TB AND HIV/AIDS INTEGRATION IN ETHIOPIA, KENYA, TANZANIA, AND ERITREA

Jan van den Hombergh and Kitty Lambregts-van Weezenbeek
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CONTENTS

Acknowledgments........................................................................................................... iv
Acronyms ......................................................................................................................... vi
1 Summary ....................................................................................................................... 1
2 Ethiopia Country Report ............................................................................................. 19
3 Kenya Country Report ................................................................................................ 59
4 Tanzania Country Report ........................................................................................... 97
5 Eritrea Country Report ................................................................................................. 129
Appendixes

2.1 Persons Interviewed in Ethiopia ............................................................................. 148
3.1 Persons Interviewed in Kenya ................................................................................ 150
4.1 Persons Interviewed in Tanzania ............................................................................ 152
References .................................................................................................................... 154
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ETHIOPIA, KENYA, AND TANZANIA REPORTS

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**ERITREA REPORT**

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| ACRONYMS |
|------------------|-------------------------------------------------|
| ACSM             | Advocacy, communication and social mobilization |
| ACT africa       | AIDS Campaign Team for Africa (Africa Region, World Bank) |
| ACU              | AIDS control unit |
| AFB              | Acid-fast bacilli (microscopy) |
| AFRO             | Regional Office for Africa (WHO) |
| AIDS             | Acquired immunodeficiency syndrome |
| ALERT            | All Africa Leprosy, Tuberculosis and Rehabilitation Training Center |
| AMREF            | African Medical and Research Foundation |
| ANC              | Antenatal clinic |
| APCT             | HIV/AIDS/STIs Prevention and Control Program |
| APHFTA           | Association of Private Health Facilities of Tanzania |
| ARCAN            | African Regional Capacity Building Project for HIV and AIDS Prevention, Care and Treatment |
| ART              | Antiretroviral therapy |
| ARTI             | Annual risk of TB infection |
| ARV              | Anti-retroviral drug |
| ATG              | Arcan training of trainers (TOT) graduates |
| C&T              | Counseling and testing; care and treatment |
| CACC             | Constituency AIDS control committee |
| CAS              | Country assistance strategy |
| CB-DOTS          | Community-based DOTS |
| CBO              | Community-based organization |
| CCC              | Comprehensive care center |
| CCM              | Country Coordinating Mechanism |
| CDC              | Centers for Disease Control and Prevention (US) |
| CDC              | Communicable diseases control |
| CDR              | Case detection rate |
| CFP              | Call for Proposal |
| CHA              | Community Health Agent |
| CHF              | Community health financing (Tanzania) |
| CHMT             | Council Health Management Team |
| CHW              | Community health worker |
Acronyms

CI  Confidence interval
CIDA  Canadian International Development Agency
CNR  Case notification rate
CO  Country Office
COLS  Clinical Officer Lung and Skin Disease
COMBI  Communication for Behavior Impact
COP  Country operational plan (PEPFAR)
CPT  Cotrimoxazole preventive therapy
CSC  Care and Support Contract
CSO  Civil society organization
CSSC  Christian Social Services Commission
CSW  Commercial sex worker
CTC  Care and treatment clinic
CTU  Care and Treatment Unit (NACP, Tanzania)
Ctx  Cotrimoxazole
CU  Central unit (NLTP)
CVA  Compliance verification agent
DACA  Drug Administration and Control Authority
DARE  Decentralized Reproductive Health and HIV and AIDS Project
DEC  Development Experience Clearinghouse (USAID)
DFID  Department for International Development (UK)
DHS  Demographic and Health Survey (see EDHS, KDHS)
DMOH  District Medical Officer of Health
DMS  Director of Medical Services
DOT  Daily observed treatment
DOT(S)  Directly observed treatment (Short-course)
DP  Development partner
DPCD  Diseases Prevention and Control Department
DPG  Health Sector Development Partners Group
DRS  Drug susceptibility survey
DST  Drug sensitivity testing
DTHC  District TBHIV coordinator
DTLC  District Tuberculosis and Leprosy Coordinator
EB  Extrabudgetary
EDARP  Eastern Deanery AIDS Relief Program (Kenya)
EDHS  Ethiopia Demographic and Health Survey
EDR  Extremely drug resistant
EHNRI  Ethiopian Health and Nutrition Research Institute
EHW  Environmental Health Workers
EMSAP  Ethiopia Multi-Sectoral HIV/AIDS Project
EoI  Expression of Interest
EP  Extrapulmonary TB
EPTB  Extrapulmonary tuberculosis
EQA  External Quality Assurance
ESEP  Economic and Social Empowerment Project
ETAEP  Ethiopian AIDS Emergency Plan
ETHARC  Ethiopian AIDS Resource Center
ETR  Electronic Treatment Register
FBO  Faith-based organization
FDC  Fixed-dose combination
FHI  Family Health International
FIDELIS Funds for Innovative DOTS Expansion through Local Initiatives
FMOH  Federal Ministry of Health (Ethiopia)
FY  Fiscal year
GAP  Governance action plan
GDF  Global Drug Facility
GDP  Gross domestic product
GF  See GFATM
GFATM  Global Fund to Fight AIDS, TB and Malaria
GHW  General health worker
GLC  Green Light Committee (WHO)
GLIA  Great Lakes Initiative on HIV and AIDS
GLRA  German Leprosy/TB Relief Association
GoK  Government of Kenya
GoT  Government of Tanzania
GSPK  Governance Strategy for Building a Prosperous Kenya
HA  Health assistant
HAART  Highly active antiretroviral therapy
HAMSET II  World Bank HIV/AIDS/STI, Malaria, TB and Reproductive Health Project (Eritrea)
HAPAC  HIV and AIDS Prevention and Care Project
HAPCO  HIV/AIDS Prevention and Control Office
HBC  Home-based care; high-burden country
HC  Health center
HCW  Health care worker
HEW  Health extension worker
HF  Health facility
HHS  Department of Health and Human Services (US)
HIV  Human immunodeficiency virus
HMIS  Health management information system
HO  Health officer
HQ  Headquarters
HRC  Human resource capacity
HRD  Human Resource Development
HRH  Human resources for health
HRSA  Health Resources and Services Administration (in HHS)
HSDP  Health Sector Development Project (Tanzania)
HSR  Health sector reform process
HSSP  Health Sector Strategic Plan (Tanzania)
HSTD  Health Sector Training Department
HtRD  Hard-to-Reach District
HW  Health worker
ICAP  International Center for AIDS Care and Treatment Programs (Columbia University)
ICB  International competitive bidding
ICC  Interagency coordinating committee
ICF  Intensified case finding
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ICRW</td>
<td>International Center for Research on Women</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and communication technology</td>
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<tr>
<td>IDS</td>
<td>Integrated disease surveillance</td>
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<tr>
<td>IDS-R</td>
<td>Integrated disease surveillance and reporting</td>
</tr>
<tr>
<td>IDU</td>
<td>Intravenous drug users</td>
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<tr>
<td>IEC</td>
<td>Information, education and communication</td>
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<tr>
<td>IMAI</td>
<td>Integrated management of adult illness</td>
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<tr>
<td>IMC</td>
<td>International medical corps</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>INH</td>
<td>Isoniazid</td>
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<tr>
<td>IPT</td>
<td>Isoniazid preventive therapy</td>
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<tr>
<td>ISAC</td>
<td>Intensified support action country</td>
</tr>
<tr>
<td>I-TECH</td>
<td>International Training and Education Center on HIV</td>
</tr>
<tr>
<td>ITN</td>
<td>Insecticide-treated net</td>
</tr>
<tr>
<td>IUATLD</td>
<td>International Union against Tuberculosis and Lung Diseases</td>
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<tr>
<td>JAPR</td>
<td>Joint HIV and AIDS Program Review</td>
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<tr>
<td>JARM</td>
<td>Joint Annual Review Mission</td>
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<tr>
<td>JFA</td>
<td>Joint financing agreement</td>
</tr>
<tr>
<td>JPIEGO</td>
<td>Baltimore, MD nonprofit organization affiliated with Johns Hopkins University (Ethiopia)</td>
</tr>
<tr>
<td>JSI</td>
<td>John Snow, Inc.</td>
</tr>
<tr>
<td>JSSC</td>
<td>Joint Sector Support Coordination</td>
</tr>
<tr>
<td>KAPTLD</td>
<td>Kenya Association for the Prevention of TB and Lung Diseases</td>
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<tr>
<td>KDHS</td>
<td>Kenya Demographic and Health Survey</td>
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<tr>
<td>KEMRI</td>
<td>Kenya Medical and Research Institute</td>
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<tr>
<td>KEMSA</td>
<td>Kenya Essential Medicines and Supplies Agency</td>
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<tr>
<td>KEF</td>
<td>Kenya Essential Package of Health</td>
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<tr>
<td>KHADREP</td>
<td>Kenya HIV and AIDS Disaster Response Project</td>
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<tr>
<td>KIT</td>
<td>The Royal Tropical Institute</td>
</tr>
<tr>
<td>KMTC</td>
<td>Kenya Medical Training Center</td>
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<tr>
<td>KNASP</td>
<td>Kenya National HIV and AIDS Strategic Plan</td>
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<tr>
<td>KNCV</td>
<td>Royal Netherlands Tuberculosis Association/Foundation</td>
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<tr>
<td>KNH</td>
<td>Kenyatta National Hospital</td>
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<tr>
<td>LDC</td>
<td>Least developed country</td>
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<tr>
<td>LEC</td>
<td>Leprosy Elimination Campaign</td>
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<tr>
<td>LFSP</td>
<td>Livingstone Food Security Project</td>
</tr>
<tr>
<td>LQAS</td>
<td>Lot Quality Assurance Sampling</td>
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<tr>
<td>M&amp;E</td>
<td>Monitoring and evaluation</td>
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<tr>
<td>MAP</td>
<td>Multicountry AIDS Program</td>
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<tr>
<td>MB</td>
<td>Multi-Bacillary</td>
</tr>
<tr>
<td>MCG</td>
<td>Monitoring and Coordination Group</td>
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<tr>
<td>MDA</td>
<td>Ministry, Department and Agency</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goal</td>
</tr>
<tr>
<td>MDR</td>
<td>Multiple-drug-resistant TB</td>
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<tr>
<td>MDR-TB</td>
<td>Multidrug-resistant TB</td>
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<tr>
<td>MDT</td>
<td>Multidrug therapy</td>
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<tr>
<td>MIS</td>
<td>Management information system</td>
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<tr>
<td>MO</td>
<td>Medical officer</td>
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<td>MOE</td>
<td>Ministry of Education</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>MOF</td>
<td>Ministry of Finance</td>
</tr>
<tr>
<td>MOFED</td>
<td>Ministry of Finance and Economic Development (Ethiopia)</td>
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<tr>
<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>MOHSW</td>
<td>Ministry of Health and Social Welfare</td>
</tr>
<tr>
<td>MOTBL</td>
<td>Medical Officer TB and Leprosy</td>
</tr>
<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>MP</td>
<td>Member of Parliament</td>
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<tr>
<td>MSF</td>
<td>Médecins Sans Frontières (Doctors without Borders)</td>
</tr>
<tr>
<td>MSH</td>
<td>Management Sciences for Health</td>
</tr>
<tr>
<td>MSM</td>
<td>Men having sex with men</td>
</tr>
<tr>
<td>MTCT</td>
<td>Mother-to-child transmission</td>
</tr>
<tr>
<td>MTEF</td>
<td>Medium-term expenditure framework</td>
</tr>
<tr>
<td>MOFED</td>
<td>Ministry of Finance and Economic Development (Ethiopia)</td>
</tr>
<tr>
<td>NACC</td>
<td>National AIDS Control Council</td>
</tr>
<tr>
<td>NACP</td>
<td>National AIDS Control Program (Tanzania)</td>
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<tr>
<td>NACS</td>
<td>National AIDS Council Secretariat</td>
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<tr>
<td>NAP</td>
<td>National AIDS Program</td>
</tr>
<tr>
<td>NASCOP</td>
<td>National AIDS and STI Control Program</td>
</tr>
<tr>
<td>NCTP</td>
<td>National HIV/AIDS Care and Treatment Plan 2003–2008 (Tanzania)</td>
</tr>
<tr>
<td>NGO</td>
<td>Nongovernmental organization</td>
</tr>
<tr>
<td>NHSSP</td>
<td>National health sector strategic plan</td>
</tr>
<tr>
<td>NIACC</td>
<td>National Inter-Agency Coordinating Committee (Tanzania)</td>
</tr>
<tr>
<td>NIH</td>
<td>National Institutes of Health</td>
</tr>
<tr>
<td>NLP</td>
<td>National Leprosy and Tuberculosis Program (Tanzania)</td>
</tr>
<tr>
<td>NPO</td>
<td>National program officer - TB</td>
</tr>
<tr>
<td>NQCL</td>
<td>National quality control laboratory</td>
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<tr>
<td>NTLC</td>
<td>National TB-leprosy coordinator</td>
</tr>
<tr>
<td>NTP</td>
<td>National TB Program</td>
</tr>
<tr>
<td>NVP</td>
<td>Nevirapine</td>
</tr>
<tr>
<td>OGAC</td>
<td>Office of the Global AIDS Controller</td>
</tr>
<tr>
<td>OI</td>
<td>Opportunistic infection</td>
</tr>
<tr>
<td>OP</td>
<td>Office of the President</td>
</tr>
<tr>
<td>OPD</td>
<td>Outpatient department</td>
</tr>
<tr>
<td>OPD</td>
<td>Out Patient Department</td>
</tr>
<tr>
<td>OR</td>
<td>Operational research</td>
</tr>
<tr>
<td>OVC</td>
<td>Orphans and vulnerable children</td>
</tr>
<tr>
<td>PASDEP</td>
<td>Programme for Accelerated Implementation of Sustainable Development to End Poverty</td>
</tr>
<tr>
<td>PASS</td>
<td>Pharmaceutical Administration and Supply Services</td>
</tr>
<tr>
<td>PATH</td>
<td>Program for Appropriate Technology in Health</td>
</tr>
<tr>
<td>PDA</td>
<td>Personal digital aid</td>
</tr>
<tr>
<td>PEPFAR</td>
<td>President's Emergency Plan for AIDS Relief</td>
</tr>
<tr>
<td>PER</td>
<td>Public Expenditure Review</td>
</tr>
<tr>
<td>PHARPE</td>
<td>WHO/Public Health and Rehabilitation Programme</td>
</tr>
<tr>
<td>PHCT</td>
<td>Provider-initiated HIV counseling and testing</td>
</tr>
<tr>
<td>PIM</td>
<td>Project Implementation Manual</td>
</tr>
<tr>
<td>PITC</td>
<td>Provider-initiated testing and counseling</td>
</tr>
<tr>
<td>PLWHAs</td>
<td>People living with HIV/AIDS</td>
</tr>
<tr>
<td>PMLT</td>
<td>Provincial medical laboratory technologist</td>
</tr>
<tr>
<td>PMO</td>
<td>Provincial medical officer</td>
</tr>
</tbody>
</table>
Acronyms

PMTCT  Prevention of mother-to-child transmission
PoA    Plan of Action
PPB    Pharmacy and Poisons Board
PPM    Public-private mix
PPM (P) Public-private mix (partnership)
PPM-DOTS Public-Private Mix for DOTS
PS     Permanent Secretary
PSO    Private sector organization
PTB    Pulmonary tuberculosis
PTB-   Pulmonary tuberculosis smear negative
PTB+   Pulmonary tuberculosis smear positive
PTC    Post-test clubs
PTLC   Provincial TB and Leprosy Coordinator
PTS    Patient treatment support
QA     Quality assurance
QC     Quality control
R&R    Recording and reporting
RB     Regular budget
RBM    Results-based management
RFP    Request for Proposal
RHB    Regional health bureau
RPM+   Rational Pharmaceutical Management
RNE    Royal Netherlands Embassy
RSA    Republic of South Africa
RTLC   Regional Tuberculosis and Leprosy Coordinator
SCC    Short-course chemotherapy
SDPRP  Sustainable Development Poverty Reduction Programme (Ethiopia)
SIDA   Swedish International Development Agency
SOE    Statement of expenditure
SOP    Standard operating procedure
SRSZ   Southern Red Sea Zone (Eritrea)
ss+/-  Sputum smear positive/negative
STAG   Stop TB Advisory Group
STB    Stop TB Strategy (WHO)
STD    Sexually transmitted disease
STI    Sexually transmitted infection
SWAp   Sector-wide approach
TB     Tuberculosis
TBA    Traditional birth assistant
TBCTA  TB Coalition for Technical Assistance
TBD    To be determined
TB-ICC  TB Inter-Agency Coordination Committee
TBL    Tuberculosis and leprosy
TBLC   TB and Leprosy Control (now TLCT)
TDR    Tropical Disease Research
TFR    Total fertility rate
TFT    Task Force Training
THAC   TB/HIV Advisory Committee
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>TLCP</td>
<td>Tuberculosis and Leprosy Control Programme</td>
</tr>
<tr>
<td>TLCT</td>
<td>Tuberculosis and Leprosy Control Team</td>
</tr>
<tr>
<td>TO</td>
<td>Transferred out</td>
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<tr>
<td>TOR</td>
<td>Terms of reference</td>
</tr>
<tr>
<td>TOT</td>
<td>Trainer of trainers</td>
</tr>
<tr>
<td>TOWA</td>
<td>Total War against HIV and AIDS</td>
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<tr>
<td>TRAC</td>
<td>TB Research Advisory Committee</td>
</tr>
<tr>
<td>TRP</td>
<td>Technical Review Panel</td>
</tr>
<tr>
<td>TULIP</td>
<td>Tuberculosis and Leprosy Information Programme</td>
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<tr>
<td>TWG</td>
<td>Technical working group</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNAIDS</td>
<td>Joint United Nations Programme on HIV/AIDS</td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Fund for Population Activities</td>
</tr>
<tr>
<td>UNGASS</td>
<td>United Nations General Assembly 26th Special Session Document</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Emergency Fund</td>
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<tr>
<td>UoB</td>
<td>University of Brescia</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>VCT</td>
<td>Voluntary counseling and testing</td>
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<tr>
<td>VMT/ST</td>
<td>Voluntary Muscle Testing/ Sensory Testing</td>
</tr>
<tr>
<td>WB</td>
<td>World Bank</td>
</tr>
<tr>
<td>WCDC</td>
<td>Woreda Communicable Diseases Coordinator</td>
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<tr>
<td>WDI</td>
<td>World Development Indicators</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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</tbody>
</table>
1 SUMMARY

COLLABORATIVE TB AND HIV/AIDS ACTIVITIES IN WORLD BANK-SUPPORTED MULTI-COUNTRY AIDS PROJECTS: LESSONS LEARNED

1. OBJECTIVE AND METHODOLOGY

1.1 Background and Objective

The World Bank, in close cooperation with the World Health Organization (WHO), intends to assist client countries to improve the complementarities between national HIV/AIDS programs and national tuberculosis programs. The Ethiopia, Kenya, and Tanzania assessments in this report use the same framework, were written by the same author, and are focused on TBHIV. This analysis identifies lessons learned to date from these three countries and highlights existing opportunities and critical obstacles to the implementation of future collaborative TBHIV activities. The fourth country report in this volume is a comprehensive review of Eritrea’s entire TB program but does not include an in-depth treatment of TBHIV. The Eritrea report also uses a different approach and has a different author than the other three country reports.

This analysis is intended to lead to the formulation of adequate next steps including Bank entry and leverage points to encourage TBHIV collaboration. For this purpose, the Bank received a grant under the Bank-Netherlands Partnership Programme (BNPP). The Bank commissioned a consultancy to carry out the analysis in Ethiopia, Kenya, and Tanzania.

In contrast, the Eritrea report, also funded by BNPP, focuses on the strengths and weaknesses of the country’s National Tuberculosis Control Program (NTCP,
identifies program components that need to be introduced, and proposes a plan to strengthen NTCP. All recommendations are in line with the 2005 World Health Organization (WHO) global STOP TB Strategy (STB).

1.2 Methodology

This TBHIV analysis was completed in all the first three countries using the following methodology:

- Study of relevant country specific documents pertaining to HIV/AIDS, TB, TBHIV, and relevant general health policy (the list of documents consulted is attached to each respective country report)

- Open interviews with a wide range of stakeholders, TB and HIV/AIDS control program staff; technical partners; and representatives of bilateral and multilateral donors, UN agencies, and national research institutes who are in one way or another involved in TBHIV collaboration (a list of persons interviewed is attached to each respective country report). Interviews were open but focused on a number of critical themes in TBHIV:
  - Perception of the importance of TBHIV collaboration
  - Current status of TBHIV intervention
  - Performance of HIV/AIDS and TB programs
  - Monitoring and evaluation
  - Human resource situation, including training quality and coordination
  - Decentralization and embedment at regional and district levels
  - General health system infrastructure
  - Coordination of the diversity in technical support, implementing, and funding partners
  - Financing opportunities
  - Current and potential future role of the World Bank in TBHIV.

- A field visit in each country to at least one urban and one rural health facility that provide TB as well as HIV care and treatment service.
The report generated from this information consists of a general overview and three country reports, each presenting:

- Concise and updated country information and specific introductions to the TB and the HIV/AIDS control program
- Description of the TBHIV status and performance following the field test guide for M&E of TBHIV collaborative activities (STB WHO)
- Estimate of the current and anticipated future funding opportunities
- Assessment of the current as well as the potential future link between Bank country programs and TBHIV intervention.

2 TBHIV COLLABORATION

This section contains a general introduction to the essentials of TBHIV collaboration and summarizes the status of TB collaborative activities in Kenya, Ethiopia, Tanzania, and Eritrea. The section ends with a list of the main constraints experienced and shared by these countries. Similarly, the section summarizes the most pressing demands directed to the Bank, as formulated by the countries. Detailed information regarding this section can be found in the individual country reports.

