregnant women receiving ARV triple therapy before delivery.
 - a. Continue expansion of PMTCT services to new sites as well as the possibility of testing for HIV at the health facilities, and increase the number of women offered testing and counseling services in these sites.
 - b. Make CD4 count available at the prenatal visits after HIV diagnosis to improve the referral of women requiring ARV therapy.
 - c. Use MCH activists selected from positive mother groups to improve integration of MCH services (antenatal care, maternity, post-partum/post-abortion, newborn, etc), facilitate follow up of HIV-positive women and their children up to 18 months after delivery, and help with community mobilization activities.
 - d. Strengthen the positive mother groups for psychosocial support, nutritional counseling and food support (WFP), clinical referral, reinforcement of the importance of institutional births in a health facility with PMTCT services, education on infant feeding options, follow-up for at-risk children, and use of family planning methods.
2. Develop appropriate guidelines for the at risk child visit in partnership with the MOH to improve identification and follow-up care for children of HIV+ women. A working group for producing these algorithms was established, although is not yet functional.
3. Improve access to testing and continue expansion of VCT sites.
4. HAI/MOH will continue to contribute to strengthening primary health care services by improving access to palliative and curative care for PLWHA within existing services in at least 10 new sites before the end of the grant. We will do trainings on 1) ART management for selected health facility teams, 2) OI diagnosis and treatment for clinicians, 3) OI diagnosis and basic hematology and biochemistry techniques for

laboratory personnel, 4) general drug system management with emphasis on ARV and OI medicines for pharmacist, 5) HIV counseling and adherence evaluation for social assistants, 6) bio-safety issues and basic information about the existing HIV services for all the personnel, and 7) monitoring and evaluation for data managers. These trainings will be followed by technical assistance and supervision. This will include the enhancement of the integration of DH and other services in Beira and Chimoio hospitals and the reinforcement on the provision of family-centered services.

5. In accordance with the recommendations of the mid-term evaluation we will help improve and monitor more closely the managerial capacities of the HBC groups and involve PLWHA groups in this activity. We will also try to develop a stronger referral system between the HBC groups and the health facilities. We will organize an OI training course for the HBC nurses in Manica and Sofala provinces to guarantee a baseline quality standard for their clinical care.
6. Provide technical assistance and support to PLWHA, building managerial and organizational capacities and catalyzing the creation of PLWHA networks for developing health promotion activities and income generating programs.
7. Strengthen the links among the integrated health network (IHN) components via periodic meetings and the publication of a quarterly newsletter.
8. Discuss the inclusion of social responsibility in the messages transmitted for the prevention of new HIV infections. IEC efforts will be increasingly integrated into broader communication strategies, and some new materials will seek to focus on boys and individual responsibility.
9. HAI/MOH will develop operations research to help improve the flow of patients in the IHN, and inside the day hospitals, guaranteeing that key MOH personnel as well as other PVOs receive the reports.
10. HAI/DPS will strengthen the integration of the tuberculosis and the HIV programs in order to improve the delivery of important public health interventions for the co-infected patients.
11. HAI will resume the STI treatment training given the huge delays in the production of updated treatment guidelines by CDC/MOH.

Malaria Control

1. We will continue supporting the IPT provincial roll out via MCH integrated supervision. Per MOH request HAI will also provide support at the national level to help with the national IPT scale up. If additional funds are available, HAI will also support the MOH with the production of IEC material on the topic.
2. The organization will coordinate with the DPS, the Red Cross and other partners involved with health promotion activities to support the correct use of the bednets that will be distributed in Manica and Sofala. HAI/MOH will also develop a plan to continue the promotion of the ITNs in IPT and seek funding for additional ITNs to improve access in ANC services. We will also work on OR on the topic to evaluate coverage and use of ITNs in partnership with the DPS and other organizations per MOH request.
3. HAI will work in collaboration with the DPS on a program evaluation for assessing the epidemiologic surveillance system and the clinical management of malaria. This activity will be associated with on site training on these topics.
4. HAI will collaborate with the MOH on the surveillance of malaria resistance if requested.
5. The program assistants will continue providing on site technical support to the MCH nurses on the IMCI program during the integrated supervisions. Also we are coordinating with a group of pediatricians that will contribute with technical assistance and supervision

on the topic in some districts in Sofala province. By the beginning of 2006 we expect to have a pediatrician clinical advisor who will support this activity, the “at risk” child consult, and the pediatric ART.

Maternal and Newborn Care

For information about this section also see previous program components (i.e. PMTCT program improvement including follow up of children born from HIV-positive mothers and IPT roll out support).

1. HAI plans to continue discussions with the DPS, DDS, and health facility personnel to promote the development of the post-partum reporting system. Approaches that emphasize integration of these services with other MNC activities are emphasized.
2. HAI/DPS will continue strengthening the integrated antenatal care approach and the integrated supervision/technical support activities in the health facilities. An evaluation of the strategy will also take place in the first semester of 2006 in order to redefine the program priorities and the monitoring and evaluation system after one year of implementation.
3. HAI will continue supporting the elaboration of the prenatal care card and guidelines at the MOH and expect to start piloting the new forms in early 2006 (although starting depends on having the approval from the MOH, which could generate delays). In 2007 we will disseminate the lessons learned from this process and hopefully help roll out the use of these forms, and thus the implementation of integrated antenatal care services, nationwide.
4. HAI/MOH will make important efforts to guarantee that communities have access to information about danger signs during pregnancy since we consider that is more important and feasible than developing an accurate report system for non-institutional deliveries. Along with the DDS and DPS counterparts will continue to supervise and monitor the emergency transport plans that are being developed mainly with support from the CLCs. To the extent possible HAI will continue supporting the development of waiting houses.
5. Advocacy will continue to obtain MOH approval for the use of the rapid syphilis tests nationwide as part of the components of the integrated prenatal visit. The process seems to be going smoothly but still needs follow up.
6. OR will be conducted to 1) understand problems related with the adherence of women to the PMTCT protocol and the MCH services following the initial prenatal visit; 2) causes of still births and premature births in the central region of Mozambique; 3) evaluation of the integrated antenatal care strategy; and 4) if requested, OR on maternal mortality.

Cross-Cutting Issues

Community Mobilization

1. HAI will continue to support development of HIV/AIDS, MNC, and malaria relevant messages on prevention, clinical manifestations, and use of available services via the different media currently employed (radio, PAC, CLCs, religious leaders, printed material, and health care personnel). Additionally we will use videos that will be developed locally. We will try to establish a partnership with governmental and non governmental groups that have mobile equipment for the presentation of these videos in distant areas. The videos will also be presented in the waiting rooms of some health

facilities and at night at least in the district capitals. OR will be conducted to evaluate the impact of social mobilization strategies. HAI will develop a proposal to get funds to develop a comprehensive community mobilization program.

2. New strategies will attempt to link PLWHA organizations with HBC groups to support adherence and provide education.
3. HAI will continue to promote integration of CLCs into NHS planning and norms to ensure sustainability. The project will also continue to support PAC's capacity building to secure and manage alternative funding to guarantee sustainability.

Institutional/Human Resources Strengthening

1. HQ will continue providing technical assistance to the field and participating actively in CORE events and other relevant venues to help disseminate lessons learned from the project.
2. We will improve communication with other partners working on CS projects in Mozambique to share lessons learned.
3. A five day participatory training methods training of trainers will be scheduled for the first quarter of 2006.
4. Through its support for the newly created NHS Operations Research Center in Beira, HAI will help improve the capacities of local MOH workers in OR by providing technical assistance and contributing financial support to develop local studies important to improving the system. The new center will enhance HAI's ability to communicate study findings to health program heads in the MoH.
5. HAI will continue its support for horizontal integration training and human resources planning at the provincial level.

ANNEX I: Background Information

The project is located in Sofala and Manica provinces in central Mozambique, a country estimated to have the 3rd lowest per capita GNP of any country in the world. The headquarters for the project is Beira city, the capital of Sofala province (see map below). Sofala, with a population of over 1,500,000, has 13 districts, half of which have limited access from unpaved roads, and the majority of which are coastal lowlands. The national headquarters is located in Chimoio city, the capital of Manica province, which is located 2.5 hours from Beira by a maintained, paved highway. Manica has 10 districts and a population of over 1,200,000. According to the DPS, approximately 465,000 children under five and about 678,000 women of childbearing age reside in the two provinces. Approximately 53% of the population in both provinces lives in the districts along the Beira corridor that connects Beira to Zimbabwe. In rural areas the population lives on subsistence farms that are often widely dispersed without clear village centers.

The most recent national health estimates are as follows.⁹ Life expectancy is 38 years, and decreasing. The under five mortality is 153/1000 live births, which ranks 24th in the world. The infant mortality is 109/1000 live births). The estimated maternal mortality ratio for the country is 308/100,000. Country data has shown a steady reduction in mortality statistics, which is also true for Manica and Sofala provinces.

There has been a sustained increase in HIV prevalence nationwide, best described as three separate epidemics, with the most widespread and mature epidemic following the Beira corridor in Manica and Sofala provinces (see **Table 3** below). The dramatic HIV prevalence has re-aligned MOH programmatic priorities to include building health sector capacity to care and treat those identified as HIV-infected as a complement for widespread prevention messages and activities.

Table 3. HIV/AIDS Prevalence Rates

Province	2000	2002	2004		2000	2002
Maputo Cidade	13.5%	17.3%	20.7%	Southern Region	12.0%	14,8%
Maputo Província	14.4%	17.4%	20.7%,			
Gaza	12.6%	16.4%	19.9%			
Inhambane	7.8%	8.6%	11.7%			
Zambézia	10.0%	12.5%	18.4%	Central Region	14.4%	16.7%
Sofala	20.6%	26.5%	26.5%,			
Manica	17.3%	19.0%	19.7%			
Tete	16.3%	14.2%	16.6%			
Niassa	6.2%	11.1%	11.1%,	Northern Region	5.7%	8.4%
Nampula	4.8%	8.1%	9.2%,			
Cabo Delgado	7.5%	7.5%	8.6%			

Source: HIV surveillance report, June, 2005. MOH document.

⁹ UNICEF. State of the World's Children, 2005. UNICEF, New York, 2000.

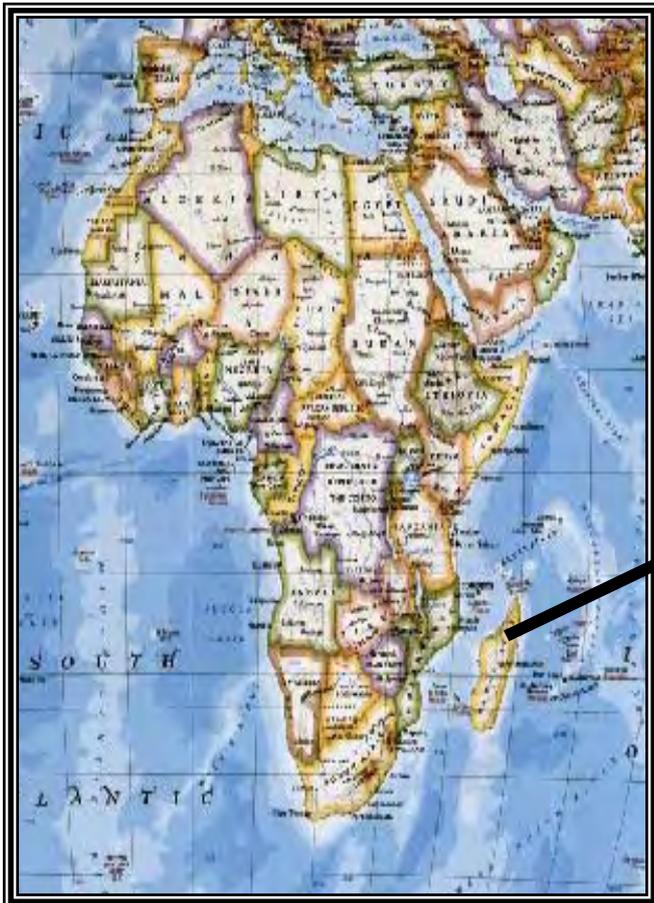
The main causes of maternal mortality are thought to be obstructed labor, eclampsia, malaria, anemia-hemorrhage, infection, and puerperal and post-abortion sepsis (WHO, 1994). The causes of infant and child mortality in this region of Mozambique are believed to be the same as those of other parts of sub-Saharan Africa: malaria, malnutrition (including low birth weight), HIV infection, diarrheal diseases, acute lower respiratory infection, and congenital syphilis. The major causes of illness and death among children hospitalized at the provincial hospital in Manica Province in 1993, for example, were reported to be malaria, anemia, malnutrition, pneumonia, and diarrhea. Low birth weight infants are estimated to be 20% of live births nationally.

Subsistence farming is the main source of income for most of the population in both provinces. Beira, and to a lesser extent Chimoió, have light industries and produce some basic consumer goods. National literacy is estimated at 29% for women and 60% for men. Between 1978 and 1992 the population now living in the program area was subjected to the social and economic disruption caused by a war of destabilization supported by the *apartheid* regime of South Africa. After the culmination of the peace process, as many as 500,000 displaced persons returned to their homes in these provinces (although many still continue to reside in two or even three locations).

Religion is mixed, with Catholicism prominent in the more highly educated population and Evangelical Protestant Christian groups rapidly increasing in numbers and strength in the poor majority. It has been suggested that the widespread social disruption resulting from years of war followed by the rise of HIV/AIDS has contributed to the current rise in the strength of the fundamentalist Christian churches, most of which are characterized by a belief in faith healing. The program will involve these emerging community leaders both formally and informally in relevant activities, to mobilize and educate their constituent groups. Care-seeking tends to be pluralistic, with several types of healers often consulted for illness and also to safeguard pregnancies. Other important sources of health care are traditional healers, particularly for health problems of men, traditional birth attendants (in some areas) and various types of herbalists.

The primary health care provider in the program area is the Mozambique MOH. Private medical practice was prohibited in Mozambique until 1992, and private or formal church-supported health services play a very small role in the area. Health services are coordinated at the district level and provided through a network of rural health centers and health posts. Health posts are generally staffed by elementary (one-year training) nurses and midwives, and health centers by "basic" (two years training) midwives, although staffing at peripheral health facilities is often inadequate. A community-based volunteer whose training are, or have been, supported by the MOH include APEs, TBAs and CLCs. Currently the MOH is not training new CHWs, except for HBC volunteers.