2.1 TBHIV Collaboration and Africa

In 2005 African health ministers declared TB a regional emergency, recognizing in large part Africa’s uncontrolled epidemic of HIV-associated TB.\(^1\) Approximately 38 percent of African TB patients are estimated to be HIV infected. This TBHIV syndemic has seriously compromised even historically strong national TB programs in many countries.\(^2\) TB programs are overwhelmed by an increasing volume of HIV-associated TB cases and by the need to manage cases and ensure treatment completion. Furthermore, TB is the leading cause of death among HIV-infected persons, and HIV is the strongest predictor of progression from latent TB infection to active disease. The TBHIV syndemic also has had a tremendous impact on human resources. In a workforce that has remained the same or decreased, the increased overall number of TB patients has weakened TB programs’ infrastructure and has increased poor TB outcomes such as treatment default, death, and the emergence of extra-drug-resistant (XDR)-TB.

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\(^1\) WHO 2006.

\(^2\) Laserson and Wells 2007.
To address the impact of HIV-associated TB and reach the global TB targets, TB-HIV collaborative activities must be scaled up and coordination between HIV and TB control programs must be tightened. Progress has been made, but in reality all countries are dismally behind.\(^3\) WHO estimated that, by the end of 2005, 125,000 TB patients had been HIV tested in high-HIV-prevalence settings in Africa.\(^4\)

For 2006, however, the new global plan called for 600,000 TB patients to be counseled and tested in these settings\(^5\): HIV care settings, such as voluntary counseling and testing (VCT) centers; comprehensive care clinics; and centers to prevent mother-to-child transmission (MCTC) of HIV. These represent ideal settings for identifying persons with active TB. Screening for active TB should be increasingly incorporated in these areas and be associated with provision of Isoniazid preventive therapy (IPT).

To properly diagnose and reduce TB in the context of HIV, high-quality diagnostic services, including sputum cultures, must be made widely available. Enhanced TB laboratory capacity also will improve the ability to detect multidrug-resistant (MDR)-TB and XDR-TB. Finally, one of the most important interventions to control HIV-associated TB is to provide universal access to antiretroviral (ARV) treatment for all eligible HIV-infected individuals.\(^6\) Treatment for HIV prevents or slows progression from latent infection to TB disease and leads to better treatment outcomes in patients who have TB. In 2005, 22,000 HIV-infected TB patients were reported to be on ARV treatment in high-HIV settings in Africa.\(^7\) However, the global plan called for 200,000 co-infected persons to be on ARV in these settings by 2006. Integration of TB and HIV services in all facilities (that is, in HIV-care settings and in TB clinics), especially at the periphery, is needed to treat effectively those infected with both diseases, to prolong their survival, and to maximize limited human resources. Diagnosing and treating TB disease in HIV-care settings will increase case detection and improve rates of TB treatment completion. Infection control will be paramount in this context. Implementation and scale-up of these activities are critical if globally agreed targets are to be reached in Africa. However, these targets can be met through these activities only if renewed attention to TB-HIV collaborative activities is combined with political commitment and will.

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\(^3\) Reid and others 2006, 483–95.
\(^4\) WHO 2007.
\(^5\) WHO 2006.
\(^6\) Corbett 2006.
\(^7\) WHO Report 2007.
2.2 TBHIV Collaboration in Ethiopia, Kenya, and Tanzania

Five years after the 2002 regional TBHIV country-proposal-writing workshop in Nairobi, Ethiopia, Kenya, and Tanzania have come a long way in TBHIV collaboration. All three countries shared striking similarities, particularly in the first years after the Nairobi workshop. They made an enthusiastic start. The draft proposals were elaborated, pilot sites initiated, and national TBHIV coordination bodies set up, supported by moderate, but at the time sufficient, WHO seed funds. Focal staff for TBHIV were recruited and appointed at the level of TB control program. Technical assistance (TA) was provided by WHO and the US Centers for Disease Control and Prevention (CDC).

However, soon after that first spark of zeal and commitment, a period of relative inactivity and limited progress characterized the process, albeit for specific reasons different for each country. After 2–3 years of relatively sluggish activity, funding opportunities were provided by the Global Fund to Fight AIDS, TB and Malaria (GFATM) that specifically requested that TBHIV be visible in its proposals, and by the President’s Emergency Plan for AIDS Relief (PEPFAR) to expand HIV care and treatment (C&T) services.

Ethiopia made a strong start after the 2002 Nairobi meeting. Within 2 years, it had a committed, representational national committee; 7 operational pilot sites; a national TBHIV coordinator seconded to NTLCP; and an approved Round 1 GFATM grant with a TBHIV component and considerable partner support. However, following a series of setbacks, such as subsequent staff departures at NTLCP, controversies within MOH, and resignation of the TBHIV coordinator, TBHIV came to a virtual standstill. It was revived only in 2006. Surprisingly, the resumption of activities came from the national MOH/HIV/AIDS Prevention and Control Office (HAPCO/MOH) HIV control program. While the provision of C&T services is moving rapidly with an increasing number of health centers (HCs) providing ART, the TBHIV activities were taken over mainly by technical partners in C&T. In response, HAPCO, NTLCP, and WHO established an active TBHIV technical working group (TWG). In 2007 the TWG completed unfinished work such as revising guidelines and adapting TB registers and R&R formats and is coordinating training and quality assurance.

Kenya is blessed with a strong TB control program. Critical staff changes and the introduction of diagnostic HIV testing and counseling triggered remarkably fast progress in routine HIV testing of TB patients country-wide, at a time that most hospitals were providing HIV treatment and care services. Kenya matched this move with TBHIV training of general health staff, country-wide replacement of TB recording and reporting (R&R) systems to include HIV indicators in the
formats and registers, and establishment of TBHIV committees at provincial and district levels. All of these activities were driven solely by the country’s Tuberculosis and Leprosy Control Program (TLCP).

In Tanzania, after dozing for 3 years with only 3 pilot sites, the National Tuberculosis and Leprosy Control Program (NTLP) was implemented in 51 districts with strong technical and implementation support from USG partners in the country. Tanzania also is a country gifted with a solid TB control program, well established up to the district level. Its TBHIV activities are facilitated predominantly by NTLP. Similar to Kenya, the main progress is seen in providing diagnostic counseling and training (DCT) to TB patients; and for those who test positive, provision of Cotrimoxazole preventive therapy (CPT) and referral for HIV care and treatment (C&T). This development is associated with the fast roll-out of HIV C&T services in the country and the commitment to TBHIV by all technical and funding partners active in HIV care and support. The TB M&E system was adapted to accommodate these changes. However, structured collaboration at the national level is lagging somewhat behind the developments at the district level. The national committee has met only twice and the national TBHIV policy, although finalized, is awaiting official endorsement by the MOHSW.

In summary, it is obvious that these three countries have made strong progress in activities to reduce the burden of HIV in TB patients, particularly in achieving high rates of TB patients being tested for HIV. On the other hand, little progress is observed in reducing the burden of TB among people living with HIV/AIDS (PLWHA), such as screening for TB at VCT, C&T, and PMTCT entry points. IPT is almost invisible. This discrepancy is associated with the fact that TBHIV collaboration is strongly facilitated by national TB programs (NTPs), whereas commitment and involvement of national AIDS control programs (NACPs) are not at par. Both TB and HIV programs emphasized the importance of TB for C&T aspects, as is undeniably obvious, for strategic plans and other policy documents. The perception that TB is a major but preventable determinant of morbidity and mortality in PLWHA appears to be absent across the board. On the positive side, Dr. Fatma Mrisho, Director of TACAIDS, Tanzania’s national HIV/AIDS commission, said:

> TB is a major determinant in all four main areas of the currently prepared new HIV/AIDS Strategic Plan and ought to be clearly visible in all these four components: Prevention; OVC [orphans and vulnerable children]; Impact and Mitigation; and Care, Treatment, and Support.

Gaining experience with TBHIV collaboration, the programs, staff, and partners involved in the process have begun to realize that needed improvements will
require massive investments in largely neglected areas. Necessary improvements include expanding coverage of the country, increasing the numbers of patients under care, and implementing the much needed decentralization of TBHIV into district health structures. These improvements would be coupled with structurally integrated supportive supervision and effective monitoring, data management, and evaluation. Examples include laboratory capacity, diagnostic capacity in general, infection control, physical infrastructure, and last but not least, human resource capacity. All of these improvements must be effectively coordinated.

2.3 Summary of TBHIV Status in Ethiopia

TBHIV collaboration in Ethiopia made a serious start in 2002. Early activities consisted of completing a national TBHIV plan, establishing a multistakeholder TBHIV Advisory Committee (THAC), and initiating TBHIV collaborative activities in seven pilot sites. In 2003 the TB and Leprosy Control Program (TLCP) garnered a Global Fund (GF) grant in Round 1. This proposal included a component for specific TBHIV collaborative activities. Following a series of trainings, implementation, although slow, commenced in the seven pilot sites. Guidelines for IPT, CPT, and R&R were developed, and comprehensive national TBHIV implementation guidelines were distributed. All these activities were driven mainly by TLCP.

In the same period, the initiation and subsequent acceleration of HIV care and treatment (C&T) profoundly changed the environment for TBHIV collaboration. Many changes occurred, particularly in 2005 and 2006, during which HIV C&T was established in all hospitals and in a rapidly increasing number of HCs. In the framework of this activity, MOH-HAPCO and USG partners included TBHIV activities in their programs, initially in hospitals, followed by HCs. More recently, a number of successive remedial actions revitalized THAC and established a multistakeholder TBHIV Technical Working Group (TWG) with the agenda to address priority demands for TBHIV. These priorities included revising guidelines such as TBHIV guidelines, HIV/AIDS clinical guidelines, IPT SOPs, TB screening protocol, smear-negative TB diagnostic guidelines, and R&R systems; and developing an M&E framework. For both HIV/AIDS and TB, MOH launched an emergency Millennium Plan for the months remaining until the Ethiopian Millennium (September 2007). All renewed efforts to bring TBHIV collaboration to par were facilitated by new funding opportunities. Specifically, funds were provided by the Office of the Global AIDS Controller (OGAC)/WHO Funds for TBHIV, the approval of a PEPFAR Plus-up Grant specifically for TBHIV activities, and an approved TB proposal in GF Round 6, including a TBHIV component for which grant negotiations were being concluded. In
alignment with HSDP and the Programme for Accelerated Implementation of Sustainable Development to End Poverty (PASDEP), all of the plans under these funds and proposals will end in 2010.

TLCP is completing its second mid-term strategic plan. HAPCO has published the HIV/AIDS Roadmap and is completing its mid-term strategic plan. TBHIV activities are well represented in all of these documents.

### 2.4 Summary of TBHIV Status in Kenya

Kenya is among the first countries that successfully introduced and rolled out some aspects of internationally recommended TBHIV collaborative activities, albeit with considerable delay in the initial stage of implementation.

Kenya reports TB cases using a countrywide integrated TBHIV R&R system. Besides the adaptation of the R&R system, the roll-out of routine HIV testing of TB patients is facilitated by the development of a clear policy on HIV testing in clinical settings and the availability of sufficient financial and other resources. DTC in TB patients with high uptake of the patients involved resulted in more than 50 percent of TB patients nationwide being tested for HIV. Figures were as high as 82 percent in some provinces. However, the reported proportion of these patients receiving ART is low, illustrating the discrepancy between TB services well established at the health center level and even below, and HIV care services hitherto provided through hospitals.

Progress appears to be limited to activities to reduce the burden of HIV in TB patients. The progress in TBHIV collaboration results predominantly from TLCP commitment and activity. These are reflected in staff policies, strategic documents, and representation on TBHIV coordinating bodies. TBHIV collaborative activities related to decreasing the burden of TB in PLWHA have lagged. Favorable conditions to carry the initiative forward are there, such as national, provincial, and district TBHIV committees; political commitment; and substantial funding. However, balanced progress depends on better collaboration with NASCOP and more effective joint planning, as well as better coordination with all stakeholders in HIV care and treatment.

Recently completed HIV/AIDS policy documents do include TB, but exclusively regarding testing TB patients and providing HIV treatment and care. TB case-finding and prevention of TB-related HIV morbidity and mortality at HIV entry sites are ignored across the board, indicating that the benefits of these activities for HIV care in general is ill understood. Although during the uptake for ARV treatment, some questions with regard to suspect TB are asked, no standardized TB screening tool is available. It was suggested to introduce TB health staff into
the CCCs. These staff then will be responsible for screening HIV patients and treating those diagnosed with TB.

2.5 Summary of TBHIV Status in Tanzania

Early activities consisted of initiating TBHIV collaborative activities in 3 pilot sites—Iringa, Tempeke, and Korogwe—following a GFATM grant (Round 3) that included HIV testing of TB patients.

Diagnostic counseling and testing (DCT) was introduced in 45 of 126 districts, and an increasing number of TB patients were routinely tested for HIV and referred for HIV care if found positive. During 2005–06, NTLP revised manuals, R&R formats, and registers to capture essential HIV data in the routine TB M&E system. In 2006 NTLP started scaling up TBHIV services, targeting 51 districts by 2008. By the end of 2006, a National TBHIV Coordination Committee was established and a draft national TBHIV policy prepared. TBHIV collaborative activities were extended to a total of 51 districts. In the framework of HIV C&T expansion, NACP and USG partners included TBHIV activities in their programs, initially in the hospitals, then in health centers.

Currently, TBHIV collaborative activities are scaled up beyond the few pilot districts that have started implementation. The intention is to cover the entire country by 2015. Coverage includes training health care providers at TB clinics in HIV/AIDS care and prevention. Tanzania received financial support from GFATM Round 3 to implement TBHIV collaborative activities in 45 of 126 districts. In 2005 the country also accessed PEPFAR funding to implement TBHIV activities in 50 additional districts in the next 5 years. TBHIV activities are implemented in collaboration with a broad-based coalition involving a few private providers, mainly in the urban areas; faith-based organizations; and local governments.

2.6 Summary of TB Findings in Eritrea

The assessment of Eritrea’s TB control program was conducted in February 2006 with technical support from KNCV. Readers are asked to take into account that the Eritrea country report is based on a 2006 survey. Notwithstanding, it is the most recent source of nation-wide data.

The summary was intended to:

1. Diagnose the strengths and weaknesses of TB control in Eritrea
2. Identify program components that needed to be introduced
3. Propose a plan to strengthen the TB program.
In 2006 the strengths of Eritrea’s TB program included:

1. Clear and uniform institutional TB control arrangements throughout the country

2. Relatively uninterrupted supply of TB drugs and other supplies at all levels

3. Positive and stable treatment outcomes.

In addition, the country had just carried out a national TB prevalence survey.

Challenges for the TB control program included (a) insufficient human capacity at the central level, (b) inadequate supervision and technical support (for both quantity and quality) at all levels; and, as a result, (c) a not-so-strong TB recording and reporting (R&R) system at all levels, (d) inadequate case detection, (e) absence of an External Quality Assurance (EQA) system for the microscopy network, and (f) an obsolete (1997) National TB Manual.

The assessment also recommended new components to be introduced in TB control. These included (a) implement systematic TBHIV program cross-referral, including the systematic surveillance of HIV among TB patients, (ii) implement TB drug-resistance surveillance (DRS), including a baseline assessment of the prevalence of resistance to first-line drugs in Eritrea, and periodically monitor the situation, (c) on this basis, prepare for the management of multi-drug-resistant (MDR) TB.

Finally, the 2006 assessment proposed a detailed operational plan for the TB Control Program to address these issues. It is noteworthy that, following the assessment, many of its recommendations have been carried out. For the reader’s fuller information, in the Eritrea country report, the recommendations that have been implemented are noted in their accompanying footnotes.

### 2.7 Main Constraints and Demands for Effective TBHIV Collaboration

A number of constraints identified among the countries were strikingly similar. Listed below, these constraints illustrate the far-reaching implications of effective implementation of TBHIV collaborative activities. The country reports provide background information on the general constraints.

- TBHIV commitment and leadership at various levels are not sufficiently strong.

- Reducing the burden of TB among PLWHA in general has a very low pace of acceptance, preparation, and implementation.
• Linkages between TB and HIV services are still seen as a big challenge. TB services are decentralized to the dispensary level, whereas ARV services are limited to hospitals and a few health centers. HIV-positive TB patients may have to comply with 2 different drug supply and control visit systems: 1 in the comprehensive care clinic and 1 in the TB clinic. Having two systems burdens the patient so lessens the likelihood of adherence.

• Weak linkage with care and treatment facilities affects good referral systems and access to CPT/ARV and other OIs necessary for TBHIV co-infected patients.

• Physical facilities and numbers of dedicated human resources for TB programs are insufficient to meet additional tasks such as DTC, extensive R&R requirements, and increased coordination and training activities.

• The workload for health care workers at the implementation sites is increasing arising from new reporting formats and new skills required in testing and using new tools.

• The huge demand to train HWs and communities regarding TBHIV collaboration has revealed the human and financial resource capacity deficit.

• Training materials are insufficiently standardized. Endorsed training materials are not used by all stakeholders. Effectiveness and methodology of training are affected by the perceived speed in training large numbers of health staff. Pre-service training is not fully addressed.

• Advocacy and communication for the TBHIV collaborative activities, necessary to raise awareness among communities to accept and increase HIV counseling/testing, are weak.

• Quality assurance (QA) for all components generally is not well established.

• TBHIV geographical coverage is incomplete, in particular for mobile communities, hard-to-reach areas, urban set-ups, and slums.

• Nonpublic care providers such as the private sector, civil society, and communities have limited involvement in planning and implementation.

• Integrated, effective, and supportive supervision and on-the-job training for TBHIV are not happening.

• TB- and HIV-related stigma remains among HWs.
• Key decision-makers and service providers have concerns about INH due to fear of drug resistance.

• Data management at all levels is inefficient and ineffective.

• Coordination and joint planning to match the large number of stakeholders and technical partners in TBHIV are weak.

• Decentralization of TBHIV collaboration to regional/provincial and district health offices (WHO) level is insufficient.

• With the national steering committee being seen as TB-driven and the absence of structured information on the performance of district and HF TBHIV committees, there is a risk of losing momentum and overview.

Recommendations based on identified needs for successful TBHIV collaboration

Strengthen advocacy and coordination to result in the full acknowledgement of effective TBHIV collaboration as an essential determinant of the impact of HIV/AIDS and TB programs in prevention, care, treatment, and support.

• Expand TBHIV collaborative activities to all health facilities in all districts, including to nonpublic providers and the communities.

• Scale up the capacity building of health care providers for TBHIV collaborative activities in the districts and actualize the involvement of the communities in TBHIV care.

• Establish ownership, implementation, and coordination of TBHIV at the decentralized levels, with community structures taking on specific tasks and responsibilities.

• Expand and upgrade physical facilities available for TB control and TBHIV co-management.

• Increase partnerships; engage all stakeholders, particularly CBOs, PLWAs, and politicians. Maximize partner coordination, in line with the “Three Ones” principles.

• Revise curricula to include TBHIV collaboration and co-management in all pre-service training institutions.

• Strengthen laboratory network for HIV tests, TB microscopy, and culture at all levels, backed by a solid QA system.
• Fully cover identification and screening of TB suspects among PLWHA.

• Further implement community DOTS for TB and integration with HBC for HIV/AIDS.

• Establish effective coordination and harmonization at site levels.

• Promulgate clear and practical guidelines in working with networks of PLWHA and ensure availability of advocacy tools.

• Complete and disseminate comprehensive national guidelines, revised formats and registers, and national manual.

• Establish a functional operational structure for program management; establish supportive supervision and monitoring for TB and TBHIV at the national, regional/provincial, and district levels that align with HIV/AIDS program activities at the respective levels.

• Coordinate all in-service training efforts with regard to selection of trainers and trainees, content consistency and quality of training methods and material, redundancy and duplication with core training for HIV (ART and VCT), alignment of partner support/TA, and follow-up of training outcomes.

• Increase the capacity for and output of operational research in TB.

• Urge TB programs to collaborate closely with HIV program in harmonizing and revising the respective M&E systems and associated data management and analytical capacity for TB and for HIV care and treatment, while keeping open the communication with the proposed national HMIS.

These recommendations all boil down to the main components of the health systems such as human resource capacity, physical infrastructure, decentralized laboratory network, quality assurance, supervision, and monitoring and evaluation.

3 WORLD BANK, MAP PROGRAMS, AND TBHIV COLLABORATION

3.1 Perspective of the Staff Involved in TBHIV at the Country Level

These countries recently have engaged in new contracts with the Bank related to the response to HIV/AIDS. The modalities differ for the respective countries. There is a varying level of inclusion of TB in the scope of the respective programs,
and TBHIV specifically is not yet clearly articulated. Nonetheless, given the specific structure, the “call for proposals mechanism,” and the availability of grants, the current programs appear to be windows of opportunity.

However, during the country visits, it appeared that the MoH TB programs and HIV programs are not sufficiently aware of how to access Bank funding opportunities and appear not to be very familiar with the Bank programs. The perception seems to prevail that, when planning, the Bank communicates directly with high-level government officials and with the national AIDS councils with an emphasis on the multisectoral approach. If TB in general and TBHIV in particular are not well included in the strategic plans of the HIV/AIDS councils, their inclusion in Bank health programs will not be likely.

In discussions with the main implementers and policy-makers in TBHIV collaboration at the country level, they widely acknowledged the need for Bank involvement. They appeared to have consensus that the focus of the support should be on the health system aspects rather than on the purely technical interventions in TBHIV collaboration. This perspective also was clearly indicated in the OED evaluation of Bank support to HIV/AIDS programs:

> In the next phase of its response, the Bank should help governments use human and financial resources more efficiently and effectively to have an impact on the HIV/AIDS epidemic. The Bank should focus on building capacity; developing strong national and sub national institutions; and creating incentives for monitoring, evaluation, and research based on local evidence that is used to improve program performance.