Map of Program Area



Manica and
Sofala
Provinces

ANNEX II: Community-based Partners

Various community groups have requested and received HAI technical and financial assistance over the years. This support has continued during the extension phase. Organizational strengthening of these local groups has been conducted after assessing their needs; HAI is now evaluating the effectiveness of the assistance provided. On-request technical support has been given to the following organizations:

OMES: OMES is a women's NGO formed in Chimoio that supports sex workers through peer education, and condom promotion and distribution. STI education occurs through discussion groups, theater, and radio transmissions in coordination with other women's groups. The CS program has provided technical and logistic support. More financial support is also under study to guarantee that OMES will continue its activities.

PAC. PAC has received continued assistance from HAI in order to improve performance, financial management, and monitoring systems. HAI also supports PAC and mini-PAC activities by paying incentives to the young activists. These groups perform theater pieces at regular intervals, and their role has been recognized by DPSs and DDSs which "contract" them to implement their activities within the community. Technical support for developing targeted messages and message contents is given by HAI assistants and by the NHS.

Kubatzirana, Kuphetzana and Kubatana: These are religious groups that have received financial and technical support from the CS program. These groups historically have received funding from a variety of external sources and have proven to be quite sustainable. HAI has funded the training on AIDS care conducted by MOH trainers. Kubatzirana has been sub-contracted by HAI for managing HBC and in 2005, it received about US\$ 200,000. Kubatzirana sends quarterly financial reports to the HAI administration.

Other grassroots local PVOs receive funds from HAI for implementing health promotion and education activities. Care for Life, which is also active in HBC was funded for 2005 with US\$25,000, meanwhile Taremba, ARO Juvenil, Jos Soal, Núcleo Infantil, AFDC received around 1,000 USD each for social mobilization on AIDS prevention. They also receive pamphlets, educational materials and TA. International PVOs such as Africare, Concern, GTZ are also involved in some joint activities with HAI, such as world AIDS days planning and broad mobilization campaigns.

HAI has also collaborated with other international and national agencies, such as the following:

The **Red Cross** will provide 400,000 free ITNs to Manica and Sofala beginning in November 2005. Districts with the highest malaria incidence (Beira City excluded) have been selected. HAI focus still remains on appropriate bednet use and priority groups.

UNICEF is collaborating with HAI and the MOH to provide proper follow up of at-risk children and HIV+ mothers, and offer HAART to HIV+ children in need in Beira and Chimoio.

Helen Keller and Africare, are two PVOs that also receive funds from USAID and UNICEF in the provinces. They implement minor projects, each of them focused on particular issues (Vitamin A distribution, iron tablet and anti-parasites tablets distribution to schoolchildren, iron distribution to pregnant women with difficult access to the health system, diarrhea treatment, maternal breastfeeding, latrine building in the countryside in some districts). Both Helen Keller and Africare claim to work with communities through identified community members (activistas, famílias modelos). It is impossible to determine if these initiatives, based on voluntarism and supervised by a scarce number of basic/middle level assistants,

have any valuable impact or if they are sustainable. More integration of the projects, and standardization of objective and activities is advisable in order to avoid dispersion, huge overheads and inefficient use of resources.

ATTACHMENT A: Baseline information from the DIP

The **Goals** of the CS extension program are to bring about sustainable reduction in infant, perinatal and maternal mortality and morbidity in two provinces, and to facilitate the expansion of selected successful strategies more widely within Mozambique. No substantial changes to the program have been made since the approval of the DIP. The following is the approved workplan from the DIP.

STI/HIV/AIDS (40%)

(Families/communities)

AIDS Objective #1: Increase motivation and skills for women and adolescent girls to protect themselves and their infants from HIV infection
Indicators (includes targets and how measured): a) 70% of mothers in the program area will know that mother-to-child transmission of HIV can be reduced or prevented (survey) b) 70% of mothers with access to voluntary counseling and testing (VCT) will be tested for HIV during their last pregnancy (survey and DPS records)
Major Activities: Social Mobilization for increased uptake of VCT and pMTCT services <ul style="list-style-type: none"> <input type="checkbox"/> Incorporate Positive Women’s group members in the design and field testing of radio messages <input type="checkbox"/> Support refresher training for health workers involved in the pMTCT and VCT programs <input type="checkbox"/> Design and carry out monthly “girl days” at youth VCT sites <input type="checkbox"/> Ongoing PAC presentations with HIV themes Support expansion of pMTCT to a total of 12 sites and VCT to a total of 8 <ul style="list-style-type: none"> <input type="checkbox"/> Training of health workers in VCT and pMTCT <input type="checkbox"/> Rehabilitation and equipping of 7 additional pMTCT sites and 5 youth targeted VCT sites
AIDS Objective #2: Decrease stigma associated with HIV/AIDS in the program area
Indicator/target/:how measured: 60% of mothers will acknowledge that they know someone who has HIV/AIDS (survey)
Major activities: Social Mobilization to decrease stigma associated with HIV/AIDS <ul style="list-style-type: none"> <input type="checkbox"/> Radio campaign, including ads and debates that detail new HIV/AIDS services <input type="checkbox"/> Training and refresher training of health workers on new HIV/AIDS specific services <input type="checkbox"/> Outreach training, followup to religious leaders Expansion of pMTCT & VCT services in the project area (see Objective #1)

(Organizations)

AIDS Objective #3: Improve capacity of health systems and communities to prevent further HIV/STI infection and care for those already infected

Indicator/target (how measured):

- a) All district and provincial clinical health staff will be able to:
- correctly implement updated STI protocols
 - explain the basic principles and practical implementation of universal precautions
 - assess and provide appropriate treatment for AIDS opportunistic infections (OIs)
(all measured by training records)
- b) The 3 program-supported church/community groups will be able to provide community-based home care and support for persons with AIDS that meets standards for acceptable quality (program records, final evaluation for quality assurance)
- c) Day Hospital and STI clinic for adolescents will be established at Beira Hospital

Major activities:

Increase health worker capacity to diagnose and manage STIs and other OIs at the district and provincial levels

- Training of health workers in the new STI protocols,
- Training of health workers in OI management and universal precautions

Provide capacity building support to three local religiously affiliated groups to provide quality HBC activities

- Support training of HBC volunteers, increasing participation of health personnel in training
- Participate in ongoing monitoring of HBC volunteer activities

Establish a clinic for adolescents with STIs at Beira Hospital

- Identify space for clinic within Beira Hospital
- Ensure Beira Hospital's staffing support for clinic site
- Support transition of management of clinic to Beira Hospital
- Provide on-going technical assistance as needed

Expansion of comprehensive HIV/AIDS care services in the project area (including improved AIDS care, management of opportunistic infections, management of HBC)

- Introduction of Day Hospital Services, with HAART treatment capacity, in 4 hospitals in Manica and Sofala
- Training of district health workers in OI management

(Institutions)