Most key professionals interviewed expressed that they would like to see one Bank role be to support the government in providing the basic conditions at health service levels that will facilitate effective implementation of TBHIV activities. This view was based on a strong belief that the Bank has the comparative advantage in this field, based on its track record of addressing health system issues, such as financial management systems, procurement systems, and institutional capacity building. The basic conditions consistently mentioned were, in order of priority:

- Adequate physical infrastructure at the health facility level
- Improved human resource capacity
- Efficient financial management capacity at the MOH level
- Effective supply chain management systems
- Functional health management information system (HMIS).

8 World Bank 2005.
3.2 Rationale for Bank Support in TBHIV

Looking at the Bank-supported health interventions in all four countries, it appears that these conditions are included in the projects or strategies in one way or another, but are not immediately visible in a way that points to TBHIV activities specifically. It remains for further discussion whether TBHIV should remain seen as a separate intervention next to TB and HIV control. For very good and obvious reasons, TBHIV has required focused attention and emphasis in the initial phase of implementation to generate political commitment and shape the technical interventions. However, looking at countries in which TBHIV interventions are being increasingly and effectively scaled up, it appears that the core activities become part of the routine functions of the TB programs as well as of the HIV/AIDS programs. It quite well may be that, after full scale-up to 100 percent coverage, the need to have separate TBHIV programs, strategies, and action plans will become obsolete. However, in the short to medium term, looking at current gaps and constraints in TBHIV implementation, massive support is required. Detailed rationales for the demand that, among others, could be supported by the Bank are given in the next paragraphs.

3.2.1 Physical infrastructure at the health facility level

TBHIV collaboration introduces a number of additional activities to be carried out along with the routine practice of TB and HIV programs that pose requirements for the physical infrastructure.

TB programs, HIV testing, and counseling of TB patients require appropriate rooms with privacy. Overall, patient contacts at the TB facilities also will require waiting spaces that fulfill minimum standards for infection control. Depending on strategies chosen by the respective countries, HIV treatment for TB patients may be provided at the TB facility and thus will require additional space.

Laboratories will see an increase of sputum smear examinations to be done for TB suspects identified at PLWHA intake sites. Laboratories will need to have appropriate space and infrastructure for increased AFB testing, including waiting bays and infection-control measures. Large centers that handle many HIV and TB patients may opt for a separate on-site laboratory to meet demand. HIV care and treatment facilities will see already increasing numbers of patients due to cumulative numbers of patients on ART who are doing well. In addition, there will be increased patient contact activity related to identifying TB suspects and subsequently screening them for HIV. The latter may involve X-ray diagnostics for those who are sputum-smear negative, thus increasing the demand for an appropriate, well supplied X-ray facility. TBHIV cotreatment and provision of IPT require additional patient contact and space.
Although the various development partners (DPs) have varying opportunities to rehabilitate, extend, and adapt existing HFs, this construction is done ad hoc. PEPFAR funds cannot be used for construction. There is rewarding attention for DPs that provide infrastructure for C&T centers, but TB facilities usually are located in small, cramped, outlying rooms or containers on the HF compound. Newly built or rehabilitated complexes for C&T sometimes do include a TB facility as well, but it is more the exception than the rule. Almost all TBHIV professionals and stakeholders interviewed indicated a need to structurally redress this problem at the national level and specified the Bank as an institution with the capacity to act in this regard.

### 3.2.2 Human resource capacity

“Human resource capacity” is still the buzz phrase when talking about health system performance, and, not surprisingly, invariably was brought up by all TBHIV-associated staff interviewed. Scaling-up TBHIV obviously has documented implications for human resources requirements, in both numbers and skills. However, the general perception was that everyone talks about human resources, but nobody really addresses the problem structurally. All solutions and interventions seemingly are ad hoc. Most health professionals interviewed believed that only a strong multilateral body such as the World Bank could possibly support governments or ministries in finding a more structural solution for this perceived critical constraint in advancing TBHIV collaboration.

### 3.2.3 Financial management capacity at the MOH level

TBHIV receives funding from a variety of sources. Some funds may come directly to the TB and/or HIV programs; some may come through the MOH health sector basket; some funds go directly to the technical partners. In particular, professionals working on TBHIV within the environment of MOH indicated that the financial systems involved were inefficient and slow, hampering timely and effective intervention. They pointed to the Bank as being a core institution to work with governments to improve the financial management capacity of the health ministries.

Another aspect mentioned is the planning and budgeting capacity at the program level itself. There is a striking need for comprehensive planning, costing, and budgeting of TBHIV. These would need to be done so transparently that they realize full reconciliation of all current and anticipated funding in the various action plans, medium-term strategies, and other specific planning cycles from donors as well as government. Full reconciliation obviously would apply to both TB and HIV/AIDS programs. It is mentioned that the Bank specifically could play a pivotal role in facilitating this type of planning exercise.
3.2.4 Supply chain management systems

In the countries, procurement, supply, and distribution capacity of commodities related to HIV and TB was reported to be weak and requiring focused attention. TBHIV can expose the weaknesses in these systems because many of the commodities—HIV tests, Cotrimoxazole, Isoniazid, X-ray films and chemicals, and laboratory supplies—are shared between both programs. Countries have to grapple, on one hand, with efforts to build an effective national system, while, on the other hand, developing parallel systems for the sake of fast action and implementation. The situations in the four countries visited clearly differ. Nevertheless, in each, the need to have an effective system in place is paramount. The role of the Bank in these efforts was mentioned frequently as potentially being an indirect but essential support to TBHIV.

3.2.5 Health management information system

In none of the four countries did the national HMIS or the TB-, HIV-, and TBHIV-specific M&E systems function well. In particular, the MOH HMIS and the various systems for the specific programs were not functionally linked. HIV programs establish extensive M&E systems related to ART and TB programs for good reasons: to implement their reputable R&R systems and increasingly include the core indicators for TBHIV.

The variety in methodology as well as quality of M&E systems does not contribute to an effective one-for-all system. Quite the opposite, it creates substantial additional administration workload for health workers and requires data management and analytical skills that, by and large, are not available. To date, national M&E systems in most cases do not produce timely, reliable data at the national level, and available data are not effectively disseminated to the implementation levels for feedback and action. Although rewarding developments in addressing this situation that are backed with political commitment do exist, much remains to be done. Within these four countries, the Bank appears to be seen as one of the DPs that could have a role in building or further shaping the “one M&E system.”

4 CONCLUSIONS AND RECOMMENDATIONS

All four countries provide specific perspectives and have varying levels of TBHIV implementation. Nevertheless, it is possible to draw a few conclusions that apply to all. This report is intended primarily as a discussion paper, and several recommendations to contribute to the discussion follow.
4.1 Conclusions

- TBHIV collaboration in the countries reviewed is progressing well and increasingly accepted as an effective intervention, although implementation and scale-up in the initial phase was remarkably slow.

- Implementation of TBHIV collaborative activities has been driven predominantly by TB programs. Progress has been more marked in the TB-related than in the HIV/AIDS-related activities. However, this imbalance gradually is being addressed by sharpening the focus on TBHIV within HIV programs and with technical partners.

- The gaps, obstacles, and constraints in achieving full and effective scale-up of TBHIV collaborative activities are manifold and by and large are related to general health system deficiencies.

- Joint planning, costing, budgeting, and sectoral reconciliation for TBHIV are incomplete, contributing to insufficient funding.

- There is a perceived need among stakeholders for Bank engagement to support TBHIV collaboration, particularly in providing favorable health system conditions for implementation—rather than embarking on specific technical interventions.

4.2 Recommendations

- TBHIV activities must be fully included in the respective plans of TB and HIV/AIDS programs and multisectoral HIV/AIDS Councils. Furthermore, TBHIV activities must be well costed and budgeted so must be included in national and donor-supported budget cycles in full reconciliation with the existing funding mechanisms.

- The World Bank must facilitate clearly visible inclusion of TBHIV collaborative activities in the joint planning of its health-related support programs, multisectoral HIV/AIDS programs, and multidonor-supported SWAp financing programs.
1 BACKGROUND AND HEALTH STATUS OF ETHIOPIA

1.1 Health Status

The Federal Democratic Republic of Ethiopia is situated in the horn of Africa. Ethiopia is the second most populous country in Sub-Saharan Africa (figure 2.1). It has a current (2007) population estimate of 77 million from 83 ethnic groups and an annual growth rate of 2.4 percent. A large part of the population resides in relatively remote locations with weak infrastructure. An estimated 39 percent of the population lives below the poverty line. The majority—84 percent—lives in frequently isolated rural areas with a strong reliance on agriculture for economic security. However, due to frequent droughts and lack of long-term sustainable cultivation practices, such dependence on agriculture has led to a nation with little guarantee of a consistent food supply and a scarcity of reliable employment. Ethiopia has been classified as a low-income, severely indebted country by the World Bank and holds the United Nations status of a Least Developed Country (LDC). This is being reflected in its vital indicators for the health status (table 2.1). In 2004 the International Monetary Fund (IMF) and the World Bank’s International Development Association (IDA) concluded that Ethiopia qualified for debt alleviation due to its strong progress with the Heavily Indebted Poor Countries (HIPC) Initiative.

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1 UN statistics.
Table 2.1 Vital indicators: Ethiopia

<table>
<thead>
<tr>
<th>Vital indicators from DHS1</th>
<th>Year 2000</th>
<th>Year 2005</th>
</tr>
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<tbody>
<tr>
<td>Births attended by skilled health staff (% of total)</td>
<td>5.6</td>
<td>5.7</td>
</tr>
<tr>
<td>Immunization, DPT (% of children ages 12–23 months)</td>
<td>24</td>
<td>32</td>
</tr>
<tr>
<td>Malnutrition prevalence, height for age (% of children under 5)</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>Under-5 mortality rate</td>
<td>166</td>
<td>123</td>
</tr>
<tr>
<td>Infant mortality rate</td>
<td>97</td>
<td>77</td>
</tr>
<tr>
<td>Use of modern contraceptive (CPR)</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Total Fertility Rate (TFR)</td>
<td>5.9</td>
<td>5.4</td>
</tr>
<tr>
<td>Stunting (height for age)</td>
<td>52</td>
<td>47</td>
</tr>
</tbody>
</table>


Unemployment is high. Approximately 61 percent of the population lives on less than $1 a day, and the lowest quintile controls only 2.4 percent of the income share.\(^2\) HIV/AIDS remains one of the key challenges for the overall development of Ethiopia, as it has led to a seven-year decrease in life expectancy and a greatly reduced workforce. Reduced productivity, civil conflict, poor farming conditions, and recurrent droughts leave 6–13 million people at risk of starvation each year.\(^3\)

In the health sector, there is a shortage of health workers and counselors, as well as poor access to sparse health services, inadequate sanitation, inefficient procurement systems, and weak monitoring and evaluation (M&E) systems. Conflict, famine, and drought have led to widespread population movements, adding to displacements caused by over 20 years of cross-border tensions in a series of conflicts with Eritrea, Somalia, Kenya, and Sudan. As of January 2007, Ethiopia was home to an estimated 97,300 refugees.

### 1.2 Current Health Sector

Ethiopia has undergone major political and economic transitions since 1991, including widespread health sector reform. In 1997, as part of a 20-year Health Sector Investment Program, the first Health Sector Development Plan (HSDP I) was launched in order to respond to emerging health problems. In particular, this plan addressed gender issues and the organization of appropriate health care delivery mechanisms to pastoralist communities.\(^4\) While the policy had many positive outcomes, the Ethiopian government realized that HSDP I was not reaching

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\(^3\) WFP 2006.

\(^4\) MOFED 2007.
people at the grassroots as well as it had hoped. HSDP I was followed by HSDP II, which was evaluated in 2006. Ethiopia is implementing HSDP III, which runs from 2006–10.

2 TUBERCULOSIS

2.1 History of TLCP

The combined Tuberculosis and Leprosy Control Programme (TLCP) came into effect in 1994. In 1995 a five-year Project Development Plan (PDP 1996–2000) was elaborated for program’s TB component. The plan described the objectives of the program, its strategies, organization, support services, implementation modalities and costs. This PDP provided the foundation of a tripartite agreement signed in December 1996 among the Ministry of Health (FMOH), World Health Organization (WHO), and Royal Netherlands Tuberculosis Association (KNCV). This last was the project holder on behalf of the Netherlands Government, the major donor of the financial inputs defined in the PDP. The Royal Tropical Institute (KIT) provided the technical assistance (TA) to the TLCP through the WHO office in Addis Ababa.

The actual activities of the TLCP began in 1998 at the same time as the Health Sector Development Programme (HSDP), which aims at an integrated and comprehensive approach to solve the constraints of the health service delivery system in Ethiopia. Although the 5-year agreement ran from January 1, 1996–December 31, 2000, 2001 was included on a budget-neutral basis. The program has provided annual progress reports and reviews by national and external experts. In compliance with the PDP, a Mid-Term Review (MTR) and an external evaluation were done. Based on the recommendations of the PDP evaluation, the Royal Netherlands Embassy (RNE) entered into a new agreement (July 2002–July 2005) with FMOH, which included program support, drug supply and TA provided by KIT through WHO. This decision marked the end of the KNCV involvement in TLCP, as the procurement of TB drugs and lab supplies was then carried out with RNE funding by FMOH.

The Tuberculosis and Leprosy Control Program is an intrinsic part of the HSDP. Therefore, it should be put in historical context: A devastating HIV/AIDS epidemic with direct consequences for the TLCP, a recent conflict with Eritrea that caused various donor agencies to freeze their contributions to the country; and

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5 SDPRP, MOFED 2003.
a Health Sector Development Plan, which, after a slow start, gained momentum after its Mid-Term Review. In addition, over the 8-year life of the program, important changes occurred in the institutional arrangements that were conceived at its beginning: the policy environment of international TB control changed (Stop TB Initiative), as did Dutch foreign policy with regard to its implementation policy. These changes entailed decentralization of authority from The Hague to the Dutch embassies, more emphasis on sector support and sector-wide approaches (SWAs), and a shift of responsibility for implementation from Dutch institutions to the national sector authorities. More recently, it was Decentralization and Health Sector Reform that has had the most marked impact on the TLCP’s performance. Currently, TLCP is mainstreaming its policy with the MDGs, as adapted by Ethiopia as part of its national Sustainable Development and Poverty Reduction Programme (SDPRSP).

In June 2000, the previous Epidemiology/AIDS Department of FMOH was restructured and named Diseases Prevention and Control Department (DPCD). TB and Leprosy Control (TBLC) subsequently was accommodated within this department and renamed the Tuberculosis and Leprosy Control Team (TLCT). The other four teams in this department are HIV/AIDS/STI, Malaria, Integrated Diseases Surveillance, and Other Communicable Diseases. This new structure facilitates TLCT’s easy communication and cooperation with other teams. However, the HIV/AIDS/STI team was relocated under HAPCO in 2007.

### 2.2 Tuberculosis and Health Sector Development Programme (HSDP) in Ethiopia

Ethiopia ranks 8 of the world’s 22 high-burden countries for TB. In 2007 the country’s WHO-estimated incidence of all TB cases was 353/100,000. The chronic high rates of malnutrition, overcrowding, physical stress, emotional anxiety, and high HIV prevalence have created a formidable environment in which tuberculosis has and will proliferate. As is TB, HIV is concentrated in the young, economically and reproductively active population. Within this 15–24 year age group, HIV prevalence among women is 3 times greater than among men, and mother-to-child transmission contributes to the second highest number of new HIV infections each year. An estimated 30 percent (rural) to 60 percent (urban) of adult TB patients are HIV positive.

The Ethiopian government has set up a national TBHIV advisory body and commenced providing anti-retroviral therapy (ART) to TBHIV coinfected patients in 2005. A 2002–06 Mid-Term Strategic Plan for TB Control based on the daily

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6 USAID 2006.  
7 WHO 2007.  
8 Bruchfeld and others 2002, 1636–43.
observed treatment strategy (DOTS) was integrated in the general health services. Health sector reform carried out within the HSDP framework is in line with the integration of TB treatment in the general health services, and is progressively decentralizing service delivery to peripheral health units in woredas (districts).

However, more than half of the Ethiopian population lives farther than 10 km from the nearest health facility. DOTS expansion has been facilitated by the decentralization of TB care and expansion of at least one DOTS center in 86 percent of the woredas. However, because many of the woredas are so large, a more accurate estimate would be that 40 percent of the population has true access.9 Ethiopia has adopted the Millennium Development Goals (MDGs). Two indicators, one for implementation under DOTS and one for impact, are specifically set for TB control “to have halted and begun to reverse incidence…. “:

- Indicator 24 (implementation, target year 2005): Case detection 70 percent, Treatment success 85 percent

TLCP has its policy and strategy geared toward these targets. In collaboration with a consultant from Addis Ababa (AA) University, Ethiopia’s Medical Officer for TB and Leprosy (MOTBL) has supported the completion of the MDG TB country case study for Ethiopia. It was published in a UN publication, “MDGs and TB Control.”10 TB prevalence and deaths in Ethiopia are difficult to measure. There is no good 1990 baseline, and current estimates of prevalence are not precise. There is no vital registration system in Ethiopia, and TB deaths are not accurately recorded. MOTBL has been closely monitoring trends in notification figures over the past five years. These ultimately will lead to more precise estimates of prevalence and death.

2.3 Objectives of the TLCP

The overall objective of the TLCP is to reduce the incidence and prevalence of TB and leprosy, disability and psychosocial suffering related to both diseases, and the mortality resulting from TB to such an extent that both diseases are no longer public health problems. In Ethiopia, the TB and leprosy control was fully integrated in the general health services by the end of 2001. Since then, TB and leprosy control activities have been the responsibility of the general health service (a multipurpose, permanent, and decentralized health service that is as close to the community as possible).

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9 WHO 2007.
10 UN 2005. Case findings and treatment outcomes are dealt with in sec. 3.2.2.
2.4 Status of Tuberculosis Control in Ethiopia

TB and leprosy service is provided within the general health services. Hospitals and health centers having acid-fast bacilli (AFB) microscopy services function as diagnostic centers. After diagnosis, the daily observed treatment (DOT) is given in the health facility (HF) nearest to the patient’s home. Each region has a tuberculosis and leprosy (TBL) coordinator who is a member of the Communicable Diseases Control (CDC) Department of the Regional Health Bureau (RHB) and may have additional duties. At the woreda level, one expert is responsible for TBL control, among other CDC duties. Guidance and support of the program is provided by the TLCT under the FMOH Diseases Prevention and Control Department. There is a regular supply of drugs, formats, and laboratory utensils for the areas implementing DOTS. These drugs are procured and distributed by FMOH Pharmaceutical Administration and Supply Services (PASS).

In recent years, the quality of reporting from DOTS-implementing zones has substantially improved. TB and leprosy case-finding and treatment-outcome data are available for 522 of 611 (89 percent) woredas. However, not all eligible health facilities, particularly health stations/posts, are implementing DOTS. HF coverage thus was 51 percent in 2003 as compared with 32 percent in 2000. Currently, TB services are provided in HFs only. Consequently, it is assumed that in a country with 55 percent potential health service coverage, a large part of the population has no access to quality TB services. For TB treatment—directly observed treatment with short-course (DOTS) daily for 2 months—access depends on the patient’s economic situation or presence of relatives around the treatment center.

In 2005 the Case Notification Rates (CNRs) for all forms of TB per 100,000 population in DOTS-implementing zones ranged from 63 in rural areas to >600 in major towns and cities. In 2006 the average CNR in the DOTS-implementing zones in the country was 156/100,000 (figure 2.2). Feedback on the reported data sent to higher levels is provided during twice-yearly zonal, regional, and national TBL review meetings.

![Figure 2.2 Case notification rates: 6-year trend, 2000-05](image-url)
The treatment success rate of smear-positive TB patients put on DOTS dropped from 13 percent in 1989 to 8 percent in 2003 (table 2.2). However, some caution is warranted, since a substantial number of registered cases were not evaluated for their outcomes. The same caution should be applied to the death rate (7 percent), since deaths in hospitals before registration and during treatment often go unreported. The decline in defaulting rate (13 percent to 8 percent) is conspicuous and may reflect program efforts to facilitate treatment adherence.

Table 2.2 Latest WHO TB estimates for Ethiopia, 2006

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global rank (based on estimated cases)</td>
<td>7</td>
</tr>
<tr>
<td>Incidence (all cases/100,000 pop.)</td>
<td>353</td>
</tr>
<tr>
<td>Incidence (all smear-positive cases/100,000 pop.)</td>
<td>154</td>
</tr>
<tr>
<td>Proportion of all new cases multi-drug resistant (%)</td>
<td>1.6</td>
</tr>
<tr>
<td>Prevalence (all cases/100,000 pop.)</td>
<td>533</td>
</tr>
<tr>
<td>TB mortality (per 100,000 pop)</td>
<td>79</td>
</tr>
<tr>
<td>Adult (15-49) TB cases, also HIV+ (%)</td>
<td>21</td>
</tr>
</tbody>
</table>

2.4.1 TB drug resistance

The magnitude of drug-resistant tuberculosis in Ethiopia is not well known because nationwide anti-tuberculosis-drug resistance on representative samples was not done. In 2001 Ethiopia responded to a call from WHO. With four other AFRO countries, a proposal for a national Drug Susceptibility Survey (DRS) to be coordinated by TLCP, the Ethiopian Health and Nutrition Research Institute (EHNRI), and WHO was drafted and implemented. Preliminary analysis indicates a multiple-drug-resistant TB (MDR-TB) level of 1.5 percent in new patients and 12.7 percent in previously treated patients (figure 2.3). Management of MDR-TB is part of the approved GF Round 6 proposal, and an application for Green Light Committee (GLC) is under consideration.

2.4.2. TLCP performance

Since the implementation of the combined program in 1997, the program has been reviewed annually by the joint international and national experts. In 2002

at the end of the first 5-year implementation of the project development plan, the program also was evaluated by independent external experts. All the review and evaluation missions identified areas of weaknesses and forwarded valuable recommendations.