AIDS Objective #4: Establish VCT facilities and community support groups for youth with HIV/AIDS in 5 districts of the Beira Corridor

and

AIDS Objective #5: Train and support 5 "Mini-PAC" youth theater groups in sites with youth VCT facilities

Indicator/target/:how measured: Presence of 5 youth-focused VCT facilities, community support groups, and mini-PAC groups along Beria Corridor (program and DPS records, site visits)

Major activities:

Build comprehensive support services for HIV+ youth in the project area

- Rehabilitation and provision of equipment for 5 youth-targeted VCT sites
- Development and ongoing support for 5 youth-targeted PLWHA support groups
- Development and circulation of a youth PLWHA referral guide for health workers

Support the development of youth street theater groups based at each youth-targeted VCT site

- Identify and train street theater troupes at each of the 5 sites

- Provide ongoing supervision and technical support

MALARIA CONTROL (35%)

(Families/communities)

Malaria Objective # 1: Increase malaria understanding among program women

Indicator/target (how measured): 80% of program women will know at least two ways to prevent malaria (survey)

Major activities:

Design, field test and launch social mobilization campaign about malaria transmission, prevention, recognition and care-seeking

- Design, field test campaign messages
- Train CLCs, religious leaders in messages
- Follow-up CLCs and religious leaders disseminating messages
- Air radio announcements on new messages
- Present street theater, incorporating new messages
- Evaluate effectiveness of campaign efforts, plan future activities

Malaria Objective #2: Increase use of insecticide-treated bednets in 8 target areas

Indicator/target (how measured):

a) 60% of mothers in the 8 target district areas will sleep under a treated bednet during their last pregnancy (survey)

b) 60% of children under 5 in the 8 target district areas will sleep under a treated bednet the previous night (survey)

c) 40% of homes with bednets will have had the nets retreated within the past 8 months (survey)

Major activities:

Initiate pilot voucher program for subsidized bednets targeting pregnant women in 2 health facilities

- Design pilot program, training strategy
- Collect baseline information for comparison (net ownership, retreatment, facilities data)
- Train health workers, bednet vendors and CLCs in voucher system
- Procure and distribute key materials
- Design and launch social mobilization campaign
- Monitor net distribution
- Assess program, write-up results
- Disseminate pilot results to local and national stakeholders

Social mobilization for increased and improved utilization of bednets (including the basics on malaria prevention, the role of bednets, procurement details, and proper utilization, with a focus on retreatment)

- Evaluate, adapt and field-test existing bednet messages
- Incorporate new messages into existing mobilization strategy
- Train commercial vendors, CLCs, religious leaders in new messages
- Follow-up CLCs and religious leaders disseminating messages
- Air radio announcements on new messages
- Present street-level theater incorporating new messages
- Promote and carry-out free “dip your net” days in bednet sales sites to increase insecticide coverage
- Assess success of strategy, plan revision and/or expansion

Malaria Objective #3: increase appropriate treatment of malaria symptoms in children**Indicators/targets (how measured):**

- a) 80% of children under age 2 with fever in the past two weeks will be treated with appropriate anti-malarial drugs (survey)
- b) 70% of mothers/caregivers of children under 2 will know at least two signs of childhood illness that indicate the need for immediate medical treatment (survey)

Major activities:

Support community and facility IMCI implementation via monitoring, providing technical assistance in future scale-up, and complementary sale of bednets

- Participate in routine health worker monitoring and supervision in IMCI to ensure each IMCI-trained staff receives at least quarterly supervision
- Refresher course for DDS staff on CB-IMCI messages
- Train CLCs and religious leaders in established CB-IMCI messages
- Complementary sales or subsidized distribution of bednets
- Technical assistance for future scale-up in IMCI

Organizations :**Malaria Objective #4: Insecticide-treated bednets will be more widely available in both provinces**

Indicator/target (how measured): Insecticide-treated bednets will be available in at least 20 commercial outlets in the two provinces.(survey of commercial outlets or program records)

Major activities:

Expand bednet sales sites to 20 spanning 8 districts, split equally between commercial and CLC vendors

- Select 20 sales sites
- Train district health personnel from sales sites in bednet program including retreatment strategies
- Select and train bednet vendors from 20 sales sites in bednet program
- Supervise bednet sales monthly
- Re-supply key materials monthly to all 20 sites (bednets, insecticides)
- Community survey and focus group discussions to assess program effectiveness
- Analyze assessment results, produce report
- Disseminate results to MOH policymakers, donors and PVOs/NGOs and recommend next steps

(Institutions)**Malaria Objective #5: The provincial health departments of Manica and Sofala provinces will have upgraded malaria control policies and procedures****Indicator/target (how measured):**

- a) The Manica and Sofala DPS will be conducting regular malaria drug resistance testing/surveillance (DPS and program records)
- b) The Manica and Sofala DPS will have integrated IPT into prenatal care protocols (DPS records, site visits)
- c) Health facility staff will be trained in implementation of new drug regimens for malaria.(training records)

Major activities:

Support local health authorities in carrying out drug resistance studies (2 in total)

- Select sentinel surveillance sites
- Train health personnel from sites in study methodology
- Provide key materials for study
- Supervise study
- Analyze results
- Produce study report, disseminate to local and national stakeholders
- Produce manual standardizing study procedures (to help MOH roll out studies to new sites and to adapt studies to new WHO recommendations for methodology and new drug regimens)

Initiate pilot IPT program

- Select 10 health facilities from 2 districts in Manica and Sofala provinces for implementation
- Design pilot program, including data collection instruments
- Seek approval for pilot initiative
- Procure necessary materials (SP, bednets, etc)
- Train health personnel, CLCs in pilot initiative
- Social mobilization on basics of IPT
- Supervise field implementation
- Collect intervention data on ongoing basis
- Assess 1-year IPT pilot intervention
- Produce and disseminate report for key stakeholders

Training and support of health facility staff on implementation of new drug regimens for malaria

MATERNAL AND NEWBORN CARE (25%)

(Families/communities)

MNC Objective #1: Improve appropriate birth practices among program women

Indicator/target (how measured):

- a) 70% of pregnant women will have emergency transport plans (survey)
- b) 50% of women in program area will have an early prenatal care visit during their last pregnancy (maternity records, survey)
- c) 70% of women who deliver at home will have an early (within 2 days) post-partum visit (maternity records, survey)

Major activities:

- *Develop and produce educational materials for early prenatal care, early postpartum visit, and birth plans
- * Develop a quarterly report system for data on postpartum checks after home deliveries
- * Develop strategies and mechanisms for working with the African Independent Church leaders in Manica and Sofala to incorporate key MNC messages into their work with women
- *Training, refresher courses, and followup for CLCs and religious leaders on above topics, plus transport plans

(Organizations)

MNC Objective # 2: Increase health facilities' implementation of syphilis testing and treatment in antenatal care

Indicator/target (how measured):

- a) 50% of partners of antenatal women testing positive for syphilis will be tested and treated if necessary (DPS antenatal clinic information system)
- b) 80% of women in antenatal care at facilities without laboratory access will be tested by the rapid strip test for syphilis (DPS antenatal clinic information system)

Major activities:

- *Survey of Health Units providing prenatal care but without laboratory facilities.
- *Set up registers, data system to collect information about rapid testing in prenatal visits, partner notification, etc.
- *Train teams for the introduction of rapid test in target health units.
- *Purchase initial tests, develop acquisition procedures and logistics for tests; monitor penicillin stocks.
- *Begin implementation of rapid tests, regular supervision
- *Summarize and disseminate report of rapid test experience

MNC Objective #3: Assure the availability of services for prevention of mother-to-child transmission of HIV in antenatal care

Indicator/target (how measured): At least 5 maternal care clinics in each province will have pMTCT services (DPS and program records, site visits)

Major activities:

- *12 pMTCT centers functioning in Manica and Sofala
- *Training of clinicians (antenatal, maternity and pediatric) in pMTCT
- *Establish and ongoing support of Positive Mothers groups at each pMTCT site
- *Provision and supply of bednets for pregnant mothers living with HIV+

(Institutions)

MNC Objective #4: Create, with the national MOH, unified prenatal care norms that include pMTCT, IPT, and syphilis screening

Indicator/target (how measured):

- a) One MOH revised manual for prenatal care (MOH records)
- b) One revised prenatal card accepted for national use (MOH records)

Major activities:

- *Initiate periodic meetings with MOH program heads in Maputo to develop policies, norms, revised card, and manual
- *Develop and test prenatal card in Sofala and Manica
- *Disseminate nationally published version of manual and card (including presentation at national meeting)

INSTITUTIONAL/HUMAN RESOURCES STRENGTHING

<p>HR Objective # 1: A plan for wide dissemination of HAI's CS lessons learned will be developed and implemented.</p>
<p>Indicator/target (how measured): evidence of dissemination plan and implementation. (HAI records, dissemination documents)</p>
<p>Major activities:</p> <ul style="list-style-type: none"> *ISA workshop at HQ *Develop dissemination plan (part of workshop) *Conduct implementation activities
<p>HR Objective #2: At least one additional HAI headquarters technical staff member will be competent in managing and evaluating a CS program.</p>
<p>Indicator/target (how measured): information regarding the additional HAI HQ technical staff member (HAI records)</p>
<p>Major activities:</p> <ul style="list-style-type: none"> *Identify additional HQ staff candidate *Identify funding sources *Orient as to CS activities and program *Involve in preparation of DIP *Introduce to CORE, other CS groups and activities *New staff to conduct field visits
<p>HR Objective #3: At least 10 Mozambican HAI or counterpart staff will be skilled in participatory training methods</p>
<p>Indicator/target (how measured): evidence of successfully conducted 5-day participatory TOT for HAI field and counterpart staff (training records).</p>
<p>Major activities:</p> <ul style="list-style-type: none"> *Plan/organize TOT, find appropriate trainer *Conduct TOT workshop for HAI and counterpart staff
<p>HR Objective # 4: At least 5 Mozambican HAI or counterpart staff will be able to design, conduct and report on an operations research project related to their area of expertise.</p>
<p>Indicator/target (how measured): 5 presentations at bi-annual Jornadas de Saude by Mozambican first authors and/or completed reports of operations research projects (Jornadas program, power-point presentations, completed reports)</p>
<p>Major activities:</p> <ul style="list-style-type: none"> *Conduct training in operations research for national DPS staff *Assist trained staff to develop and conduct OR projects *Second training to support data analysis and write-ups/presentations of projects

ATTACHMENT B: Evaluation team members and their titles

Core Team Members

Team Leader	Ferruccio Vio, MD, MPH
HAI Headquarters Representative	Steve Gloyd, MD, MPH
HAI Sofala Provincial Coordinator, Child Survival Manager	Pablo Montoya, MD, MPH

HAI Program Field Staff

<u>MCH</u>	Florencia Floriano
<u>STI/HIV/AIDS</u>	Wendy Prosser, MA
<u>Malaria</u>	Maria Ana Chadreque

DPS Evaluation Participants

Sofala Province

- Isabel Raul Massango, MCH nurse, Provincial Supervisor of the MCH program
- Odette Jorge Paulo, MCH nurse, School and Adolescent Health
- Fatima Augusto, MCH nurse, Child Health
- Ibraimo Mussa, MD, Responsible for the Community Health Section

Manica Province

- Cavada Manjora, Preventive Medicine Assistant, STD/HIV-AIDS Program Manager
- Manuel João Cata, MD, Responsible for the Community Health Section
- Maria das Dores Graça Pedro, MCH nurse, PMTCT Focal Point

ATTACHMENT C: Evaluation assessment methodology

Evaluation Objectives:

1. Assess progress in implementing the DIP;
2. Assess progress towards achievement of objectives;
3. Assess if interventions are sufficient to reach desired outcomes;
4. Identify strengths and weaknesses in the implementation of the project activities: STD/AIDS; Malaria activities; and maternal and newborn care;
5. Identify barriers to achievement of objectives;
6. Determine the acceptability of the project by the communities and the local authorities.
7. Provide recommended actions to guide the staff through the last half of the program extension.

Methods:

1. Interviews and group discussions with government partners, NGOs partners, community members.
2. Observations of activities in the health units and communities.
3. Review of data, register books, progress reports, health district records (done together with program staff), reports of program results (e.g., from operations research reports, meeting presentations).
4. Detailed analysis and discussion of the DIP and findings covering the main project objectives.

Data collection sources and instruments:

The NGO and the consultant defined basic questions for the interviews to provide valuable information and recommendations.

General questions regarding the intervention activities:

- What barriers exist to prevent community members from benefiting from the project activities and how can those barriers be overcome?
- What is the impact of the activities performed in the target communities? Are the communities showing indications of behavioral changes? How can those changes be measured?
- Are the messages appropriate? Have any essential messages been omitted?
- What are the main weaknesses and strengths of each program component?
- Are the CS activities appropriately focused to reach the project objectives? How can the project improve its performance?
- How would you define the level of collaboration/partnership between HAI and MISAU/your organization/community?
- What has been the project impact on modifying health policy at the MOH?
- How would the program activities be implemented in two years if HAI funds are ended?
- What has been HAI's role in building local capacities?
- Other issues identified by the evaluation team.

ATTACHMENT D: List of persons interviewed and contacted

Health Alliance International Staff

- Maria Ana Chadreque Correia, MCH nurse, Malaria Program Manager
- Stephen Gloyd, Executive Director, Seattle
- Wendy Johnson, HAI Field Program Director
- Apolinário Soares, Manica Provincial Coordinator, Chimoio
- Diederike Geelhoed, MD PhD, Clinical Advisor
- Susana Knipe, Administrator, Beira
- Paulinho Davissonne, General Nurse, Program Assistant for Community Education, Manica
- Fungai Chinhacata, Medical Assistant, Malaria Program Assistant, Manica
- Fernanda Toalha, MCH Nurse, Program Assistant, HAI Manica
- Maria Seunda, MCH Nurse, Program Assistant, Manica
- Rosa Luis Gazela, MCH Nurse, Program Assistant, Manica
- Wendy Prosser, MPA, HIV Program Manager
- Florência Floriano, MCH Nurse, MCH program manager
- Esperança Gilda, MCH Nurse, MCH program assistant, Manica
- José Azael Daria, Preventive Medicine Assistant, Program Assistant for Community Education, Sofala