The program implemented most of these recommendations. However, vis-a-vis the major indicators of the control program, progress in program implementation remained unsatisfactory. As a result, the case detection rate of new smear-positive cases remained unchanged and low at approximately 34 percent. The treatment success rate of these infectious cases was in the range of 76 percent to 80 percent, below the global target of 85 percent.

The unsatisfactory performance of the TBL service after such long years of implementation of the DOTS strategy raised serious concern at the highest level at FMOH. This concern led to meetings called by His Excellency the Minister of Health. As a result, at the beginning of 2007, the TB and Leprosy Prevention and Control Team (TLCT) had a series of high-level meetings with FMOH officials in the presence of representatives of the program’s major partner organizations (WHO and GLRA). The aims of the meetings were to identify the critical problems that hindered progress in program implementation, come up with workable solutions to address the challenges, and reach the internationally recommended and nationally adopted targets of TB and leprosy control.

One of the agreed strategies was to mobilize the community to prevent and control tuberculosis and leprosy. These goals could be achieved by actively involving the Health Extension Workers (HEWs), who are active in prevention and health promotion at the community level. With this understanding, in 2007 the team was given the assignment to prepare and present an “Ethiopia Millennium” action plan. The plan’s purpose was to help mobilize the community and register marked improvements in detection rates of smear-positive cases in the short time remaining before the end of that fiscal year and the turn of the century in Ethiopia, namely July, 2007. The millennium action plan is ongoing in 2008.

3 HIV/AIDS AND OTHER STIS PREVENTION AND CONTROL PROGRAM

The first evidence of the HIV epidemic in Ethiopia was detected in 1984. Since then, AIDS has claimed the lives of millions and has left behind hundreds of thousands of orphans. HIV is a leading cause of morbidity and mortality in the country. Moreover, the disease strikes people during their economically productive years, it is an important development challenge. The epidemic is affecting a large segment of the urban population and continues to expand into the rural
population. The adult HIV prevalence rate in Ethiopia is between 1.4 percent (DHS 2005)–3.2 percent (FMOH 2005-ANC data). This is less than the 4.4 percent national average adult prevalence that was estimated for 2004.

TB continues to play a major role in Ethiopia’s disease burden and is an important co-factor in the HIV epidemic. The TB-HIV co-infection rates reported by selected TB-HIV-implementing HFIs range from 25 percent to 47 percent. By 2007 the number of people living with HIV/AIDS was an estimated cumulative total of 1.3 million. If present trends continue, the number is projected to reach 1.4 million in 2008 (table 2.3). Adult (15–49 years) deaths due to AIDS account for approximately 25 percent of all young adult deaths in the country. The epidemic is most serious in the urban and periurban areas and along transportation corridors. The overlap of these two epidemics is a challenge to both the TB and the HIV/AIDS programs.

**Table 2.3 Adults and children living with HIV and deaths from AIDS, 2007**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>977,394</td>
</tr>
<tr>
<td>Children (0–14 year)</td>
<td></td>
</tr>
<tr>
<td>AIDS deaths (adults and children)</td>
<td>71,902</td>
</tr>
<tr>
<td>AIDS orphans</td>
<td>898,350</td>
</tr>
</tbody>
</table>

Ethiopia faces a mixed epidemic among subpopulations and geographic areas. Although previous estimates had been higher, expansion of surveillance data and improved analyses resulted in significantly lower estimates for 2005. Based on antenatal clinic surveillance data, the HIV prevalence declined to approximately 10.1 percent in urban areas and stabilized to an estimated 1.8 percent in rural areas. The primary mode of HIV transmission in Ethiopia was heterosexual contact.

Young women are more vulnerable to infection than young men. Urban women are three times as likely to be infected as urban men, whereas in rural areas the difference between genders is negligible. Populations at higher risk for HIV infection include people in prostitution, police officers, and members of the military. The impact of the HIV/AIDS epidemic is compounded by socioeconomic factors such as poverty, food shortages, cultural traditions, and gender norms. Family- and community-based support structures are overwhelmed by poverty and the sheer numbers in need of care. Although basic awareness of HIV is widespread in Ethiopia, misconceptions about transmission, stigma, and discrimination, as

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12 HAPCO and others 2007.
well as gender inequalities, are equally prevalent. They deter the general population from adopting preventive behaviors, getting tested for HIV, seeking care and treatment, and providing support to those in need.

The estimated number of people living with HIV/AIDS is as high as 1.1 million, of whom approximately 258,264 are in need of ART.14 A large proportion of all the 84,000 individuals started on treatment by April 2007 are from urban areas.15 An estimated 40,000 children under 15 are in need of ART and account for 43,055, or 15.5 percent of the total in need. Yet, only 4.5 percent of individuals on treatment are children. In 2005 an estimated number of >30,000 HIV positive births occurred, of which more than half were rural. It is projected that, by 2010, an estimated 350,000 people will need ART.

3.1 Response

In Ethiopia, the response to the HIV/AIDS epidemic was initiated in 1995 by establishing the National HIV/AIDS Taskforce in the Ministry of Health. However, efforts lagged due to various hindrances. In recognition of this fact, attempts to intensify and streamline responses have been made. In 1998 the Federal Government of Ethiopia issued a Policy on HIV/AIDS, which advocated a multisectoral approach. Subsequently, the government developed and implemented a five-year Strategic Framework and the first Ethiopian Multi-Sectoral AIDS Program (EMSAP) to help translate the policy into action.

The IDA-supported EMSAP was launched in 2001 under the soft loan agreement between the World Bank and the government. The IDA support covered the major part of the national multisectoral response to the HIV/AIDS epidemic based on the country’s HIV/AIDS Policy and the Five-Year Strategic Framework, which clearly indicated the major priority intervention areas. The overarching goal of the project as stipulated in the Development Credit Agreement (DCA) was “to reduce the spread of the HIV/AIDS epidemic, alleviate its impact, and increase access to treatment, care and support for those infected and affected by HIV/AIDS.”

The EMSAP has been one of the largest funds available to reach more implementing agencies and offer assistance to grassroots organizations. A total of US$63.4 million obtained through World Bank loans and government contribution was used to implement the components of the country’s 2001–05 HIV/AIDS Strategic Plan. Forty percent of the fund was allocated for community-driven HIV/AIDS initiatives. The project aimed at expanding and accelerating existing prevention

14 ETHARC 2007.
15 HAPCO April 2007.
and mitigation efforts, building managerial capacities at various levels, and intensifying implementation of the various interventions through multisectoral channels. The national response was designed to be implemented by a wide variety of public, private, and nongovernmental and community-based organizations.

The joint mid-term and EMSAP reviews that were conducted simultaneously in February-March 2003\textsuperscript{16} documented that the initial phase of the project had made substantial achievements in establishing the necessary structure for coordinating the multisectoral response and supporting interventions at various levels.

However, both reviews indicated serious capacity gaps in program management, financial management, coordination, and monitoring and evaluation (M&E). These areas are vital components and mechanisms of the multisectoral response. Therefore, the evaluation teams provided useful recommendations, some of which were put into practice, including prolonging the project life by 18 months.

In recent years, various multilateral, bilateral, and international donors including UN agencies, the Global Fund to Fight AIDS, TB and Malaria (GFATM), and PEPFAR have provided funds for the multisectoral response. These resources have come in different forms including direct funding and TA. These additional resources are believed to have substantially boosted the implementation of EMSAP.

EMSAP I was evaluated on various occasions. The major findings with relevance for the health sector from these evaluations are discussed in the “Evaluation of the World Bank’s Assistance in Responding to the AIDS Epidemic: Ethiopia Case Study.”\textsuperscript{17, 18, 19} Major project achievements in the health sector context include:

- Assisted the establishment of institutes needed to respond to the HIV epidemic in all administrative structures (from top to bottom). The capacity to respond to the epidemic was facilitated by strengthening HIV/AIDS Prevention and Control Offices (HAPCOs) at all levels and establishing councils and committees that engage major stakeholders.
- Expanded access to prevention, treatment, and care services in almost all regions, with substantial focus on access to antiretroviral treatment services, particularly in urban areas. Access to voluntary counseling and testing (VCT) services especially increased substantially in all regions.


\textsuperscript{17} Vaillancourt and others 2005.

\textsuperscript{18} HAPCO 2005.

\textsuperscript{19} Vaillancourt and others 2005.
Efforts substantially increased to improve the quality of these services and target high risk groups.

- Constructed additional health facilities to expand access to HIV-related services to rural areas.

The HIV/AIDS/STIs Prevention and Control Program (APCT) was established in 1987. Since then, it has been involved in several initiatives to curb the spread and limit the impact of HIV/AIDS. In addition to the 1998 Policy on HIV/AIDS, the government established the HIV/AIDS Prevention and Control Office (HAPCO). HAPCO was the new name given to the National AIDS Council Secretariat (NACS). Recently, HAPCO has become accountable to the Federal Ministry of Health (FMOH) and will be merged with the pre-existing HIV/AIDS Team. In July 2003 the government adopted the policy of ARV drug supply and use, paving the way for additional initiatives that facilitated access to free and low-cost ARV drugs. To make ARV treatment more accessible, in January 2005 the government launched the free ARV treatment initiative, with the goal to have 250,000 patients in treatment by 2008. Resulting from the focus on rolling out ART, the number of ART sites on January 1, 2008 was 329, of which 267 reported the total cumulative patients ever enrolled on ART—122,243—and the total cumulative patients ever enrolled in pre-ART care—211,790. By the end of 2007, 90,212 patients in total were on ART.

Nevertheless, despite a substantial increase in access, ART uptake has not reached the target. After ART uptake had remained behind target, the accelerated access, especially including the health centers, started in June 2006. Of major concern are the people lost to follow-up, including through death. The pediatric ART uptake has been below the target and deserves a stronger and more focused approach. From 2003–05, 1.16 million people were counseled and tested. Prevention of mother-to-child transmission (PMTCT) also fell short: 184 PMTCT sites reported at end-2005 against the target of 326 sites by December 2006. The related PMTCT uptake of women receiving Nevirapine (NVP) was 4,713—42 percent—well below the target of 10,514. As mentioned earlier, HAPCO formulated a 5-year Strategic Framework for the National Response to HIV/AIDS in Ethiopia, which covered 2001–05. As TB and HIV/AIDS are major public health problems in Ethiopia, the government endorsed the strategy and published and distributed it throughout the country in June 2001.

The strategy has been endorsed by the government, which published and distributed it throughout the country in June 2001.

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20 Vaillancourt and others 2005.
A National Guideline for Clinical Management of AIDS Cases was issued in 2000. This guideline contained important information on the diagnosis and management of AIDS cases. In 2006 a national workshop convened jointly by FMOH and the Drug Administration and Control Authority (DACA) produced draft guidelines on ART. They were intended to help to rationalize the use of ART. The National Guideline on VCT was revised in 2006. The revised guideline recommends three rapid tests to be used in VCT centers throughout the country. Numerous VCT centers are operating in different parts of Ethiopia. The majority of their clients are young adults and couples.

Figure 2.4 Collective donor funding for health sector by component, Ethiopia, 2006

4 STATUS OF TBHIV COLLABORATION IN ETHIOPIA

4.1 Ethiopia TBHIV Narrative Summary

4.1.1 History of TBHIV collaboration in Ethiopia

TBHIV collaboration in Ethiopia made a serious start following a TBHIV implementation plan writing workshop hosted by WHO AFRO in Nairobi 2002, in which also Kenya and Tanzania participated. Ethiopia's early activities consisted of completing a national TBHIV plan, establishing a multistakeholder TBHIV Advisory Committee (THAC), and initiating TBHIV collaborative activities in seven pilot sites. These activities were funded with WHO Stop TB seed funding and UNAIDS funds channeled through WHO. In 2003 the TB and Leprosy Control Programme
(TLCP) succeeded in receiving a Global Fund (GF) grant ($27,000,000) following a successful Round 1 proposal. This proposal included a component for specific TBHIV collaborative activities (“to expand TBHIV collaborative activities in health facilities with VCT services,” with $419,000 the first year).

Political commitment was evident at a TBHIV national consensus meeting chaired by Ethiopia’s Vice Minister of Health in 2003. WHO recruited a national program officer (NPO) for TBHIV, who was based at the TLCP-FMOH, next to the WHO international TB advisor already working with TLCP. Following a training series, implementation, although slow, commenced in the seven pilot sites. The WHO TBHIV Interim Policy had been adapted for Ethiopia, and TBHIV Practical Guidelines were prepared. These include Ethiopian Guidelines for Isoniazid Preventive Therapy (IPT) and Cotrimoxazole Preventive Therapy (CPT). Monitoring and supervision visits were documented. Based on this experience, guidelines for IPT, CPT, and recording, and reporting were developed; and comprehensive national TBHIV implementation guidelines were distributed. Subsequent financial support arrived from GLRA. Political support was generated by hosting the 4th Global TBHIV Working Group Meeting in Addis Ababa (2004) and the Stop TB Partnership Board meeting in 2005, in which the Minister of Health participated throughout. In addition, WHO and GLRA conducted international TBHIV managers’ courses in Addis Ababa, and CDC hosted an international workshop on HIV surveillance in TB patients in Addis Ababa. All these of activities were driven primarily by TLCP.

In the same period, the initiation and subsequent acceleration of HIV care and treatment (C&T) profoundly changed the environment for TBHIV collaboration. Many changes occurred, particularly during the past two years, during which HIV C&T was established in nearly all hospitals and in a rapidly increasing number of health centers (HCs). The main funding came from PEPFAR and GF Rounds 2 and 4 grants for HIV/AIDS. CDC Ethiopia expanded and contracted 5 American universities as technical partners in the roll-out of HIV C&T. USAID supported through technical partners such as Family Health International (FHI) and Management Sciences for Health (MSH). The National HIV/AIDS Prevention and Control Office (HAPCO) was reorganized and placed under FMOH but retained a semi-autonomous status. The HIV/AIDS and Other STIs Prevention and Control Team (APCT) was moved from FMOH to HAPCO. TLCP remained at FMOH.

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23 FMOH 2005.
In 2005 and 2006, there was a series of staff departures in TLCP at FMOH, including the TLCP manager and 2 program officers, leaving the TB program with a serious weakness in capacity. In addition, the WHO TBL adviser left in 2005, and the WHO TBHIV coordinator left in 2006. These developments affected progress of TBHIV collaboration in 2006. THAC did not meet, and the pilot sites were not supervised.

4.1.2 Current activity

However, in the framework of HIV C&T expansion, FMOH-HAPCO and USG partners included TBHIV activities in their programs, initially at the hospitals, followed by health centers. More recently, the gravity of the situation was acknowledged at the level of HAPCO APCT. A number of successive remedial actions (1) revitalized THAC and (2) established a multistakeholder TBHIV Technical Working Group (TWG). Its agenda was to address priority demands for TBHIV, such as revising guidelines, standard operating procedures (SOPs), and recording and reporting (R&R) systems; and developing an M&E framework. For both HIVAIDS and TB, FMOH launched an emergency Millennium Plan27,28 for the months remaining until the Ethiopian Millennium (September 2007). The plan is ongoing. WHO posted not only a NPO TBHIV to provide TA to FMOH but also an NPO HIV/TB officer to provide TA to HAPCO. WHO will post 4 TBHIV NPOs at main regional health bureaus (RHBs) by end-July 2008. Among the CDC technical partners, Columbia University’s International Center for AIDS Care and Treatment Programs (ICAP) has the lead in TBHIV activities associated with HIV C&T at hospital level and will second a TBHIV officer to HAPCO.

All renewed efforts to raise TBHIV collaboration up to par are facilitated by new funding opportunities, in particular, the Office of the Global AIDS Coordinator (OGAC)/WHO Funds ($800,000) for TBHIV, the approval of a PEPFAR Plus-up grant specifically for TBHIV activities ($4,650,000),29 and an approved TB proposal in GF Round 6 ($44,500,000 million), including a TBHIV component for which a grant was signed in 2007.30 The grant, worth US$11,792,574, is disbursed to TLCT/MoH. The total life of the project fund amount is $43,453,132. Following the evaluation of the Health Sector Development Programme (HSDP I), HSDP II (2006–2010) commenced. In alignment with HSDP and the Programme for Accelerated Implementation of Sustainable Development to End Poverty (PASDEP), both of which end in 2010, TLCP is completing its second mid-term

29 FMOH/CDC 2007.
30 GFATM 2006.
34 TB and HIV/AIDS Integration in Ethiopia, Kenya, Tanzania, and Eritrea

strategic plan. In addition, HAPCO has published the HIVAIDS Roadmap and is completing its midterm strategic plan. In all of these documents, TBHIV activities are well represented.

4.1.3 Achievements, constraints, and recommendations

Achievements of TBHIV collaboration in Ethiopia:

- Strong political commitment and sense of urgency among all stakeholders
- Strong awareness and support in national HIVAIDS programs
- Functional multistakeholder national TBHIV Advisory Committee (THAC)
- National TBHIV guidelines
- TBHIV Technical Working Group (TWG) with clear TOR
- Substantial funding secured for a wide range of activities
- TBHIV activities in all ART hospitals and >300 HCs
- Large numbers of general health staff trained in provider-initiated HIV counseling and testing (PIHCT) and TBHIV collaboration
- Expanding coverage of routine HIV testing of TB patients, provision of CPT, and referral for HIV-C&T
- Identified need for routine screening of PLWHA for TB at VCT and C&T entry points, followed by IPT for those without active TB, and anti-TB-treatment for those who have active TB

Constraints identified:

- Renewed TBHIV commitment and revitalization commenced only recently
- Weak implementation capacity at TLCP, regions, and woredas
- Weak M&E system, no reliable nationally aggregated TBHIV data
- Technical guidelines and manuals, formats, and registers that require revision and distribution
- Procurement and supply management system weak; restructuring pending.

31 FMOH 2007.
32 HAPCO 2007.
33 HAPCO/UNDP 2007.
• Weak coordination and joint planning to match the large number of TBHIV stakeholders and technical partners

• Weak system to deliver structured, regular, supportive supervision and on-the-job training

• No structured decentralization of TBHIV collaboration to RHB and (WHO) woreda health office levels

• Low private sector, civil society, and community involvement in planning and implementation

Recommendations:

• Advocate and coordinate to achieve full acknowledgement of effective TBHIV collaboration as an essential determinant of the impact of HIV/AIDS programs in prevention, care, treatment, and support.

• Complete and disseminate comprehensive national guidelines, revised formats and registers, and national manual.

• Establish ownership, implementation, and coordination of TBHIV at decentralized levels, such as regional health bureaus and woreda health office with involvement of community structures for specific tasks and responsibilities.

• Establish a functional operational structure for program management, supportive supervision, and monitoring of TB and TBHIV at national, regional, and woreda levels, structured to align with HIV/AIDS program activities at these respective levels.

• Coordinate all in-service trainings. These include selection of trainers and trainees, content consistency and quality of training methods and materials, redundancy and duplication with core training for HIV (ART and VCT), alignment of partner support/TA, and follow-up of training outcome.

• Increase the capacity for operational research in TB and its output.

• Ensure that the TB program collaborates closely with HAPCO to harmonize and revise the respective M&E systems and associated data management and analytical capacity for TB and for HIV care and treatment, while keeping open communication with the proposed national health management information system (HMIS).
5 RECOMMENDED TBHIV COLLABORATIVE ACTIVITIES AND M&E INDICATORS

A. To establish the mechanisms for collaboration

A.1 Coordinating body for TBHIV activities effective at all levels

Indicator A.1.1: Existence of a coordinating body for TBHIV activities effective at all levels.

A TBHIV Advisory Committee (THAC) was established in 2003. Its TOR stated: “The purpose of the TBHIV Advisory Committee is to coordinate efforts against TB and HIV/AIDS co-epidemics and provide guidance and technical support toward successful implementation of collaborative activities.” At its establishment, all major stakeholders were represented on this committee, and there were regular meetings (table 2.4).

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Position</th>
<th>Stakeholder</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCI</td>
<td>HIV/AIDS Advisor</td>
<td>MOH, HIV/AIDS</td>
<td>APT Expert</td>
</tr>
<tr>
<td>MOH-TLCT</td>
<td>Team Leader</td>
<td>WHO/TLCT</td>
<td>TBL Advisor</td>
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<td>CDC-Eth</td>
<td>Ass. Director for prevention</td>
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<tr>
<td>GLRA</td>
<td>Medical Advisor</td>
<td>MOH, HIV/AIDS</td>
<td>Team Leader</td>
</tr>
<tr>
<td>USAID</td>
<td>HIV/AIDS Officer</td>
<td>WHO/TLCT</td>
<td>THBV Advisor</td>
</tr>
</tbody>
</table>

Terms of Reference were drawn up and revised in 2005. During that year, THAC became inactive. However, in 2007 THAC was revitalized due to the efforts of the HIV/AIDS team leader at the HAPCO Department of Health Programs and Projects Department (HPPD). THAC met again in 2007. Its original TOR still applies. Since 2007, the WHO Medical Officer (MO) for TB is the Secretary. Interestingly, it appears that the support and commitment for TBHIV coordination now originates from the HIV/AIDS HPPD team at HAPCO, whereas during its establishment, the main driver was TLCP at FMOH.

Under THAC, which functions exclusively as a coordinating and advisory body that meets quarterly, a TBHIV technical working group (TWG) was established in April 2007 and has met monthly thereafter. As stated in its TOR, the purpose of the TWG is: “To provide technical assistance to issues related to the collaborative TBHIV activities that require expert input in order to ensure effective implementation of the intended activities.”

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34 FMOH 2005.
The secretariat of the TBHIV TWG alternates yearly between the HIV/AIDS Team Leader (at HAPCO) and the TLCP Team Leader (at FMOH). The proposed meeting frequency is monthly. TWG works under direct guidance of THAC and in close consultation with the THAC Secretary. Members of the TWG are selected by THAC. TWG is composed, first, of experts from FMOH, which are from TLCT, HPPD/HAPCO, and EHNRI. Additional experts come from WHO, CDC, ICAP, and USAIDS.

There is no structural and nationally overseen TBHIV coordination structure at the regional, woreda, or health facility level. The decentralization of TBHIV coordination will be addressed in the revised national TBHIV implementation guidelines. Revising these 2005 guidelines is one of the priorities of the TBHIV TWG.

Despite these positive developments, the need for effective coordination remains huge. For example, USG partners work relatively independently from FMOH and increasingly with the RHBs. The current wide range of activities and their coordinating bodies is still seen by FMOH as an opportunity for progress rather than a threat. FMOH has addressed the importance of overall coordination by its completion of a “Code of Conduct” for development partners and a generic “program implementation manual” aiming at maximized and effective harmonization. As one bilateral partner stated, “There is really a need for coordination of the coordination mechanisms.”

**Conclusion**

THAC, the national coordinating body for TBHIV activities that was initiated three years ago, became effective again only in 2007. The structure has not yet been decentralized to the regional, woreda, and HF levels.

**A.2 Surveillance of HIV prevalence among TB patients**

A surveillance program for HIV prevalence among TB patients has not been established. National estimates of HIV prevalence among TB patients are based on selected research studies providing data predominantly from Addis Ababa. The Addis Ababa studies consistently reported prevalence of 45 percent and more. Data from rural sites are scarce and inconclusive. However, the TBHIV Implementation Guideline calls for “Routine offer of HIV-counseling and testing for TB patients.” Increasingly, TB patients are routinely tested for HIV infection using “provider-initiated HIV counseling and testing” (PIHCT). There is a standard national training curriculum of three days for PIHCT, which, in addition to facilities for TB patients, is practiced at in-patient, out-patient, PMTCT, and pediatric department levels.

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36 FMOH 2005.
Indicator A.2.1: HIV sero-prevalence among all TB patients
This indicator is estimated using data from selected research studies and increasingly from PIHCT. The estimates range from 20 percent (rural) to 60 percent (urban).

A.3 Joint TBHIV planning
Indicator A.3.1: Joint TBHIV planning
The tendency in Ethiopia to seriously address joint TBHIV planning has been observed. However, it appears that joint planning is connected to funding opportunities, such as the GFATM proposals and the recent OGAC PEPFAR Plus-up funding for TBHIV. Preparation of the proposals for these funding bodies is carried out jointly by staff from TB and HIV/AIDS programs as well as HIV and TB focal staff from the major technical partners.

Structural joint planning also is required for the main planning documents of both HIV/AIDS and TB programs, such as their medium-term plans, strategies, and implementation plans. TLCP prepared its new 4-year strategic plan for 2007–11. Although this plan contains a comprehensive section on TBHIV, there is no evidence that the preparation sufficiently involved HIV program staff or that the HIV planning documents were fully taken into account. A positive development is that the timeframes for both TB and HIV planning now follow the national HSDP III as well as PASDEP timeframes of 2006–2010.

On the HIV/AIDS side, the most relevant document in the context of TBHIV is the prepared Plan of Action for the national response to HIV/AIDS prevention, treatment, care, and support. This plan features a separate and comprehensive section on TBHIV prevention and treatment. However, in other key activities, in which TB could have been included (such ART activities, community outreach, and HBC), TB is not clearly visible.

The sustained presence of the TB perspective in the preparation of the Plan of Action could have been instrumental. The ultimate goal could be that TBHIV is not just included as a sort of separate program among other components of strategic and activity plans. Rather, TBHIV should be visible in every component, strategy, and activity in which collaboration is relevant for both TB and HIV/AIDS planning. The critical staff shortage in TLCP at FMOH may have constrained full joint planning. The revitalization of THAC, major funding available for TBHIV, and increased commitment to TBHIV at HAPCO appear to provide a conducive environment for more structural and effective joint planning.

37 FMOH 2007.
38 HAPCO/UNDP 2007.
Conclusion

Joint planning increasingly is achieved as part of medium-term strategic planning for TB and HIV/AIDS health responses that are enhanced by major funding opportunities for TBHIV. There is room for improvement by including TB (where applicable) in all HIV activities and vice versa, rather than merely including TBHIV as a separate activity component.

A.4 Monitoring and evaluation

Indicator A.4.1: Monitoring and evaluation of collaborative TBHIV activities
M&E of TBHIV activities is practiced ad hoc and largely in a fragmented fashion. These drawbacks are well recognized at all levels. Although the national implementation guidelines provide some tools for TBHIV M&E, the level of implementation is low. Initially, M&E concentrated on seven pilot sites in the country but the M&E already was insufficient due to the low capacity available to do it.

The situation must be seen in light of the general constraints within TLCP to provide regular supportive supervision and on-the-job training in the program. The main technical partners involved in TBHIV activities exert various efforts to stimulate adherence to existing recording and reporting formats and data recording and analysis. However, differing methodologies and formats are still in use. In addition, the partners (mainly USG partners) have their own reporting requirements. As a result, there are no adequately aggregate reports available; therefore, conclusive data cannot be generated. In July 2008 ICAP will commence a desk review to look at all documents and formats in use and recommend how to harmonize and simplify the system without losing the required information.

The TBHIV TWG has as one priority to revise the entire TB recording and reporting system to include the relevant HIV indicators. In addition, TLCP has completed its overall M&E plan (facilitated by the requirements of the approved GFATM TB Round 6 grant). These activities must be seen in the context of a weakened TLCP in which routine recording and reporting in particular appear to be deteriorating.

The need for one M&E framework for health in general and HIV/AIDS in particular (as part of the “3 ones”) is strongly emphasized in Ethiopia. M&E coordination is needed. The original reason that partners had to have their own systems was that FMOH had no operational system and partners felt the need to move forward. This situation will be rectified. Partners are ready to buy in to one uniform system when it is completed and operational.

In contrast, FMOH has adopted the national M&E framework for HIV/AIDS. 39 This framework will include HIV-relevant TB indicators. It is envisaged that

both current HIV and proposed TB M&E frameworks will include all required key indicators for TBHIV. This achievement will imply that separate TBHIV recording and reporting forms should become duplicative and obsolete. Recognizing the vast amount of R&R tools and requirements in TB and HIV/AIDS care settings, national coordination aims to render unnecessary a separate M&E framework for TBHIV.

A major factor in M&E is the ongoing revision of the overall national HMIS. It is under complete revision, and the discussion on which TB and HIV/AIDS indicators to include is ongoing. There are different opinions as to what extent detailed M&E frameworks for TB and HIV/AIDS will be allowed to continue to parallel the national HMIS.

A fruitful harvest of all plans for standardized M&E at all levels is anticipated. Nevertheless, the seriously constrained capacity at all levels of human resources and of information technology (IT) resources for data management and analysis is well recognized. The amount of information that is expected to be generated at the HF level, recorded, and passed uninterrupted through the various levels—woreda, zone, and—to the national level is vast. In many instances, generating this information also is time consuming. It all must be done by the same health workers, who have also numerous other duties. Moreover, adequate M&E will be achieved only if an effective, supportive supervision system is in place that can address the QA of M&E in general and provide on-the-job training where required. This critical activity of QA of M&E is weak and hinges on the availability of skilled workers to supervise and coordinate, particularly at the regional and woreda levels, for both TB and HIV/AIDS.

On the bright side, with the support of Tulane University (under CDC), a number of M&E activities have taken off:

- New master’s course in M&E at Jimma University: 2 cohorts enrolled, total 70 students from throughout the country.
- Reform of National HMIS (including reduced TB indicators). New HMIS piloted in 100 woredas.
- New health staff cadre created: health technician; one-year diploma course related to data management, coding, and indexing; endorsed by FMOH.
- Support to impact evaluation of GFATM (establishing national evaluation capacity at EHNRI).
- Support to HIV-specific M&E at HAPCO, including IT development, mapping, data management, and website.
• National-level workshops on M&E that include TB staff, by now decentralized to region-level workshops on M&E.

B. To decrease the burden of TB in PLWHA

B.1 Intensified TB case-finding

*Indicator B.1.1: Intensified TB case-finding among PLWHA*

The Ethiopia TBHIV guidelines contain these words: “Routine offer of TB screening for all VCT clients.” However, the guidelines do not provide details as to how TB screening should be carried out and do not provide practical tools or a SOP, even though IPT is being recommended. Training material mentions the activity but does not provide conclusive methods (screening questions) to identify TB suspects nor indicate the service level in which TB suspects are identified. In VCT clinics, intensified case finding (ICF) generally is not practiced; clients who test positive are referred to HIV C&T sites. At the C&T site, there are a number of intake forms to be completed. These also contain questions on possible symptoms and signs of opportunistic infections (OIs), including specific questions on TB. The consensus is that, in reality:

• Clients at VCT centers are not screened routinely for possible symptoms of TB.

• There is no standardized national definition of a TB suspect.

• Screening for TB probably is practiced only inconsistently on patients’ entry to HIV C&T sites.

In case a person is suspected of potentially having TB (TB suspect), (s)he will be advised/referred for diagnostic work-up according to TLCP diagnostic guidelines. These diagnostic guidelines are well established as part of the National TLCP Manual.40

Diagnostic guidelines, particularly those for smear-negative forms of TB, are not yet adapted to the prevailing perceptions on the association between HIV and TB. With the support of TBHIV TWG and partners (especially CDC/OGAC), TLCP will revise the diagnostic guidelines, following the Stop TB (STB) publication on Diagnostic Guidelines in High-HIV-Prevalence Settings.41, 42

Recently, with the support of ICAP, HAPCO recommended a screen consisting of a five-question algorithm, as part of ICF at PLWHA entry points in Ethiopia:

• Cough > 2 weeks

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40 FMOH 2005b.
41 Getahun and others 2007.
42 WHO 2006.
• History of running fever?
• Contact with a TB patient
• Weight loss 10 percent
• Night sweat 2 weeks.

“Yes” for cough alone or “yes” for 2 of the other questions indicates a positive screen. TB should be excluded in that person.

**Indicator B.1.2: Rate of new cases of TB diagnosed in clients attending HIV testing and counseling services or HIV treatment and care services**

In the absence of effective implementation of this activity, and with the new M&E framework not yet operational, this data is not available. FHI reports that in 2005 17000 PLWHA, with VCT or C&T as entry point, received either IPT or TB treatment.

Renewed emphasis on TB ICF and the associated increase of patients presenting for exclusion of active TB are anticipated. Consequently, current proposals for TBHIV funding have larger components addressing the expected increased demand for diagnostic capacity such as AFB smear microscopy and X-ray facilities. Apart from the commodities and physical infrastructure required, the demand for already scarce human resource capacity is expected be a limiting factor in full roll-out of ICF.

**B.2 Treatment of latent TB infection (TB preventive therapy)**

*Indicator B.2.1: Proportion of HIV-positive clients given treatment for latent TB infection*

Treatment of HIV-positive clients for latent TB infection has national guidelines, but they are implemented sporadically. Despite the availability of national guidelines for Isoniazid preventive therapy, reluctance to actively pursue IPT prevails.

One reason is that HWs feel insufficiently equipped to rule out active TB. The recent emergence of XDR and the associated renewed interest in MDR issues have reinforced HWs’ fear of providing INH therapy to someone in whom active TB might not have been sufficiently ruled out. In addition, INH is neither available nor ordered in sufficient quantities to cover the potential demand. In 2007 the TBHIV TWG revised the 2005 Ethiopia TBHIV implementation guidelines. In line with the proposed accelerated implementation of ICF for TB in VCTs and C&T sites, they promote the provision of IPT. The national TBHIV coordinator reported that by the end of 2007, of 7,027 HIV-positive clients screened for TB and referred to TB services to rule out TB, 3,780 were started on IPT.
B.3 TB infection control in health care and congregate settings

*Indicator B.3.1: Proportion of health care and congregate settings that have a TB infection control policy*

Ethiopia has no comprehensive (TB) infection control policy. The imminent need for such policy has been acknowledged, and plans have been laid to develop a national policy and practical guidelines. There is a budget line (specific objective 8) for this in the approved PEPFAR Plus-up TBHIV proposal. In collaboration with relevant stakeholders and partners, WHO will take the lead in assisting FMOH to develop the infection control guideline and the implementation plan.

C. To decrease the burden of HIV in TB patients

C.1 HIV testing and counseling

Following the introduction of PIHCT for TB in Ethiopia, increasing numbers of TB patients are being offered HIV testing. There is a 3-day national training curriculum for PIHCT that initially was attached to the general 3-day TBHIV orientation training for General Health Workers (GHWs). Although robust data from TBHIV-implementing HFIs are not available, it generally is believed that PIHCT is well accepted by both HWs and patients and that uptake is good. Apart from TB, PIHCT is being promoted in OPD, in-patient wards, ANC/ PMTCT, and pediatric departments. The training curriculum for PIHCT is considerably shorter (3 days) then for VCT. The pre-test counseling trajectory in particular is much shorter.

*Indicator C.1.1: Proportion of all registered TB patients who are tested for HIV*

There are no conclusive data for this indicator, but available reports from a number of sites, supported by USG partners, show proportions as high as 80 percent in certain well-performing facilities. Aggregated national data from routine reporting (July 2006–June 2007) showed that 23,978 TB patients (26 percent of all notified patients) were tested for HIV, of whom 32 percent tested positive.

The completeness and validity of this data are expected to improve after adequate implementation of the national M&E plan for TB and the related revised recording and reporting formats.

*Indicator C.1.2: Proportion of all registered TB patients who are tested and are HIV positive*

There are no conclusive data for this indicator, although selected reports from individual sites supported by USG partners show proportions as high as 50 percent. The range is large. Some reports from rural areas show very low HIV-preva-
lence in TB patients. For 2006–07 the proportion stood at 32 percent.

*Indicator C.1.3: Proportion of TB patients tested who receive post-test counseling*

In adherence to PIHCT guidelines, all tested TB patients will receive post-test counseling.

**C.2 HIV prevention methods**

*Indicator C.2.1: Availability of free condoms at TB services*

Data are not available.

**C.3 Cotrimoxazole preventive therapy**

*Indicator C.3.1: Proportion of HIV-positive TB patients who receive CPT*

National guidelines and SOPs for CPT are available. It is a standing guideline that all HIV-positive TB patients receive CPT. There have been reports on stockouts and distribution problems of the CTX. Data on this indicator are not available. Anecdotal reports indicate the lack of appropriate interpretation of the CPT guidelines by the HW. For the year July 2007–June 2007, the proportion stood at 74 percent.

**C.4 HIV/AIDS care and support**

*Indicator C.4.1: Proportion of HIV-positive TB patients referred to HIV care and support services during TB treatment*

Data are not consistently available. Guidelines are clear that TB patients who test positive routinely are sent to HIV C&T sites. This site and/or the patient should provide three feedbacks to the TB service provider: that the patient has been registered; what the outcome of the ART assessment is; and what support is being provided. The current recording system does not accurately capture these data. For the year July 2007–June 2007, the proportion as reported stood at 39 percent.

**C.5 Antiretroviral therapy**

*Indicator C.5.1: Proportion of HIV-positive registered TB patients given ART during TB treatment*

This data is unknown. The previous M&E system for TBHIV was ineffective and did not generate complete or reliable data. The new M&E system is expected to close this gap, but conclusive data are not yet reported. The M&E system for ART delivery at HAPCO is better organized. Monthly summary statistics are produced and displayed on the website.\(^{45}\) Although the recording forms at facility level do include information on the origin of the PLWHA eligible for ART by including

\(^{45}\) HAPCO 2007.
TB as a specific box, these data do not appear on the monthly update. It will be a challenge to obtain reliable figures on this indicator, even assuming that an inclusive M&E system will be operational in the near future. Ideally, the TB system should know which patients whom it refers after PIHCT for HIV C&T will receive ART; which patients will be registered for care only; and which patients did not report to C&T sites. This information will depend on efficient communication and feedback systems within and among HFs. On the other hand, if the ART initial registry works correctly, all HIV-positive patients on TB treatment accessing C&T sites should be known. Whereas the total number of TB patients tested for HIV should come from the TB register, only an equation, including these two variables will produce a reliable estimate of this indicator.

D. Indicators not included in the main objectives stated in the Interim Policy

D.1 Political commitment to collaborative TBHIV activities

After a period of relative inactivity, political commitment has been demonstrated at various levels. The Minister of Health attended the Maputo Conference and has declared TB and its close relationship to HIV as a millennium emergency for Ethiopia. A five-month action plan for TLCP was drawn up.\(^{46}\) HAPCO was placed under the FMOH, thus emphasizing the importance of the health response in the national response to the HIV epidemic. Both GFATM grants for TB include a TBHIV component, and the substantial PEPFAR Plus-up grant is earmarked for TBHIV activities.

*Indicator D.1.1: National TB policy addresses links between TB and HIV*

The national TB policy is laid down in Manual 2005 and addresses the links between TB and HIV. The prepared Strategic Plan for TB and TBHIV 2006–2010 fully incorporates TBHIV.

*Indicator D.1.2: National HIV/AIDS policy address links between TB and HIV*

The national HIV/AIDS policy dates from 1998 and does not address TBHIV. However, following this policy, important HIV planning documents have been issued. The most notable include the (a) HIV/AIDS Road Map 2007–2008 for Access to Prevention, Care and Treatment in Ethiopia\(^ {47}\); (b) Ethiopian Strategic Plan\(^ {48}\) for Intensifying Multi-Sectoral HIV/AIDS Response (2004–2008) Addis Ababa, Ethiopia October 2004; and (c) Draft Plan of Action for the National Response to HIV/AIDS Prevention, Treatment, Care, and Support, HAPCO/

\(^{46}\) FMOH 2007a.

\(^{47}\) FMOH Ethiopia 2007b.

\(^{48}\) HAPCO 2004.
UNDP May 2007. The third of these reports was reviewed by the author and contains a clear section on a range of TBHIV collaborative activities.

**D.2 Partnership development and collaboration**

*Indicator D.2.1: Involvement of a comprehensive range of governmental, nongovernmental, community, and private partners in collaborative TBHIV activities*

At the national level, governmental and nongovernmental partners have strong TBHIV collaboration. In addition to FMOH (including HAPCO), there are WHO, CDC Ethiopia, USAID, GLRA, Italian Development Cooperation, and the Clinton Foundation. Most of the FMOH partner organizations provide funding as well as technical assistance. WHO has designated officers for TB (2), HIV/AIDS (team) and TBHIV, a position that was filled in 2007. In addition, WHO posted a HIV/TB officer to support TBHIV collaboration at HAPCO and posted TBHIV officers at the three main regions. CDC is linked with a growing number of American universities, each of which has its own specific technical focus:

- Johns Hopkins University (Baltimore, MD): JPIEGO \(^{50}\) (pre-service curricula)
- Columbia University (ICAP) (New York): TBHIV and pediatric HIV
- University of California San Diego (UCSD): Uniformed services, police, prisons, defense
- I-Tech (Washington University, St. Louis, MO): Training

Most relevant for TBHIV are Columbia University (ICAP), which is the leading technical partner for TBHIV, and Tulane University, which supports FMOH in the development of M&E and HMIS systems. These bodies have established independent country offices. ICAP also has four regional offices. Their coordination is assumed by CDC, which hosts monthly coordination meetings. The funding is from PEPFAR country funds and is channeled through CDC.

USAID itself does not implement, but has programs through associated in-country organizations such as FHI and MSH. The funding for TBHIV activities comes mainly from PEPFAR, but USAID also has funds available for specific TB and HIVAIDS activities. USAID and CDC have coordinated a division of labor so that CDC and its partners concentrate on the hospital level for HIV

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\(^{49}\) HAPCO/UNDP 2007.

\(^{50}\) JPIEGO Corp. is a Baltimore, MD nonprofit organization affiliated with Johns Hopkins University.
T&C and TBHIV, whereas USAID through FHI and MSH and Intrahealth focuses on the health center level and below.

National coordination of the plethora of collaborating partners is difficult but is supported by all involved. There are a number of platforms in which coordination could and should be effective:

- FMOH and HAPCO
- National HIV donor coordination group
- HPN donor group
- CCM for GFATM
- GFATM Interagency technical committees: HIV, TB, and malaria
- TBHIV Advisory Committee
- TBHIV Technical Working Group.

An innovative mechanism is required to coordinate all these coordinating bodies, which to a lesser extent communicate among one another. Donors in Joint Sector Support Coordination (JSSC) also plan pooled support to support the HSDP process. PIM has become a harmonization manual. The “Three ones” principles for HIV care also were adopted for the whole health sector. Then there are CCM and IACCs. In general, the link with the private sector is weak. Finally, involving civil society, PLWHA, and other community groups and NGOs in TBHIV collaboration is not observed.

Clearly, the above partnerships are concentrated at the national level. At the regional level, this presence and coordination is largely absent and dependent on what is happening nationally. The structure at the woreda level likewise is underdeveloped.

D.3 Financial resources allocated or available for collaborative TBHIV activities

*Indicator D.3.1: Percentage of total budget required for planned collaborative TBHIV activities actually available*

This figure cannot be presented for Ethiopia. Detailed and comprehensive financial planning for TBHIV is not available. The total budget required for national coverage of TBHIV collaborative activities is unknown. At present, a WHO-supported detailed TBHIV-costing study is being conducted in Ethiopia. The
part for hospitals has been completed\textsuperscript{51} and is supplemented with a second part aiming at the HC level.

TB control activities are financed by both the government of Ethiopia and donors. The main donors for TB are GFATM, German Leprosy and Relief Association (GLRA), WHO, MSF-Belgium, and USAID. GLRA provides direct support for TB and leprosy to the NTLCP. The Dutch government is supporting training through a grant to WHO. MSF-Belgium supports TB control in three zones of the Somali Region. WHO provides TA and support for implementation of TBHIV-AIDS activities (with funds provided by OGAC/Washington). Ethiopia is one of the President’s Emergency Plan (PEPFAR) 15 focus countries for HIV/AIDS and also is a USAID TB priority country. Under the Emergency Plan, Ethiopia received more than $48 million in FY04, $84 million in FY05, and $122 million in FY06. For FY07, $210 million is allocated. For FY 2008, the total for TB/HIV alone is US$3,160,000.