Ministry of Health Staff

- Elsa Jacinto, MD, for the MCH Area, Community Health Department, National Health Directorate
- Atália Macome, MD, Responsible for the PMTCT program, Community Health Department, National Health Directorate
- Francisco Saúte, MD, Responsible for Malaria Program, Epidemiology Department, National Health Directorate
- Paula Perdigão, MD, Tuberculosis Program Technical Advisor, Epidemiology Department, National Health Directorate

Sofala Provincial Directorate of Health

- Isabel Raul Massango, MCH nurse, Provincial Supervisor of the MCH program
- Odette Jorge Paulo, MCH nurse, School and Adolescent Health
- Fatima Augusto, MCH nurse, Child Health
- Ibraimo Mussa, MD, Responsible for the Community Health Section

Manica Provincial Directorate of Health

- Cavada Manjora, Preventive Medicine Assistant, STD/HIV-AIDS Program Manager
- Manuel João Cata, MD, Responsible for the Community Health Section
- Maria das Dores Graça Pedro, MCH nurse, PMTCT Focal Point

Health Facility Staff

- Miguel José Tafira Nhumba, MD, Clinical Director, Beira DH, Sofala
- Tomas Jonasse, General nurse, Social Assistant, Beira DH, Sofala
- Arturo Gremu, informatics expert, Data Manager, Beira DH, Sofala
- Clementina Júlio Manhique, MCH nurse, Public Health Education program, Dondo, Sofala
- Teresa Camea, MCH nurse, Responsible for the MCH area, Vila Manica district, Manica

- Eduardo Luis Charles, basic nurse, responsible for the Zónue Tabaco Health Centre, Vila Manica, Manica
- Domingos Fernando, Medical Assistant Vila Manica DDS, Manica
- Inga Choco, MD, Medical Doctor-in-chief, Vila Manica DDS, Manica
- Maria Inês Tomo, MD, in-charge of HIV/AIDS program, Vila Manica DDS, Manica
- Maria Isabel Mabunda, Social Assistant, STD/AIDS, Vila Manica DDS, Manica
- Maria Teresa Francisco, GATV Jovial, Vila Manica DDS, Manica
- Francisca Paula João, VCT counselor, Vila Manica DDS, Manica District Doctor in chief, MCH responsible in Gondola district, Manica.
- Ana Maria Lourenço, MCH nurse, Gondola Health Centre, Gondola, Manica

Other Community Members: The evaluation team met with at least 50 CLCs, 40 HBC activists, 8 youth VCT activists and did some interviews with health care service users but did not record their names. Below is a list of a few of these community stakeholders.

- Luisa Tomás, President of the CLC of the City of Dondo, Dondo, Sofala
- Bernardo Seventino Muiambo, shopkeeper, Vila Manica, Manica
- Francisca Pedro, a pregnant woman, at the “casa de espera grávidas, Gondola Health Centre, Gondola, Manica
- Maria Tomo, a pregnant woman, at the “casa de espera grávidas”, Gondola Health Centre, Gondola, Manica

ATTACHMENT E: CD with electronic copy of the report

ATTACHMENT F: Special reports

The following is a list of relevant conference abstracts and manuscripts detailing project achievements.

Conference Abstracts

Oral presentations at the bi-annual Mozambique Medical Conference (12th Jornadas de Saúde, June 13-17, 2005)

1. Pentecostal, Zionist, and Apostolic Churches in Central Mozambique: their influences in health beliefs and AIDS treatment. **James Pfeiffer^{1,2}, Paulino Davisson³, Orvalho Augusto⁴, Kenny Gimbel-Sherr¹, Sarah Gimbel-Sherr¹**
[1] Health Alliance International, [2] University of Washington, [3] Provincial Health Directorate, Manica, [4] Eduardo Modlane School of Medicine.
2. The Contribution of Community Leader Councils in Relation to Community Health Agents. **Teresa Cameia¹, Francisca dos Santos¹, Felezelina das Dores Jorge¹, Apolinário Soares², Kenneth Sherr¹, James Pfeiffer¹**
[1] Provincial Health Directorate, Manica, [2] Health Alliance International
3. Local Health Worker Application of the Integrated Management of Childhood Illness Program. **Paula Brentlinger^{1,2}, Stephen Morris¹, Kenneth Sherr², Maria Ana Correia², Esperança Tavede³, Stephen Gloyd^{1,2}, Marques Machaie³, Pedro João Corda⁴**
[1] University of Washington, [2] Health Alliance International, [3] Provincial Health Directorate, Manica, [4] Provincial Health Directorate, Sofala
4. Equity in Access to Insecticide-Treated Mosquito Nets to Prevent Malária in Central Mozambique. **Paula E. Brentlinger^{1,2}, Maria Ana C. Correia², Kenneth Gimbel-Sherr², Benjamin Stubbs¹, Mary Anne Mercer^{1,2}, Fungai Simbe², Marquês Machaie³, Pedro João Corda⁴, Stephen Gloyd^{1,2}**
[1] University of Washington, [2] Health Alliance International, [3] Provincial Health Directorate, Manica, [4] Provincial Health Directorate, Sofala
5. Pilot Intermittent Preventive Treatment of Malaria in Pregnancy in Central Mozambique. **Martinho Dgedge¹, Paula Brentlinger^{2,3}, Maria Ana Correia³, Kenneth Sherr³, Stephen Gloyd^{2,3}, Pedro João Corda⁴, Isabel Massango⁴, Marquês Machaie⁵, Esperança Tavede⁵**
[1] Ministry of Health, [2] University of Washington, [3] Health Alliance International, [4] Provincial Health Directorate, Sofala, [5] Provincial Health Directorate, Manica
6. Evaluation of the Therapeutic Efficacy of Chloroquine and Sulfadoxine-Pyrimethamine in the Treatment of Malaria in Children Under 5 in Central Mozambique. **Paula Brentlinger^{1,2}, Maria Ana Correia², Kenneth Gimbel-Sherr², Stephen Gloyd^{1,2}, Marquês Machaie³, Luisa Cumba³, Manuel Cata³, Samuel Mabunda⁴**
[1] University of Washington, [2] Health Alliance International, [3] Provincial Health Directorate, Manica, [4] Ministry of Health

7. Tendencies in the Tuberculosis Program: adherence to anti-tuberculosis treatment in Sofala Province. **Virgínia Saldanha¹, Flávio Wate¹, Fernanda Jose², Josefa Janeiro^{1,2}, Julião Cumbane^{1,2}, Alfredo McArthur², Pablo Montoya³**
[1] Provincial Health Directorate, Sofala, [2] MOH, [3] Health Alliance International
8. Adherence to Anti-Retroviral Medicines and Risk Factors for Therapeutic Failure in Manica and Sofala Provinces. **Tomas Jonas¹, Rabia Colaço², Maria Georgina João¹, Domingos Manjira³, Marcelle Diane Matsika-Claquin¹, Mark Micek^{1,4}, Wendy Johnson¹, Matt Harris¹, Pablo Montoya¹**
[1] Health Alliance International [2] Beira Central Hospital [3] Chimoio Provincial Hospital [4] University of Washington
9. Risky Sexual Behavior Among Patients on HAART in Central Mozambique. **Cynthia R. Pearson, Ph.C¹, Isaac Muchenje², Stephen Gloyd, MD, MPH¹**
[1] University of Washington, [2] Health Alliance International
10. Patient Flow Between Voluntary Testing Sites and Day Hospital Services in Beira and Chimoio. **Eduardo Metidiana¹, Firmino Jaqueta², Flávio Wate³, Nunes Sampaio³, Stephen Gloyd^{4,5}, Pablo Montoya⁴**
[1] Beira Central Hospital [2] Direcção Provincial de saúde de Manica, [3] Direcção Provincial de saúde de Sofala, [4] Health Alliance International, [5] University of Washington
11. Evaluation of Patient Flow for Patients Eligible to Receive HAART in Outpatient Services in Beira City. **Miguel Nhumba¹, Zacarias Raimundo¹, Pita Tomas¹, Mark Micek², Gaël Claquin², Federico Cunhete¹, Rabia Colaco¹, Pablo Montoya²**
[1] Beira Central Hospital, [2] Health Alliance International
12. Patient Satisfaction for Day Hospital HIV/AIDS Services in Beira and Chimoio. **Agostinho Cunguara¹, Pablo Montoya¹, Marcelle Diane Matsika-Claquin¹, Maria Georgina¹, António Julião², Olga L.Silota³, Dias Bartolomeu⁴, Abrão Carlos⁴**
[1] Health Alliance International, [2] Samora Machel Secondary School, Beira, [3] Catholic University of Mozambique, [4] Samora Machel Secondary School, Chimoio
13. Inter-Laboratory Evaluation of CD4 Lymphocyte Cell Counting in the Chimoio Provincial Hospital Laboratory. **Desiderio Joaquim¹, Ana J Blanco², Ilesh V. Jani³, Pedro Vaz¹, Jone Natal¹, Pablo Montoya²**
[1] Provincial Hospital Laboratory, Chimoio, [2] Health Alliance International, [3] National Health Institute Immunology Laboratory
14. Correlation Between Total Lymphocyte Counts and Absolute CD4 Counts in the Day Hospitals in Beira and Chimoio. **Jorge Melo¹, Eduardo Metidiana², Ana Judith Blanco³, Mark Micek^{3,4}, Stephen Gloyd^{3,4}, Pablo Montoya³**
[1] Chimoio Provincial Hospital, [2] Beira Central Hospital, [3] Health Alliance International, [4] University of Washington

15. Expansion of HIV/AIDS Laboratory Capacity in Mozambique: Results of the First Year of the National CD4 Transport System. **Sarah Gimbel-Sherr¹, Elizabeth Coehlo², Kenneth Gimbel-Sherr¹, Ana Judith Blanco³, Rosa Marlene Manjate², Stephen Gloyd^{1,2}**
[1] University of Washington, [2] MOH, [3] Health Alliance International
16. International NGOs in the Expansion of HAART
KH Gimbel-Sherr¹, W Johnson¹, SO Gimbel-Sherr¹, MA Micek¹, J Pfeiffer^{1,2}, RM Manjate^{1,3}, S Gloyd^{1,2}
[1] Health Alliance International, [2] University of Washington, [3] MOH
17. Clinical and Socio-Demographic Characteristics in Day Hospital Attendees in Chimoio, Mozambique. **A. J. de Melo¹, M. I. Tomo², M. J. Harris³, M. Micek³, P. Montoya³, W. Johnson³, S. Gloyd³**
[1] Chimoio Provincial Hospital, [2] Manica District Hospital, [3] Health Alliance International
18. Short and Medium-Term Follow-up of Patients Enrolled at the Beira Day Hospital. **Mark Micek^{1,2}, Gaël Claquin¹, K. Gimbel-Sherr¹, Eduardo Metidiana³, Miguel Nhumba³, Pablo Montoya¹, Wendy Johnson¹, Stephen Gloyd^{1,2}**
[1] Health Alliance International, [2] University of Washington, [3] Beira Central Hospital
19. Prevention of Mother-to-Child Transmission of HIV in Manica and Sofala Provinces – a Qualitative and Quantitative Evaluation. **Esperaca Taverde¹, Isabel Massango², Graca Pedro¹, Florencia Floriano³, Maria Seunda³, Pablo Montoya³, Sarah Sheldon⁴**
[1] Provincial Health Directorate, Manica [2] Provincial Health Directorate, Sofala [3] Health Alliance International [4] UNICEF
20. Comparison of an Immunochromatographic Syphilis Test and Rapid Plasma Reagent for Syphilis Screening in Pregnancy in Mozambique. **Pablo Montoya¹, Paula Brentlinger^{1,2}, Sheila Lukehart², Ana Judith Blanco¹, Josefa Sairosse³, Florência Floriano¹, Stephen Gloyd^{1,2}**
[1] Health Alliance International, [2] University of Washington, [3] Provincial Health Directorate, Sofala
21. Youth-Focused Voluntary Testing and Counseling – an opportunity for prevention in Mozambique. **S O Gimbel-Sherr¹, K H Gimbel-Sherr¹, M A Micek¹, W M Prosser¹, J Coutinho¹, E G Henrique¹, B Massamba¹, I Mateus², O Jorge³, D Mercedes⁴, M A Mercer^{1,5}, S Gloyd^{1,5}**
[1] Health Alliance International, [2] Provincial Health Directorate, Manica, [3] Provincial Health Directorate, Sofala, [4] MOH, [5] Universidade de Washington
22. Use and Perceptions of the VCT – Chimoio. **Ippolytos Kalofonos¹, Wendy Prosser², Cavada Majoro³, Wendy Johnson²**
[1] University of California, Berkeley [2] Health Alliance International [3] Provincial Health Directorate, Manica

23. Evaluation of the Epidemiologic Surveillance System in the District of Chibabava, Sofala. **Husene Camissa¹, Fernando Ignacio João¹, Armando Cunguara¹, Flavio Wate¹, Pedro Corda¹, Virginia Saldanha¹, Pablo Montoya²**
[1] Provincial Health Directorate, Sofala, [2] Health Alliance International

Poster presentations at the International AIDS Conference in Bangkok, 2004

1. Youth-Focused Voluntary Counseling & Testing: an opportunity for maximizing prevention in Mozambique. **SO Gimbel-Sherr¹, KH Gimbel-Sherr¹, MA Micek¹, WM Prosser¹, J Coutinho¹, EG Henrique¹, D Mercedes², MA Mercer^{1,3}, P Montoya¹, S Gloyd^{1,3}**
[1] Health Alliance International [2] MOH [3] University of Washington
2. Modified DOT Strategy for HAART in Beira, Mozambique. **MA Micek¹, KH Gimbel-Sherr¹, SO Gimbel-Sherr¹, Eduardor Matediana², M Rabkin³, S Gloyd^{1,4}**
[1] Health Alliance International [2] Beira Central Hospital [3] Columbia University [4] University of Washington