The main funding sources for TBHIV-specific activities are PEPFAR, USAID, USG partners, CDC, GFATM, WHO, and GLRA. Indirectly, TBVHIV is funded through core functions of the respective HIV/AIDS and TB programs (such as USAID, RNE). However, these components are not well quantifiable. TBHIV activities include screening of HIV+ persons presenting to different clinics (ART, PMTCT, STI) for TB, TB treatment for co-infected persons, IPT for those in whom active TB has been ruled out, PICT for all TB patients, provision of CPT, and establishment of referral linkages among services. Activities to support the above TBHIV interventions include provision of guidelines and resource materials, capacity building, supervision, M&E, laboratory strengthening, targeted evaluations, and establishment of provincial TBHIV committees.

Through the PEPFAR country operational plans (COP), $2,539,000 and $3,160,000 was programmed for palliative care TBHIV in FY 2006 and FY 2007, respectively, by USG partners. In addition, PEPFAR plans to program $4,650 million for HIV AIDS collaborative activities. USAID activities to improve TB diagnosis and treatment and TBHIV-AIDS collaborative activities also will be supported through a new Care and Support Contract (CSC). CSC will link the ART hospital network to HIV care services, including TB diagnosis and treatment, and work with communities to increase detection of TB suspects and referral of suspects to health facilities. Specific TBHIV-AIDS interventions that will be supported are PICT, referral of co-infected patients to ART treatment centers, preventive services, screening of voluntary counseling and testing (VCT) clients for signs of active TB, and their referral to TB clinics for diagnosis and treatment.

\textsuperscript{51} KIT/WHO/AAU/FMOH 2007.
if necessary (table 2.5). Allocation of TB funding in the FY2007 PEPFAR Country Operational Plan (COP) for the TB element/subelements is described next.

### Table 2.5 Global Fund Grants for TB: Approved funds and disbursements (US$)

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<th>Round</th>
<th>Principal recipient</th>
<th>Total 5 years</th>
<th>Approved Phase 1</th>
<th>Approved Phase 2</th>
<th>Total disbursements</th>
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<td>1</td>
<td>FMOH</td>
<td>26,980,649</td>
<td>10,962,600</td>
<td>16,018,049</td>
<td>15,327,331</td>
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<tr>
<td>6</td>
<td>FMOH</td>
<td>43,453,132</td>
<td>Pending</td>
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The greatest share of donor support came from the GFATM Round I. Ethiopia was approved for a Round 6 TB grant. The Round 6 grant agreement has been signed, and the authors were informed during our visit that the M&E plan has been submitted to the GFATM (table 3.5). Key activities to be supported by the Round 6 grant are: establishment of culture capacity in six regional laboratories; expansion of DOTS to new health centers (including health posts that are being upgraded to health centers); establish 360 new microscopy centers, upgrade 150 existing microscopy centers, and implement External Quality Assurance (EQA); for Public-Private Mix (PPM) DOTS: support community-based DOTS in 150 districts; establish one unit for the treatment of MDR TB and increase capacity for drug resistance testing (DST); scale up TBHIV-AIDS collaborative activities, advocacy, communication and social mobilization (ACSM), train all cadres of staff and incorporate TB and TBHIV-AIDS into pre-service curricula; and strengthen M&E. GFATM grant disbursement information appears in table 2.6

### Table 2.6 USAID Ethiopia Operational Plan: TB element (US$)

<table>
<thead>
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<th>TB subelement</th>
<th>Funding by subelement</th>
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<td>Enhanced DOTS expansion</td>
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<tr>
<td>Improved management of TBHIV</td>
<td>100,000</td>
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<tr>
<td>Care and support</td>
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<td>Total</td>
<td>1,200,000</td>
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</tbody>
</table>

The FY2007 COP provided $3,160,000 for TBHIV, with nearly 53 percent of the total funding for TBHIV programmed by USAID ($3,034,000) followed by HHS/CDC ($840,000), HHS/HRSA ($396,000), and NIH ($264,000) (table 3.6). TBHIV activities include screening of HIV+ persons presenting to different clinics (ART, PMTCT, STI) for TB, TB treatment for co-infected persons, IPT for those in whom active TB has been ruled out, PICT for all TB patients, provision of CPT, and establishment of referral linkages among services. Activities to support the above TBHIV interventions include provision of guidelines and resource materials, capacity building, supervision, M&E, laboratory strengthening,
targeted evaluations, and establishment of provincial TBHIV committees. The FY2007 COP for palliative care, TBHIV, is summarized in table 2.7.

<p>| Table 2.7 Ethiopia Country Operational Plan 2007: TBHIV, 2007 (US$) |</p>
<table>
<thead>
<tr>
<th>US agency</th>
<th>Partner</th>
<th>Funding level</th>
</tr>
</thead>
<tbody>
<tr>
<td>USAID</td>
<td>PSP/Abt Associates</td>
<td>286,000</td>
</tr>
<tr>
<td>USAID</td>
<td>CSC/MSH</td>
<td>1,374,000</td>
</tr>
<tr>
<td>NIH</td>
<td>Johns Hopkins University</td>
<td>264,000</td>
</tr>
<tr>
<td>HHS/CDC</td>
<td>Columbia University</td>
<td>440,000</td>
</tr>
<tr>
<td>HHS/CDC</td>
<td>University of California San Diego</td>
<td>100,000</td>
</tr>
<tr>
<td>HHS/HRSA</td>
<td>University of Washington</td>
<td>396,000</td>
</tr>
<tr>
<td>HHS/CDC</td>
<td>Ethiopian Health and Nutrition Research Institute</td>
<td>150,000</td>
</tr>
<tr>
<td>HHS/CDC</td>
<td>Tulane</td>
<td>150,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$3,160,000</strong></td>
</tr>
</tbody>
</table>

PEPFAR set aside a $4,650,000 supplemental fund for FY07 for TBHIV collaborative activities at the country level in Ethiopia. This grant was channeled to host country health authorities, regional health bureaus, and all partners working in TBHIV by the end of 2007 and is administered by WHO, HAPCO/FMOH, and EHNRI (table 2.8).

<p>| Table 2.8 Ethiopia PEPFAR Plus-up Fund for TBHIV, 2007 (US$) |</p>
<table>
<thead>
<tr>
<th>Implementing institution</th>
<th>Activity</th>
<th>Funding level</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAPCO/FMOH</td>
<td>Improving TB diagnosis</td>
<td>2,355,000</td>
</tr>
<tr>
<td>HAPCO/FMOH</td>
<td>Improved M&amp;E</td>
<td>85,700</td>
</tr>
<tr>
<td>HAPCO/FMOH</td>
<td>Human resources development</td>
<td>795,000</td>
</tr>
<tr>
<td>HAPCO/FMOH</td>
<td>MDR TB</td>
<td>195,000</td>
</tr>
<tr>
<td>EHNRI</td>
<td>Infection control</td>
<td>630,000</td>
</tr>
<tr>
<td>WHO</td>
<td>WHO project management</td>
<td>380,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>3,160,000</strong></td>
</tr>
</tbody>
</table>

### 5.1 Summary of Field Visits

**Ziway Health Centre, Oromiya Region**

The TB and ART clinic are in the same container complex. A large, covered, well-ventilated waiting area has been constructed outside. The HF is supported by FHI. As the nurse had been on leave, the TB clinic looked a bit disorganized. The assistant could answer most questions and seemed eager to perform. TB drugs were almost reaching expiry, apparently due to distribution problems from the
center to the region. PIHCT is being practiced. Almost all patients agreed to be tested. There were relatively few adverse reactions or flat refusals, although some patients had an emotional reaction. The nurse was trained two years ago. He had the TBHIV implementation guidelines but could not immediately find them. According to the registers, CPT was given only during the intensive phase of TB treatment. Referrals to the ART clinic worked well. In the same complex is the VCT room with a competent counselor. Screening for TB was claimed to be practiced, but how was not clearly explained. Clients suspect for TB were referred to OPD for further diagnostics. HIV testing was done in the laboratory, but blood was drawn on site in the TB as well as in the VCT room. It took 20 minutes to get the result.

There was a separate crude makeshift register for PIHCT that provided relevant details. In the TB unit register, an “A” in front of the row identified that patient as an ART-registered patient. Quarterly forms were prepared in duplicate: one for TB and one for TBHIV. The monthly report form for the VCT counselor included a section on TB, but it was not filled out. There was some confusion on forms to be filled. IPT was not practiced. Monthly and quarterly forms were prepared for woredas and zone. There was a woreda coordinator in the same unit. The referral hospitals for smear-negative TB were Adama, Shashamene, and another NGO hospital. A young BSc nurse ran the ART clinic. Patients were put on treatment if their clinical conditions allowed, such as TB, or stage 3 or 4 clinical. They first were registered for care. In some cases, blood was sent to the next referral hospital for CD4 cell counting. It was not totally clear whether the guidelines for concomitant TB treatment were well understood as it seemed that all HIV-positive TB patients had started ART after having finished 2–3 weeks TB treatment. Some 132 patients were on treatment.

**Shashamene Quira Hospital, Oromiya Region**

Columbia ICAP supported a new premises for HIV C&T next to the old TB clinic building. Of 612 HIV/AIDS patients on treatment, 18 also had TB. PIHCT was practiced and had excellent acceptance by patients. Rumors that patients were forced to accept because otherwise they would be denied treatment were strongly refuted by staff. They claimed that numbers of TB patients have decreased in recent years. HIV prevalence among TB patients had become quite low since the start of PIHCT, but this reduction may have been related to the selection of rural patients, whereas town patients are managed in the Shashamene HC or private sector. The ICAP printed PIHCT register was filled out; some information was missing. There was a code in the normal TB register to indicate the HIV-positive TB patients. The very basic acid-fast bacilli (AFB) microscopy lab was housed in the TB clinic facility.
The ART clinic had three data clerks. Nevertheless, they were overwhelmed by the reporting and recording requirements for FMOH and for ICAP and for the zonal/regional health bureau. Computers were there, but no comprehensive software was producing the reports. Everything was done by hand. An ICAP-funded physician was in charge of the clinic. Monthly report forms included site-level support form, 5 different reports for 5 categories of PIHCT, VCT report, PMTCT Exposed Infant Follow-up, ART Report, Pre-ART Report, and Pharmacy Balance Report. Patients could choose from four ART regimens. Drugs were present. There was a full-time trained pharmacist for the ART clinic only. There was one data clerk for the pharmacy alone. The drug supply was managed by Management Sciences for Health (MSH) Rational Pharmaceutical Management (RPM+) Ethiopia. Medical students provided assistance. A happy HIV-positive peer educator was around during patient visiting hours. Other educators were interacting with patients. A pediatrician from a hospital has one day of consultations for HIV-positive children.

One 12-year-old HIV-positive orphaned girl was covered with mollusks, as was her caretaker. She commenced ART immediately and appeared really happy. They had had to travel 3 hours by bus at a cost of 15 Birr. No educational material was available for the patient. The building soon may be too small if patients increase. The data coordination room was a pleasant chaos of forms, boxes, computer, makeshift spreadsheets, and unorganized scrap files. However, the young man seemed to find his way through all of this, although at times he seemed bewildered. Graphs were printed and framed in a way that would pay tribute to Rembrandt.

**Shashamene Health Centre, Oromiya Region**

Here also was the tiny woreda office for the two woredas, Shashamene town and rural. The woredas’ TB and leprosy (TBL) coordinator was present, trained two weeks earlier in PIHCT. They have just started. Most patients with TB had been diagnosed elsewhere and already had been tested. They had come to the HC for the treatment. The TB office was small and in files and registers were in total disarray. The HC had registered 534 new patients in that reporting year. TB patients were counseled in that room and then sent to the VCT room for additional counseling and testing. The counselors asked PLWHA regarding cough and other signs of TB. If they answered positively, they are sent to OPD for TB diagnostics. There are many TB patients. The very competent nurse in charge of the ART clinic claimed that more than 50 percent are HIV positive. She had 79 on treatment and 210 pre-ART. She believed that stigma had come down remarkably and that PIHCT was accepted by the vast majority.

The TB coordinator mentioned that there is no supervision and no money for the woredas to give training. He wanted to include kebele (subdistrict, smaller
unit in woreda) health agents in the follow-up of TB (there were no HEWs in semiurban areas such as Shashamene). There was no IEC material for TB patients. Neither the TB manual nor the TBHIV guidelines were found. The nurse had a few booklets for ART patients, but she said that the supply was far from sufficient. The small ART room was used simultaneously to draw blood for HIV testing. The PMCTC program had been discontinued because there were no test kits for HIV. The relationship among the Shashamene Woreda Office, HIV coordinator, and HAPCO woreda office was unclear.

6 WORLD BANK SUPPORT TO THE HEALTH SECTOR

The HIV/AIDS programs in Ethiopia supported by the World Bank are funded through a multilayered structure to reach a large number of widely dispersed beneficiaries. By making funds available directly to the National HIV/AIDS Council (HAPCO), the Bank aims to ensure that funds for HIV/AIDS activities provide the maximum benefit to organizations that work directly with HIV/AIDS-infected and -affected families and communities. Bank funding for HIV/AIDS programs can be in the form of a loan, credit, or grant. These programs typically entail many small transactions and require carefully designed accounting procedures, as funds flow from HAPCO to intermediary bodies and from them to community organizations.

6.1 EMSAP I

The first Bank-financed Ethiopia Multi-Sectoral HIV/AIDS Project (EMSAP) became effective in 2001 and closed in December 2006. It channeled funds to four components:

a. Building capacity in government and civil society
b. Expanding governmental multisectoral response
c. Expanding the response of NGOs and communities
d. Coordinating and managing projects.

Of project funds, 44 percent ($28.1 million) was allocated for NGO and community-based activities. The project did not appraise the government’s five-year strategic framework from technical, economic, financial, social, or institutional perspectives. Consultation with donors and NGOs during project preparation was limited. This operation gave FMOH, and other public sector ministries, the
opportunity to apply for financial support. FMOH chose to rely on financial and technical support provided by other sources, particularly that which was channeled directly to FMOH without going through HAPCO. By the end of 2003 (six months short of the original closing date), less than half of the credit had been disbursed. The closing date of the project was extended by 18 months to December 2005.

The transfer of coordination of the HIV/AIDS program to the NASC (now HAPCO) had alienated FMOH. ACT Africa subsequently acknowledged that (a) insufficient emphasis on the role and importance of FMOH in the fight against HIV/AIDS and bypassing FMOH in a number of MAP countries because of perceived lack of commitment and capacity had caused a backlash and (b) this lesson was incorporated in the design of MAP II. After EMSAP I closed in 2005, donor support to Ethiopia was affected by the political turmoil following the elections. Bank support during 2005–07 was concentrated in its program, “Protection of Basic Services” (PBS). In 2007 EMSAP II was launched.

6.2 EMSAP II

Based on lessons learned from the implementation of EMSAP I as well as other donor activities, the government’s strategy is evolving based on a better understanding of the epidemic in Ethiopia. The strategy recognizes the need to focus on at-risk areas and “hotspots” and target the most at-risk groups. Moreover, with general basic awareness of HIV widespread throughout the country, prevention interventions will focus on creating more in-depth knowledge and supporting behavioral change interventions that reduce stigma.

Not only has the financing scenario for Ethiopia’s response to HIV/AIDS drastically changed since EMSAP I became effective, but so have its substance, requirements, and demands. Financial resources have increased substantially through contributions from GFATM, PEPFAR, UNDAF, bilateral partners, and the Clinton Foundation. The most remarkable changes in the substance of the program are the rapidly expanding treatment program and the dramatic increase in demand for services and support. However, there is a crucial gap in the support for prevention activities, and that support is limited to specific geographic areas (mainly urban areas), institutions, and target groups. For this reason, World Bank support needs to be available to partially cover this critical gap and improve national program delivery and better use of all resources. This support will reveal the nature and scope of activities that need additional funding.

52 World Bank 2006.
6.2.1 Project development objective and key indicators

The main objectives of EMSAP II are to:

- Increase access to prevention services for youth, in particular, females aged 15–24, and other most-at-risk groups

- Sustain the access to care and support for PLWHA and orphans undertaken in EMSAP I.

6.2.2 Project components

The proposed project would finance three main components, described below, and would support the government to move toward a programmatic approach. A fourth unallocated category would be used to finance new activities that ensue from changing priorities and/or sudden reductions in donor funding. Indicative allocations by component for the three years have been made. However, the actual allocations will be made annually in line with the agreed annual action plan with major partners. Dual targeting will be avoided by strengthening (a) review processes, (b) local coordinating capacity, and (c) frequent follow-up and supervision.

Component 1: National Program Coordination and Institutional Strengthening (US$2.5 million)

The objective of this component is to improve the coordination and delivery of the national HIV/AIDS strategy and action plan at all levels. Activities under this component aim to improve the implementation capacity of public, private, and civil society entities to ensure effective coordination and to maximize results on the ground. Project support in this area is in line with the national capacity building program of the government and addresses key areas of capacity gaps in the implementation of the national HIV/AIDS strategy. In addition, strengthening the monitoring and evaluation system (emphasizing programmatic M&E) will be intensified at all levels. Expected outcomes include the establishment of restructured federal and regional HAPCOs and a fully functional M&E system.

Component 2: Multi-Sectoral Prevention Fund (US$3.5 million)

This component is aimed at supporting a broad range of interventions in the public sector to prevent the spread of HIV. The main activities will include behavioral change expedients, peer education, counseling and testing (C&T), condom distribution, and mechanisms to reduce harmful traditional practices. The support will be targeted toward the most high-risk and vulnerable groups. Financial support will be garnered through a competitive process based on submission of proposals by the respective ministries and agencies.
Component 3: Local Response Fund (US$15 million)

This component will support community- and woreda-based initiatives focused primarily on HIV prevention and mitigation activities targeting specific key at-risk groups. Among others financed under this component would be HIV/AIDS awareness creation at the community level, behavioral change (reduction of traditional harmful practices, safer sexual behavior by both CSWs and their clients, delayed first sexual intercourse, reduction in early marriage, reduced sex with non-regular partners), condom distribution, and counseling and testing services.

6.3 Discussion of the potential role of WB funding in TBHIV collaboration

Figure 2.5 “Two Diseases, One Patient”
Let us collaborate and accelerate!

Despite emerging funding opportunities for a number of TBHIV collaboration components, the implications of effective implementation of TBHIV collaborative activities with full coverage require considerable funding sustained for years to come. To effectively combat TBHIV, not only the specific technicalities of TBHIV but also the performance of core activities of both the TB and HIV health sector programs must be in good shape. In taking stock of the challenges and opportunities for funding, one therefore must look beyond the immediate boundaries of specific TBHIV collaboration aspects into the core business kitchen of the respective programs (figure 2.5).

In Ethiopia, the HIV health program in its new structure under HAPCO is coping with the effects of rapid scaling-up of C&T and making remarkable strides in catching up with requirements that had been left in the shadows, such as coordination, M&E, data management, and QA. Focus on TB is one of those requirements that has been neglected. On the other hand, facing a rapid weakening of its overall control program, the TB program has embarked on an emergency approach to turn the tide. Progress of TBHIV prevention and reduction clearly suffers under these developments.

Regarding perceived needs for additional financial support, the consensus among all professionals interviewed was that TBHIV collaborative care could advance if the critical support system preconditions were met. In striking unanimity, the following demands were cited:

- Status of physical infrastructure. Collaborative TBHIV brings about a range of additional and new activities, at TB sites, at C&T sites and at VCT and other HIV entry sites. These increases necessitate more space, room for privacy,
and an infection-controlled waiting space. Current donor opportunities do not sufficiently allow for addressing physical infrastructure.

- **Structure and quality of the diagnostic network for TB.** Despite its focus in the PEPFAR-Plus-up proposal, the anticipated increase in laboratory tests and chest-X-rays is ill budgeted.

- **Credible and effective plan to improve human resource capacity in the health sector.**

- **Improved financial management at FMOH level** to facilitate effective use of, for example, GFATM funds, and to enable the TB program to be ready for the fray.

- **Better structure and output realized at the community level** for TBHIV advocacy; preventive activities, such as early identification and referral of TB suspects; HIV and TB treatment adherence support; and integrated HBC.

- At the national level a well developed, efficient coordination system for TBHIV, backed up with a well-established M&E system.

There was also consensus among the people interviewed that these gaps are specifically suitable for funding by an institution such as the World Bank. In particular, one argued that, physical infrastructure, (financial) management capacity building, and human resource capacity are areas in which WB is particularly strong. EMSAP II has drawn important lessons from its predecessor, particularly for health sector aspects. Its structure appears to enable the inclusion of proposals that address TBHIV, but the where and how are not immediately obvious. TBHIV collaboration must be well addressed in HIV/AIDS strategic plans, which usually lie at the basis of Multicountry AIDS Programs (MAPs). Moreover, although the “window for TB” exists in EMSAP II, in the description of the program, TBHIV is not visible. However, ESMAP II’s three main components do address the TBHIV-related preconditions presented in the above paragraphs. For example, component 3, the Local Response Fund, could perfectly include TB and HIV/TB patients as an identified target group and include them in the high-risk and vulnerable groups whom EMSAP II intends to address throughout its proposal.