Manuscripts Submitted for Consideration for Publication

1. *Forthcoming in the Bulletin of the WHO*: Comparison of an Immunochromatographic Syphilis Test and Rapid Plasma Reagent for Syphilis Screening in Pregnancy in Mozambique. **Pablo Montoya¹, Paula Brentlinger^{1,2}, Sheila Lukehart², Ana Judith Blanco¹, Josefa Sairosse³, Florência Floriano¹, Stephen Gloyd^{1,2}**
[1] Health Alliance International, [2] University of Washington, [3] Provincial Health Directorate, Sofala
2. *Submitted for Publication*: Pilot Intermittent Preventive Treatment of Malaria in Pregnancy in Central Mozambique. **Martinho Dgedge¹, Paula Brentlinger^{2,3}, Maria Ana Correia³, Kenneth Sherr³, Stephen Gloyd^{2,3}, Pedro João Corda⁴, Isabel Massango⁴, Marquês Machaieie⁵, Esperança Tavede⁵**
[1] Ministry of Health, [2] University of Washington, [3] Health Alliance International, [4] Provincial Health Directorate, Sofala, [5] Provincial Health Directorate, Manica
3. *Submitted for Publication*: Equity in Access to Insecticide-Treated Mosquito Nets to Prevent Malária in Central Mozambique. **Paula E. Brentlinger^{1,2}, Maria Ana C. Correia², Kenneth Gimbel-Sherr², Benjamin Stubbs¹, Mary Anne Mercer^{1,2}, Fungai Simbe², Marquês Machaieie³, Pedro João Corda⁴, Stephen Gloyd^{1,2}**
[1] University of Washington, [2] Health Alliance International, [3] Provincial Health Directorate, Manica, [4] Provincial Health Directorate, Sofala
4. *Submitted for Publication*: Local Health Worker Application of the Integrated Management of Childhood Illness Program. **Paula Brentlinger^{1,2}, Stephen Morris¹, Kenneth Sherr², Maria Ana Correia², Esperança Tavede³, Stephen Gloyd^{1,2}, Marques Machaieie³, Pedro João Corda⁴**
[1] University of Washington, [2] Health Alliance International, [3] Provincial Health Directorate, Manica, [4] Provincial Health Directorate, Sofala

Other Widely Disseminated Report

1. Integrating TB and HIV Care in Mozambique: lessons from an HIV clinic in Beira. CORE Group document. September, 2005. Available at:
http://www.coregroup.org/working_groups/HAI_Mozambique_TB-HIV_case_study.pdf

ATTACHMENT G: Project data sheet form

Child Survival and Health Grants Program Project Summary

Oct-28-2005

Health Alliance International (Mozambique)

General Project Information:

Cooperative Agreement Number: FAO-A-00-98-00054-00
Project Grant Cycle: 18
Project Dates: (9/30/2002 - 9/29/2007)
Project Type: Cost XT

HAI HQ Backstop: James Pfeiffer

Field Program Manager Information:

Name: Pablo Montoya
Address: Rua Mayor Serpa Pinta 294
Beira , Sofala (not for mail)
Phone: 011-258-03-324271
Fax: 011-258-03-325882
E-mail: hai.beira@teledata.mz

Funding Information:

USAID Funding:(US \$): \$1,250,000

PVO match:(US \$) \$750,425

Project Information:

Description:

Health Alliance International's (HAI) program extension goals are to bring about sustainable improvements in maternal, perinatal, infant and child health and to facilitate the expansion of successful strategies more widely within Mozambique.

The interventions of the program are STI/HIV/AIDS prevention and care; malaria control; and maternal and newborn care. The program will scale up selected successful strategies and add new ones to address still unmet needs.

HAI will also conduct targeted operations research studies to improve the quality of program interventions. The programme's STI efforts include community education/motivation; support for community home care for persons with AIDS; AIDS education, voluntary counselling and testing (VCT), and community support for youth; and VCT for adults including a focus on the prevention of mother to child transmission (pMTCT) through the antenatal care system; support to the provincial health departments for ongoing assessments of drug resistance, training in new malaria drug regimens, and expanding the distribution and use of insecticide-impregnated bednets in selected districts; updating health worker skills in STI management; and improving community awareness and use of early antenatal care, birth planning, and early postpartum visits following home deliveries.

General Strategies Planned:

Advocacy on Health Policy
Strengthen Decentralized Health System

M&E Assessment Strategies:

KPC Survey
Organizational Capacity Assessment with Local Partners
Organizational Capacity Assessment for your own PVO
Community-based Monitoring Techniques
Participatory Evaluation Techniques (for mid-term or final evaluation)

Behavior Change & Communication (BCC) Strategies:

Mass Media
Interpersonal Communication
Peer Communication
Support Groups

Groups targeted for Capacity Building:

PVO	Non-Govt Partners	Other Private Sector	Govt	Community
US HQ (General) Field Office HQ	Local NGO	(None Selected)	National MOH Dist. Health System Health Facility Staff	Health CBOs

Interventions/Program Components:

Malaria (35 %)

(IMCI Integration)

(HF Training)

- Training in Malaria CM
- Adequate Supply of Malarial Drug
- Access to providers and drugs
- Antenatal Prevention Treatment
- ITN (Bednets)
- Care Seeking, Recog., Compliance
- IPT
- Drug Resistance

Maternal & Newborn Care (25 %)

(HF Training)

- Neonatal Tetanus
- Recog. of Danger signs
- Newborn Care
- Post partum Care
- Delay 1st preg Child Spacing
- Integr. with Iron & Folate
- Normal Delivery Care
- Birth Plans
- STI Treat. with Antenat. Visit
- Control of post-partum bleeding
- PMTCT of HIV
- Emergency Transport

HIV/AIDS (40 %)

(CHW Training)

(HF Training)

- Treatment of STIs
- Behavior Change Strategy
- Access/Use of Condoms
- STI Treat. with Antenat. Visit
- ABC
- PMTCT
- Nutrition

- Home based care
- PLWHA
- ARVs
- HIV Testing

Target Beneficiaries:

Infants < 12 months:	115,000
Children 12-23 months:	19,400
Children 0-23 months:	134,400
Children 24-59 months:	58,200
Children 0-59 months:	192,600
Women 15-49 years:	600,000
Population of Target Area:	2,500,000

Rapid Catch Indicators:

Indicator	Numerator	Denominator	Percentage	Confidence Interval
Percentage of children age 0-23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population)	0	0	0.0%	0.0
Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	0	0	0.0%	0.0
Percentage of children age 0-23 months whose births were attended by skilled health personnel	0	0	0.0%	0.0
Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child	0	0	0.0%	0.0

Percentage of infants age 0-5 months who were exclusively breastfed in the last 24 hours	0	0	0.0%	0.0
Percentage of infants age 6-9 months receiving breastmilk and complementary foods	0	0	0.0%	0.0
Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	0	0	0.0%	0.0
Percentage of children age 12-23 months who received a measles vaccine	0	0	0.0%	0.0
Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only)	0	0	0.0%	0.0
Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	0	0	0.0%	0.0
Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	0	0	0.0%	0.0
Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection	0	0	0.0%	0.0
Percentage of mothers of children age 0-23 months who wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated	0	0	0.0%	0.0

Comments for Rapid Catch Indicator

The data for this project's RAPID CATCH indicators come from 2 sources. They have used KPC data for all indicators, the exceptions are indicator 10 (Knowledge of 2 signs of childhood illness) and indicator 11 (Increased fluids during illness). The source for this data is the USAID Mission-funded HSDS survey.