### 6.3.1 Conclusion

To realize and sustain nationwide coverage effective and effective implementation, increased and long-term funding for TBHIV collaborative activities needs to be ensured. TBHIV must be thoroughly addressed in HIV/AIDS policy documents.
and WB project proposals that support the national HIV strategy in Ethiopia. Only then will there be room for TBHIV activities to access the funding opportunities that EMSAP offers.
1 INTRODUCTION

1.1 Kenya Country Background

The Republic of Kenya covers an area of 582,646 square kilometers (sq km) and can be divided into two distinct regions: the lowlands and the highlands. Close to 80 percent of the land is arid and semi-arid, and sparsely populated. The country is divided into 8 administrative provinces, which are subdivided into 71 districts. Thirty-seven new districts recently were created, but they have not attained full functional and operational status (figure 3.1). The capital city is Nairobi. According to the 1999 census, the country has an estimated population of 35 million in 2006. An estimated 41.2 percent of the population is under 15 years old; 3.1 percent are 65 years or older. Life expectancy has dropped from 56.8 years in 1992 (prior to the full impact of HIV/AIDS) to 51 years in 2004. In 2002, 65 percent of the population was living in rural areas. The Kenya Demographic and Health Survey (KDHS 2003) reported the mortality rate of infants and of children under 5 years as 78 per 1,000 live births and 114 per 1,000, respectively. Since 1989, both rates have increased by 30 percent. Both these and other health indices point to the deteriorating health status and quality of life of Kenyans.
After a period of moderately high growth in the 1960s and 1970s, Kenya’s economy began to decline. In the 2001 human development index, Kenya was ranked 146 of 175 countries. By 2005 it had dropped to 154th position, meaning that the population had declined in overall socioeconomic status with great inequalities in income. The country’s 2004 GDI per capita was US$480 (World Bank Group 2005). Unemployment remained high, particularly in urban areas. In 2002 an estimated 15 percent of the labor force and 25 percent of those living in urban areas were without jobs. Poverty levels were high in Kenya due to the stagnant largely agricultural economy that depends on unstable product prices in the international markets. In 2002 the prevalence of poverty was 56 percent, with this percentage of the population unable to meet its basic requirements including food.

On the positive side, beginning in 2001, Kenya’s macroeconomic environment began to recover. Public debt has gone down; prices are more stable; and real interest rates have fallen. GDP growth is estimated to have exceeded 6 percent in 2006, compared to 5.8 percent in 2005 and 4.9 percent in 2004. After years of stagnation per capita growth has picked up at an average rate of 1.8 percent per year. Since 2005, exports of goods and services have been growing steadily at an average of more than 15 percent annually. Reflecting growing private sector confidence, foreign direct investment (FDI) applications finalized by the Kenya Investment Authority jumped from approximately US$90 million in 2005 to approximately US$1.1 billion in 2006. This growth was driven by information, communications, transport, and tourism.\(^1\)

1.1.1 National health policy

In 1999 the Ministry of Health (MOH) issued its first National Health Sector Strategic Plan (NHSSP), which provided a 4-year (1999–2004) operational road map for the Health Policy Framework launched in 1993. The overall goal of NHSSP II 2006–10, the current health sector policy is to promote and improve the health of all Kenyans through deliberate restructuring of the health sector. To enable more equitable allocation of resources, NHSSP II calls for the definition and prioritization of essential and cost effective curative and preventive health services in all regions of the country.

NHSSP II also recognizes that different health facilities have different care capabilities. The plan categorizes them into Community (Level 1), Dispensary (Level 2), Health Center (Level 3), Primary Hospital (Level 4), Secondary Hospital (Level 5), and Tertiary Hospital (Level 6). The costs to deliver the Kenya Essential Package of Health (KEPH) in 2005–06, as proposed in NHSSP II, were estimated at US$866,667,000. By 2010, assuming an annual growth rate of 5 percent, the

\(^{1}\) IDA and others 2007.
health expenditure per capita is expected to grow from $29 to $47. KEPH financing is expected to come from the GoK, private sector, grants from development partners, GFATM, and the National Social Health Insurance Fund. NHSSP II 2006–10 recognizes the provision of Directly Observed Treatment (Short course) (DOTS) and HIV care services as key interventions especially among the youth and adolescents (13–24 year olds) and the adult population (25–59 year olds).

NHSSP II is an integral part of the Economic Recovery Strategy for Wealth and Employment Creation 2003–07 (ERS) and the National Development Plan 2004–09. ERS had 4 pillars: (1) achieving rapid economic growth in a stable macroeconomic environment, (2) strengthening the institutions of governance, (3) rehabilitating and expanding physical infrastructure, and (4) investing in the poor.

Key components of the ERS that related to the health sector included:

- Phasing in the National Social Health Insurance Fund, which eventually will provide free health care to all Kenyans.
- Focusing investment to benefit the poor, with reallocation of resources to promote preventive and basic health services.
- Increasing cross-sectoral cooperation, with the health sector cultivating stronger ties with players in other sectors including agriculture, water and sanitation, and education.
- Increasing efficiency and effectiveness through a programmatic approach that involves all partners (sector-wide approach, or SWAp).
- Increasing Government of Kenya (GoK) funding. NHSSP II 2006–10 envisions an annual GoK health-related budget allocation rising from 5.6 percent in 2007 to 12 percent by 2010.

### 1.1.2 Healthcare system

Working through the Ministry of Health, local authorities, and other ministries, and in partnership with the private sector, nongovernmental organizations (NGOs), and community-based organizations (CBOs), GoK provides health care through the established national, provincial, district, and subdistrict hospitals. These are additionally supported by health centers and dispensaries located within the target communities. NHSSP II grades all health-delivery points in the levels listed above, with community-based hospitals being the lowest (Level 1), and referral hospitals forming the apex of the pyramid (Level 6). The public health infrastructure has approximately 3,000 health care facilities. Administratively, this network of facilities is led by the Minister of Health, with the Permanent
Secretary (PS) as the Accounting Officer at the MOH headquarters. The Technical Head is the Director of Medical Services (DMS), supported by Provincial Medical Officers (PMOs), and District Medical Officer of Health (DMOH) at the province and district levels, respectively.

The Kenyan government provides curative, preventive, and promotive health care services. The public sector accounts for 52 percent of all health care service provision. The remaining 48 percent is provided by the private sector, faith-based organizations (FBOs), and NGOs. The regulation of health care providers and services is the responsibility of the MOH. In 2004 Kenya had 63,227 registered medical personnel (HMIS, MOH 2005): 5,016 physicians, 10,210 registered nurses, 30,562 enrolled nurses, 4,953 clinical officers, and 12,486 other medical staff. These figures produce a ratio of 16 physicians and 32 registered nurses per 100,000 population. The total budget of the MOH in the 2004–05 fiscal year was 7.6 percent of total government expenditure. The health expenditure per capita was approximately US$69. Most of the health expenditure was used to pay salaries of health care workers.

2 HIV/AIDS in Kenya

Kenya has a severe, generalized HIV epidemic. However, in recent years, the country has experienced a notable decline in HIV prevalence. National adult HIV prevalence is estimated to have fallen from 10 percent in the late 1990s to approximately 6.1 percent in 2005. Figure 3.2 shows the declining HIV prevalence among pregnant women in Kenya, with the extrapolated national adult HIV prevalence falling from over 10 percent in the late 1990s to 6 percent in 2005.²

Figure 3.2 HIV prevalence in pregnant women in Kenya, 1990–2004

² Joint United Nations Team on AIDS, Kenya.
This trend is supported by data from national surveys that document changes in behavior moving toward fewer partners, less commercial sex, greater condom use, and first sex at a later age. The Kenya Demographic Health Survey (KDHS) revealed that 6.7 percent of adults tested are infected with HIV. For 2003, reconciliation of KDHS and sentinel surveillance data gives an adjusted prevalence of 7 percent (range 6.1–7.5 percent), implying a total of 1.1 million adult Kenyans infected with HIV, of whom approximately two-thirds are women. In addition, an estimated 100,000 children are living with HIV. Women face considerably higher risk of HIV infection (8 percent) than men (4 percent), and also experience a shorter life expectancy due to HIV/AIDS. Populations at risk include injecting drug users and individuals involved in prostitution, whose prevalence rates are estimated at 53 percent and 27 percent, respectively. Prevalence rates also show significant regional and rural/urban variations, with the average urban prevalence (10 percent) nearly twice that of rural areas (5 percent–6 percent).

Even though Kenya is considered by UNAIDS as a recent success story in the fight against HIV, in 2005 over 1.2 million Kenyans were living with HIV, including 156,000 children. The number of new HIV infections in the country is approximately 200 daily among adults. Despite rapidly expanded access to treatment in recent years, slightly over 100,000 adults die annually due to AIDS-related illnesses. From the start of the epidemic in 1982 to the end of 2005, the cumulative number of AIDS deaths was 1.5 million. Mortality in the most socially and economically productive age cohort (15 to 49 years) is due primarily to HIV and AIDS. The mortality rate has increased by approximately 30 percent since 1998. Moreover, life expectancy at birth has fallen from 58 years in 1990 to approximately 47 years. Of an estimated 2.4 million orphans and vulnerable children (OVC) in need of care and support, approximately 1.2 million are believed to have become so due to rising AIDS-related mortality.

Infection rates among young people are very high. Using 2006 national data, the HIV infection rate in young women aged 15 to 19 years was 6 times higher than in men of the same age group. The prevalence rate among young women peaked at 25 to 29 years of age, while that of men peaked in the 40 to 44 year old group. The national adult prevalence female-to-male ratio of 1.9 to 1 was higher than that found in most population-based studies in Africa. The HIV epidemic in Kenya is heterogeneous. Close attention must continue to be paid to several key drivers of the epidemic, particularly those affecting the youth (especially young

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3 MOH KDHS 2003.
4 NASCOP 2004.
5 MOH 2005.
6 UNAIDS 2006.
7 Epstein 2004.
girls), and women. It was estimated that by 2005, GDP would be 14.5 percent lower with AIDS than it would have been without AIDS.\(^8\)

To respond to the HIV and AIDS epidemic, the government, together with a wide range of stakeholders, developed the second Kenya National HIV and AIDS Strategic Plan (KNASP) for 2005–06 to 2009–10.\(^9\) KNASP provides a common framework for all HIV and AIDS interventions. Its objectives are to reduce the spread of HIV, improve the quality of life of those infected/affected, and mitigate the socioeconomic impacts of the epidemic. KNASP is underpinned by six core strategic principles:

a. Multisectoral approach, which enhances advocacy, builds strategic partnerships, and mainstreams HIV and AIDS within key sectors

b. Targeted interventions for the groups most vulnerable to infection and to the impact of HIV and AIDS

c. Recognition of the special needs of women and youth

d. Maximal engagement of people living with HIV and AIDS (PLWHA) in implementing the strategy

e. Empowerment of all stakeholders to participate effectively in the national response

f. Use of interventions that are information based.

Joint efforts by GoK, international donors and partners, NGOs, and FBOs have resulted in a very rapid increase in voluntary counseling and testing (VCT) sites from 3 in year 2000 to 650 sites in year 2005. Over the same period, annual VCT service uptake increased from approximately 1,000 to 500,000. Prevention of mother-to-child transmission (PMTCT) services also has increased. They were piloted in 2000, and there are now approximately 800 facilities countrywide.

It is estimated that 60 percent of pregnant mothers who visit antenatal clinics (ANCs) are counseled and tested for HIV. Condom use has increased rapidly in recent years. Condom distribution has increased from 8.5 million monthly in July 2004 to approximately 11 million monthly in 2007. However, all programs have been threatened by intermittent stock-outs of essential commodities.

Kenya has developed a national anti-retroviral therapy (ART) Program, which aims to progressively deliver effective ART, reaching 75 percent of those eligible

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\(^8\) Bell and others 2006.

by 2010. Based on national guidelines, under the National AIDS and STI Control Program (NASCOP), all provincial hospitals and 70 district hospitals are providing comprehensive HIV care, including the core components of counseling services, prevention, and treatment of opportunistic infections, and ARV. In December 2006 there were 261 Comprehensive Care Centers (CCCs), most of which most were hospitals (centralized). There has been a massive increase in the number of patients on ARV therapy from 3,000 patients in 2002 to 110,000 in May 2007 (table 3.1). The latter are approximately 35 percent of those in need of treatment. Close to 40 percent of pregnant women attending antenatal clinics in 2004 benefited from PMTCT services. However, these statistics also show that, despite recent scaling-up, treatment and care services have not reached the majority of PLWHA. In recent times, tuberculosis (TB) cases have more than doubled, due mainly to the impact of the HIV and AIDS pandemic. Approximately 30 percent of TB patients are HIV-positive.

The threat of Multi-Drug Resistant (MDR) and Extremely-Drug Resistant (EDR) TB, especially among PLWHA, is a growing concern. The dual TBHIV epidemic is a critically important challenge to the health service. Addressing the TBHIV linkage is therefore pivotal in the fight against HIV and AIDS. The national TB control program is based on a solid five-year strategic plan.

Table 3.1 National ART update, 1st Quarter 2007

<table>
<thead>
<tr>
<th>Province</th>
<th>CARE (enrolled for HIV care, but not yet commenced ART)</th>
<th>ART (enrolled for HIV care and already commenced ART)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Province</td>
<td>22,333</td>
<td>16,398</td>
</tr>
<tr>
<td>Coast Province</td>
<td>22,769</td>
<td>9,445</td>
</tr>
<tr>
<td>Eastern Province</td>
<td>19,770</td>
<td>8,980</td>
</tr>
<tr>
<td>Nairobi Province</td>
<td>67,325</td>
<td>31,396</td>
</tr>
<tr>
<td>North Eastern Province</td>
<td>468</td>
<td>166</td>
</tr>
<tr>
<td>Nyanza Province</td>
<td>97,559</td>
<td>31,010</td>
</tr>
<tr>
<td>Rift Valley Province</td>
<td>52,174</td>
<td>27,842</td>
</tr>
<tr>
<td>Western Province</td>
<td>23,857</td>
<td>10,607</td>
</tr>
<tr>
<td>Kenya Total</td>
<td><strong>306,255</strong></td>
<td><strong>135,844</strong></td>
</tr>
</tbody>
</table>


11 NASCOP MOH Kenya 2005.
3 TUBERCULOSIS

Kenya has a large and rising TB disease burden. It is ranked 10 among the 22 high-burden countries that collectively contribute approximately 80 percent of the world’s TB cases. The TB case notification rate (CNR) has increased more than 10-fold since the mid-1980s. As in the rest of Sub-Saharan Africa, in Kenya this large increase in TB is attributed primarily to HIV.

However, in 2007 WHO estimated the true TB incidence in Kenya in 2005 was 620/100,000, giving an estimated prevalence of 888/100,000.\textsuperscript{13} TB cases notified in Kenya increased from 57/100,000 in 1985 to 325/100,000 in 2006, an average annual increase of 14 percent for the last decade. HIV sero-prevalence in Kenya has been on the decline since a high of 14 percent in 2000; in 2004 it was estimated at 6 percent.\textsuperscript{14}

TB HIV collaborative activities began to be piloted in 2004, and in 2006 implementation was scaled up. The national average TBHIV co-infection in TB patients in May 2006 was 53 percent.\textsuperscript{15} Implementation has been focused on, and is advancing well with, progressive provision of comprehensive TBHIV care. In 1980 GoK launched the National Leprosy and Tuberculosis Program (NLTP). By 2005 TB and leprosy services were being delivered through 1,605 health units managed by MOH and other ministries, NGO/FBO health units, and some private institutions. Smear microscopy services were available at 705 of these health units. A total of 110 District Tuberculosis/Leprosy Coordinators (DTLCs) was responsible for coordinating the delivery of TB and leprosy services. These officers were supported by 11 Provincial Tuberculosis/Leprosy Coordinators (PTLCs). Eleven technical officers were available at the central unit of NLTP to provide technical guidance for the national response to TB and leprosy control.

3.1 Epidemiology

The major reason for the increasing burden of TB in Kenya is the concurrent HIV epidemic. The number of reported TB cases has increased nine-fold from 11,625 in 1990 to 115,234 cases in 2006 (figure 3.3). In the last 5 years, the annual increase of notified TB cases slowed down to an average of 11 percent.

Case notification rates (CNR) increased from 53/100,000 population for all forms of TB and 32/100,000 population for sputum smear-positive pulmonary tuberculosis (PTB) cases in 1990 to 325/100,000 population and 121/100,000 population, respectively, in 2006 (figure 3.3). The last 5 years saw an average

\textsuperscript{13} WHO 2007.
\textsuperscript{14} NASCOP MOH Kenya 2004.
\textsuperscript{15} 2006 MOH figures from routine HIV testing of TB patients.
annual increase of 11 percent in the number of TB case notified in the country. The range was from 6 percent in Coast Province to 15 percent in Rift Valley North Province.

In the last half of 2005, NLTP introduced a TBHIV integrated data collection system that enabled the collection of HIV-related information. Data coming through from the last half of the year 2006 indicated that the national average HIV prevalence in TB patients was 53 percent. In 2006, 67 percent of all TB patients were tested for HIV in the context of confidentiality, counseling, and consent. Of the estimated 52 percent of the dually infected TB patients, 87 percent are accessing Cotrimoxazole Preventive Therapy (CPT) and 26 percent ART. The estimated case detection rate for Kenya is still approximately 50 percent. However, with new data available concerning HIV in TB patients and improved monitoring and evaluation (M&E), it soon should be possible to revise this estimate. Laboratory infrastructure and performance remain weak.

### 3.2 Treatment outcome

Of smear-positive patients commencing treatment during 2004, a success rate of 82 percent was achieved. Treatment success rates have been stable at approximately 80 percent since the introduction of short-course chemotherapy (SCC) in 1993 (table 3.2). The Kenyan rate is still below the 85 percent recommended by WHO. Kenya's reported death rate of TB patients remained low at approximately 5 percent. The gains were made primarily from the reduction in the proportion of cases that went out of control and/or were transferred out (table 3.3).

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16 MOH Kenya 2005.
17 “Success” in TB treatment means Rx completed and sputum negative; in other words, patient cured.
Table 3.2 Five-year trend TB treatment outcomes in Kenya, 2000–04

<table>
<thead>
<tr>
<th>Year</th>
<th>Cohort</th>
<th>Cured (%)</th>
<th>Completed (%)</th>
<th>Failure (%)</th>
<th>Died (%)</th>
<th>Absconded (%)</th>
<th>Transferred out (%)</th>
<th>Total</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>65</td>
<td>14</td>
<td>0.3</td>
<td>5</td>
<td>9</td>
<td>6</td>
<td>25,780</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>66</td>
<td>14</td>
<td>0.3</td>
<td>5</td>
<td>9</td>
<td>7</td>
<td>28,006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>65</td>
<td>14</td>
<td>0.4</td>
<td>5</td>
<td>9</td>
<td>7</td>
<td>30,966</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>67</td>
<td>13</td>
<td>0.2</td>
<td>5</td>
<td>9</td>
<td>6</td>
<td>34,068</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>70</td>
<td>12</td>
<td>0.3</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>36,855</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NTLP has started to implement new initiatives in Public-Private Mix (PPM) and community involvement to improve the quality of TB control services and increase case-finding. TBHIV initiatives were strengthened in 2005, and by the end of 2006, collaborative TBHIV activities were expanded to 70 percent of districts. HIV testing of TB patients increased rapidly: 60 percent of all TB patients were tested for HIV in the last quarter of 2006. To maintain these initiatives and to implement them more widely, a large funding gap for 2007 was identified.

3.3 Financing

In the calendar year ending December 2005 the GoK continued to support routine TB control activities through the recurrent MOH budget. NLTP received external funds from the following development partners:

- PEPFAR through the CDC-NASCOP Cooperative agreement. This grant supports the scaling up of TBHIV collaborative activities including health care worker training, acid-fast bacilli (AFB) microscopy refresher courses, private sector TB treatment project, and control of TB in prisons and urban slums. In 2005 PEPFAR made over US$770,000 available as direct support to NLTP.

- The USAID grant through Family Health International (FHI) entered its third and final year in the second half of 2005. The grant of nearly US$500,000 a year enabled NLTP to continue with the urban TB control programs including school health program, health care provider training, and community mapping. USAID will continue to support NLTP, particularly in urban areas, to increase number of diagnostic centers and to integrate TB into voluntary testing and counseling (VCT) sites. Between 2001 and 2005, USAID funds for TB programming in Kenya averaged $1.5 million per year.
In 2003 Kenya received $11 million for TB activities from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM). Disbursement of these funds has been slow.\textsuperscript{18} GFATM continued to be available until the closure of phase 1 of round 2 on October 31, 2005. By that time, approximately US$2.5 million had been disbursed by the GFATM.\textsuperscript{19}

- WHO provided funds for Community-based Directly Observed Treatment (short course) (DOTS) training at the district level.

Total TB control costs, 2006–07 (figure 3.4). Key TBHIV interventions (for example, HIV testing for TB patients, ART) are in line with the Global Plan. Cost discrepancies have arisen due to channeling approximately US$7 million through NGOs rather than NTP, and inclusion of major costs such as ARV drugs in the National AIDS Program (NAP) budget.

Among the high-burden countries (HBCs), in Kenya TBHIV accounts for the largest share of budget (figure 3.5). This budget covers some costs associated with routine diagnostic testing and ART for HIV+ TB patients, CPT, Isoniazid Preventive Treatment (IPT), training, coordination meetings, and a full-time post in the central unit.

Partnerships have been a key to improve TB services in Kenya. Many organizations that previously worked only in HIV programs have expanded their activities

\textsuperscript{18} The Grant Agreement Global Drug Facility (GDF) expired at the end of 2007. Another grant under Round 5 of the Global Fund against HIV and AIDS, TB and Malaria (GFATM) will support the procurement of second-line TB drugs. Therefore, the area of first-line TB drugs needs additional support.

to include TB. In addition to USAID, WHO and the KNCV Tuberculosis Foundation are leaders in providing technical support. The World Bank and the Global TB Drug Facility support the provision of TB drugs. The US Centers for Disease Control and Prevention (CDC) and the Canadian International Development Agency (CIDA) support logistics and training activities. Other partners include Family Health International and John Snow, Inc., African Medical and Research Foundation (AMREF), Merlin, AMPATH, IMC, JSI, Program for Appropriate Technology in Health (PATH), MSF, Italian government, WHO, AIFO, Malteser, CHF, IOM, Pathfinder, and the Royal Netherlands Tuberculosis Association/Foundation (KNCV)/Cida. Funding from the various donor agencies is used in a synergistic and supplementary manner to fund total TB control and fill in identified funding gaps. The TB Inter-Agency Coordination Committee (TB-ICC), created by the Global Fund to Fight AIDS, TB and Malaria, and other committees of NLTP have assisted in creating a basket-like funding mechanism for TB control in Kenya.20

The increase in the number of NLTP partners also has brought on challenges of coordination to ensure that individual partner activities are in line with the national strategy. TB-ICC has helped greatly in that role. All major players in TB control are members of TB-ICC. The committee meets at least quarterly and deliberates on all issues pertaining to TB control in Kenya.

To continue to improve the quality of TB care services from multiple points, NLTP also has established the Advocacy, Communication and Social Mobilization Working Group, Urban TB Control Committee, TB Laboratory Services Quality Control Committee, Taskforce for Drug-Resistant TB, TB Preventive Therapy Working Group, Taskforce for TB Control in Hard-to-Reach Districts, and the Infection Prevention at Healthcare Facilities Committee.

## 4 TBHIV COLLABORATION IN KENYA

### 4.1 History of TBHIV in Kenya

In 2000 NLTP and NASCOP (NASCOP is the medical AIDS Control Unit in the Ministry of Health and is part of the multisectoral National AIDS Control Council, or NACC) were joined in one division under the Department of Promotive and Preventive Health Care within MOH. In 2001 CDC, the Liverpool

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20 Kenya had been receiving the Global Drug Facility (GDF) Grant, which provided the country with free first-line TB drugs. However, the Grant Agreement expired in 2007. See n. 18.
School of Tropical Medicine, MSF, and the Nairobi Catholic Diocese commenced pilot projects combining HIV and TB services.

In 2002 a regional WHO/CDC/USAID TB/HIV workshop in Nairobi aimed to build the capacity of 9 participating member States, including Ethiopia, Kenya, and Tanzania, to manage the overlapping TB and HIV/AIDS epidemic. The intended method was through the development of country-specific proposals for phased implementation of collaborative TB and HIV/AIDS program activities. This workshop resulted in a first draft TB/HIV proposal for Kenya; establishment of a national TB/HIV steering committee; and a Global Fund grant in Round 2, including a TB/HIV component. The TB/HIV proposal was completed by NLTP, CDC, and KEMRI in 2003. NASCOP and NACC were not involved, and the proposal was not supported for funding by WHO.

A national TB/HIV coordinator was appointed within NASCOP and mandated with organizing the National TB/HIV Steering Committee, which would report to both NASCOP and NLTP. The coordinator also was mandated to develop a new proposal for a much smaller TB/HIV pilot project in Nakuru, funded by WHO, which started in the second half of 2004. The Nakuru pilot thereby lost its role as a pilot and became one of the districts that was supported by NLTP as part of the national plan to initiate TB/HIV joint activities in 30 districts. A national TB/HIV workshop finally took place in the second half of 2003 without the support of NASCOP and/or NACC.

At the end of 2003, a smaller TB/HIV working group appointed by the TB Inter-Agency Coordinating Committee (TB-IACC) produced a broadly reviewed first draft of a national TB/HIV guideline. At the same time, diagnostic counseling and testing (DCT) was introduced and accepted, and a national task force reviewed the HIV testing policies and algorithms. DTC was strongly facilitated for application to TB patients, parallel to the roll-out of ART services in the country. HIV-positive patients were offered Cotrimoxazole prophylactic treatment awaiting availability of ART. In 2004 the President’s Emergency Plan for AIDS Relief (PEPFAR) was launched, and several organizations planned to include TB/HIV activities. CDC expanded its existing program in Nairobi to Nyanza province, thus supporting a total of 10 districts. PATH (Program for Appropriate Technology in Health) came in as a new partner, supporting another 10 districts. The Global Fund round 2 was approved and was the third donor to support another 10 districts. These 30 districts all were located within the AIDS belt around the highway connecting Mombassa with Kisumu. The decision of which districts would be supported was made by the TB/HIV Coordinating Committee and involved all relevant partners.
The national TBHIV coordinator resigned at the end of 2004 and NLTP assigned its own National TBHIV coordinator within its Central Unit (CU). This coordinator was mandated with the implementation of the GFATM plan to initiate TBHIV in 10 districts and coordinate the activities with the other partners. NASCOP appointed one of its officers to be its TBHIV focal point. The TBHIV Technical Working Group (TWG) produced TBHIV guidelines that were distributed in 2005, followed (with NASCOP and CDC support) by a manual to train health staff in THE DTC TBHIV working group, NASCOP, and CDC. Finally, members of the TBHIV working group joined a national taskforce to develop the new Testing and Counseling policy document and guideline for Kenya, which was launched by the minister and facilitated a rapid uptake of testing of TB patients all over the country from 2005 on.

The first step of phased implementation of collaborative TBHIV activities at the district level was an analysis of the TBHIV services in the districts. By June 2007, all 10 provincial TB control zones and 71 of 77 districts reportedly were participating in functional TBHIV collaboration.

In June 2005, the great majority of the 1,605 health facilities offering TB treatment were supplied with new recording and reporting tools that included information on HIV: HIV test offered or not, results of HIV test, CD4 T cell count, and use of Cotrimoxazole preventive therapy and antiretroviral treatment. The registers also included information on referrals. The new system was fully in place within six months. In recent years, TBHIV-related issues increasingly were included in the traditional TB training. NLTP, in collaboration with CDC and WHO, developed a standardized training curriculum incorporating essential HIV modules that were used in all trainings carried out by NLTP and its partners from 2006 on.

Kenya was among the first-tier countries to benefit from the global Stop TB Partnership’s Intensified Support and Action Countries (ISAC) initiative. In Kenya, ISAC focused on addressing the human resource constraints that NLTP was experiencing. In 2005 a total of 26 additional persons were recruited to assist provincial TB and leprosy coordinators (6 persons) and district TB and leprosy coordinators (20 persons). An additional 10 persons were recruited through PEP-FAR with funds channeled through PATH. One key responsibility of the ISAC staff was to initiate and/or expand the implementation of TBHIV collaborative activities including the implementation of the integrated TBHIV recording and reporting system in the initial selected 30 pilot districts.
4.2 Assessment of Recommended TBHIV Collaborative Activities and M&E Indicators

A. To establish the mechanisms for collaboration

A.1 Coordinating body for TBHIV activities effective at all levels

*Indicator A.1.1: Existence of a coordinating body for TBHIV activities effective at all levels.*

Since 2002 there has been a national TBHIV steering committee that is mandated by MOH; meets quarterly; and includes partners, donors, NGOs, PLWHA, NASCOP, WHO, private sector, and the TB association. The Secretariat is in MOH; the chair is usually CDC. Meetings are called by NLTP. As many as 30 people attend each meeting. IACC was established to coordinate GF quarterly meetings and consists of almost the same people as are on the TBHIV steering committee. Initially, in 2003 this steering committee had delegated technical tasks to a TBHIV Technical Working Group (TWG), which produced national TBHIV guidelines. The current status of the TWG is not clear.

All 8 provinces have a provincial TBHIV steering committee as will most of the 76 districts. These committees are established one by one; 51 are in place but soon they will be in 71 districts. Composition of the committees is guided by NLTP but decided at the respective level. Guidelines are provided to facilitate appropriate selection of district steering committee members; funds for supervision are provided; and training for the district is planned. It is envisaged that, at the district level, there may be a multitude of committees, many of them having almost identical membership. In these cases, a district may consider merging some committees into a general multistakeholder committee with a broader agenda than TBHIV alone. Discussion is ongoing.

The process of establishing TBHIV committees is largely TB driven (for example, NASCOP claimed not to have been involved in this process). This dynamic is reflected in the functionality of the National Steering Committee. Some 80 percent of the members are TB staff; the secretariat is at NLTP; and the chair usually is taken by CDC TB staff. Meeting frequency is decreasing, and some stakeholders hold a negative opinion on the effectiveness of the national committee. There is a perception of “committee disease.” National Inter-Agency Coordinating Committees (IACCs or CCM, GF) have almost the same the composition and agenda. At the district level, other committees, such as district stakeholders committee, that comprise identical members as the TBHIV committee. As noted earlier, there are many competing committees for HIV programs, such as HIV/malaria. Merging of some of these committees is suggested by stakeholders.
There was no available coherent information/documentation of committees at the provincial/regional and district levels regarding their effectiveness and what exactly they coordinate at the respective level. In contrast, it is reported that training, monitoring, and supervision at the district level and facility level are not well coordinated. In particular, at the facility level, a committee structure is largely absent, with the exception of specific sites. Major weaknesses include deficient supervision and M&E system, compounded by limited human resources available. Reliable information concerning the qualitative aspects and the true functionality of TBHIV coordination at the provincial and district levels is not fully available. TBHIV coordination at the facility level in general is poorly developed. It is anticipated that when ART is made available through the intermediate level (health centers), there will be many more and better opportunities to have a well-coordinated, one-stop facility for both TB and HIV. Joint operation would seem be optimal given the limited size of the HC and its staff and the fact that TB programs have been well established within the HCs and other 1st level facilities for many years.

A.2 Surveillance of HIV prevalence among TB patients
In 1994 NLTP surveyed HIV prevalence among sputum-smear-positive pulmonary TB patients in 17 of the then-50 districts. This survey found an HIV prevalence of 40.7 percent (range 11.8 percent–79.6 percent) in TB patients. No follow-up surveys have been carried out, and the HIV prevalence in TB patients is estimated from a few pilot projects and research sites. Given the rapid uptake of DTC in TB patients, the coverage of the country regarding TB patients routinely tested for HIV will suffice to provide robust estimates of HIV prevalence among TB patients.

Indicator A.2.1 HIV sero-prevalence among all TB patients
There is no reliable estimate for this indicator. Provisionally, 53 percent is used for planning. Increasingly, the data from routine testing are used to estimate prevalence (see sec. C.1.2).

A.3 Joint TBHIV planning
Indicator A.3.1: Joint TBHIV planning
The TB program in Kenya recently was placed in the new Division of AIDS/STI/TB/Leprosy Control (under the Department of Preventive and Promotive Services). Nevertheless, there appears to be consensus that true joint planning is not practiced, as can also be seen from some national policy and strategy documents. Rather, joint planning of specific activities, such as HIV tests and Cotrimoxazole drug orders, is done. General planning for TB (NLTP) and HIV/AIDS (National AIDS STI Control Program, NASCOP) is done separately rather than jointly.
However, for cross-cutting activities there is informal but regular communication, usually via the ART officer at NASCOP, who has been designated by NASCOP as the TBHIV liaison officer. For example, the national TBHIV training manual was jointly developed. Procurement requirements (ARVs, Cotrimoxazole, HIV test kits) are done with appropriate communication. However, each program heeds its own core functions. Full integration of both programs is not pursued and not deemed beneficial by the respective programs. National TB strategies are prepared without adequate involvement of the HIV bodies and vice versa.

**Indicator A.3.2: Presence of joint TBHIV IEC materials in TB and HIV services**

Excellent examples of these materials were found during the field visits, but the production and distribution appear to be ad hoc activities (figure 3.6). An example is the appropriate TBHIV brochure developed and printed by FHI that was no longer available due to the end of the specific budget line and absent planning for sustained production and distribution. It appears that these materials could easily be standardized nationally, budgeted for, and distributed. Advocacy, communication, and social mobilization (ACSM) has been done primarily in the areas that are supported by either CDC, PATH, or the government Global Fund program in 1 of the initial 30 TBHIV districts. Information, education and communication activities ranged from newsletters from MOH, TBHIV brochures, pamphlets, posters, and radio programs. Radio communication sessions in the vernacular always peak in March and April as part of World TB Day events. However, most of these messages are focused more on HIV/AIDS and less on TB.

**A.4 Monitoring and evaluation**

**Indicator A.4.1: Monitoring and evaluation of collaborative TBHIV activities**

Using the new tools, the three core TBHIV indicators are routinely recorded and reported. These indicators are:

a. Number and proportion of TB patients tested for HIV

b. Number and proportion of TB patients tested for HIV who were found to be infected with HIV

c. Number and proportion of HIV infected TB patients who were provided with Cotrimoxazole and referred for HIV care and treatment.
Under program conditions, data is collected as part of the routine recording and reporting.

The strength of supportive supervision and on the job training at the provincial and district levels is not known and may differ for the respective districts. Since HIV-related variables are added to a such relatively strong and well established reporting system as that of the TB program, adaptation has been rapid, and data can now be reliably aggregated and analyzed at the national level.

The same does not hold for HIV. For NASCOP, the M&E system admittedly is the weakest point in the chain, followed by structural, regular, and reported supervision. Some straightforward indicators are collected and provided on demand or for occasions such as conferences or reports to funding entities (OGAC, GF, WHO). Partners active in care and treatment (C&T) as well as in TBHIV often have their own reporting structures, in the best cases parallel to the national system, thus leading to duplication of effort. In addition, Kenya has made geographical divisions on the basis of specific partner involvement. These divisions often overlap.

It is a great challenge to harmonize all the reporting available into a standardized and comprehensive national format. A national M&E plan for TB including TBHIV is being developed. There is no link between the MOH Integrated Disease Surveillance (IDS) efforts and the separate data collection for TB and HIV. Although the need is strongly supported by all involved, effective coordination of TB- and HIV-related M&E at the national level has a long way to go. The last joint review of NASCOP was in 2004. In practice, the only reliable and complete information from the sites is the actual number of patients being treated since that data is pivotal to manage drug supply. Under the approval of MOH, there is occasionally a 1-week M&E round in which 5 teams of 5 partner representatives each traverse the country to assess implementation status.

M&E data collection must move toward computerization. Only then can it be integrated with HIV data collection and subsequent aggregation, analysis, and dissemination done. The number of recording formats is already too extensive. The amount of data will never fit in an IDS format for the Health Management Information Systems (HMIS) at all levels (which is not in place).
B. To decrease the burden of TB in PLWHA

B.1 Intensified TB case-finding

*Indicator B.1.1: Intensified TB case-finding among PLWHA*

Despite 53 percent of all TB patients in Kenya being HIV positive, TB is still seen as “just one OI” (opportunistic infection) and does not receive the attention that it deserves within the overall HIV activities. IPT is still firmly under debate, and no concise national policy has been established. TB screening of all clients and patients entering the HIV testing and counseling system (intensified case finding, or ICF) has not yet taken up at a significant pace. ICF is not yet routinely practiced, certainly not in a standardized way. A national policy and practical guidelines are not available. Both TB and HIV programs fully admit that ICF has not reached real momentum. Among the 95 TB indicators in NACC’s M&E manual, screening PLWHA does not appear.21

There appears to be a serious lack of awareness among staff working in HIV programs of the benefits of ICF. Implementing it is perceived as an extra burden for the already overstretched staff and increased demand for diagnostics such as X-rays and sputum tests. As IPT is not a routine policy, the motivation for ICF remains low. When it comes to averting preventable morbidity and mortality, it appears that addressing TB in PLWHA is not seen as a great opportunity to score high in prevention. At best, TB patients are seen as low-hanging fruit to recruit as patients eligible for ART, and HIV programs are rather interested in that part of the story. In a great many HIV/AIDS strategic plans, multisectoral as well as health sector, as a rule, TB appears in the section, Care and Treatment, and reference is made to testing TB patients and offering them CPT and ART. In the chapters on prevention, TB does not feature at all.

*Indicator B.1.2: Rate of new TB cases diagnosed in clients attending HIV testing and counseling services or HIV treatment and care services*

Apart from some specific research in pilot sites,22 there is no information about this indicator. A number of these sites have available (mostly unpublished) information that indicates a remarkably consistent and high rate of TB diagnosed in

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22 EDARP is the Eastern Deanery Nairobi comprehensive TBHIV pilot clinic. Sixty-one percent of TB patients are HIV positive. Stage I and II receive IPT, II and IV (<350 CD4) ARV. During entry screening, 10% of TB was found in HIV-positive clients in Stages I and II. A large proportion did not start ART because they refused visits by community workers! EDARP receives PEPFAR/CDC/NLTP/EDARP cofunding.
PLWHA (±10 percent). The current articulation of TBHIV within PEPFAR funding and the additional funds (PEPFAR Plus-up) made available in 2008 are expected to address this conspicuous gap in TBHIV collaboration.

**B.2 Treatment of latent TB infection (TB preventive therapy)**

**Indicator B.2.1: Proportion of HIV-positive clients given treatment for latent TB infection**

IPT is not routinely practiced, and the general mood seems shun it. IPT was initiated by NASCOP, not TLCP, but only in academic settings in Nairobi, where TB screening was assumed to be of high quality. No comprehensive data on IPT has been captured. Only data from individual and research projects (CDC-supported Eastern Deanery comprehensive TBHIV pilot clinic, Mombasa research, Columbia University) have been collected.

Coinciding with the country visit was a 2-day consultative workshop on ICF and IPT organized by MOH and supported by the partners (May 14–15, 2007). The expected outcome was to reach national consensus on a yes or no to implement IPT. The meeting resulted in a partial yes. Kenya has reached preliminary national consensus to recommend IPT only in well-controlled research sites and/or in well-controlled congregate settings (prisons, armed forces). IPT will not become a national policy and debate on the need is ongoing.

As presented at the national workshop, the main reasons for not implementing routine IPT were:

- Belief that it is not feasible to sufficiently rule out active TB
- Fear that existing isoniazid (INH) resistance would make IPT ineffective and fear of development of resistance by giving monotherapy to PLWHA who have subclinical TB or in whom clinical TB is not adequately excluded
- Referring to modeling studies, belief that the public health impact of IPT is meager

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23 AMPATH is a collaboration between the Indiana University School of Medicine and the Moi University Faculty of Health Sciences in Kenya. Close to 17% of Kenyans receiving ARV therapy are patients at 1 of AMPATH’s 8 urban and rural clinics. Cough monitors send coughers for sputum tests. All patients enrolled get chest X-rays. Eighteen percent are found to have infiltrate. Of PLWHA, 15,000 (44% of HIV positives) are on IPT, including 300 children. Concurrent ART: 8912, or 91% (self-reported adherence). Side effects rate are low. 526 developed TB after INH completion, some while on IPT (3%–4%).

24 Mark Hawken, personal communication (Columbia University, CDC/PEPFAR-funded sites Central Province).
• Expectation that IPT will create an additional burden for the scarce human resources and a high demand for diagnostic services such as X-ray and sputum-smear microscopy

• Low expectation of adherence

• Lack of clarity regarding the role of IPT in patients under ART or after completing a first treatment for TB in high-HIV-prevalence settings.

• Uncertainty on issues such as required duration of IPT, low impact on all cause mortality, and low efficacy in tuberculin-negative PLWHAs

**B.3 TB infection control in health care and congregate settings**

*Indicator B.3.1: Proportion of health care and congregate settings that have a TB infection control policy*

This activity has only very recently been addressed. Data are not available, and countries are developing policies, but it is obvious that implementing these policies requires major investments in physical facilities upgrading, equipment, consumables (masks), and human resources development (HRD) (training). However, rational and irrational fears for TB transmission among PLWHA negatively impact appropriate planning of TBHIV collaboration at the facility level (where is what being done by whom?). The same fears among health workers (HWs) may increase HW-induced TBHIV stigma.

**C. To decrease the burden of HIV in TB patients**

**C.1 HIV testing and counseling**

*Indicator C.1.1: Proportion of all registered TB patients who are tested for HIV*

This activity shows the most progress. Called “provider-initiated testing and counseling” (PITC) or “diagnostic testing and counseling” (DTC), it has been adopted conspicuously. The current TBHIV policy implies that DTC is offered to all TB patients (figure 3.8).

In practice, TB patients are diagnosed by medical/clinical officers (including the DTLC) and referred to the TB clinic/nurse for registration. At this point, patients are offered counseling and HIV testing, and most settings have adapted their outpatient departments (OPDs) to accommodate DTC. Testing is done in the TB clinic, laboratory, or specific DTC rooms depending on the local situation. In principle,
the results are given the same day. Questions are raised as to whether the ethical aspects of PICT are truly heeded and opt-out options are really provided. If patients are tested not at registration but during treatment, recording often is omitted. Since PICT is a recent development, improved data is to be expected. On the registers, when the box “HIV test done” is left empty, it is not clear whether patient opted out, or hesitated and waits, or whether the test is not offered for other reasons, for example, it was forgotten or test kit is out of stock.

Effective collaboration with HIV programs is seen mainly in the joint procurement and distribution of test kits and Cotrimoxazole (Ctx). Different training programs/guidelines for VCT, PICT (for TB), and DTC (in general) create some confusion. Despite the more recent provision of this indicator in the standard TB registers and quarterly report forms, data collection and aggregation is still considered deficient. Breakdown of data on test-acceptance ratio and test done before, at TB registration, or later during treatment is not readily available. In general, the proportion of TB patients tested is routinely reported and ranges from 52 percent (West Nyanza) to as high as 92 percent (North Eastern region). Over the past two years, the pick-up of DTC has been impressive and fast. The country set a target of 80 percent of TB patients HIV-tested nationally by the end-2007.

**Indicator C.1.2: Proportion of all registered TB patients who are tested for HIV and are HIV positive**

In general, this data is available at the national level from routine quarterly reporting. Prevalence is high. From 115,000 patients registered for treatment in 2006, 60 percent were HIV tested. Of these, 60 percent, >36,000 patients (52 percent) tested positive. Provincial differences are considerable. Prevalence is highest in young age groups and higher in all females > 15 years, all in concordance with national HIV prevalence trends. Interestingly, regions with the highest rates of TB patients who have been HIV tested have the lowest rates of HIV prevalence (for example, North Eastern), and vice versa (for example, West Nyanza)

**Indicator C.1.3: Proportion of TB patients tested who receive post-test counseling**

This indicator is not captured in the reporting system. Procedures related to PICT differ, particularly regarding how and by whom pre- (group) and post-test counseling is undertaken. However, national guidelines and training programs include the post-test counseling.

**C.2 HIV prevention methods**

**Indicator C.2.1: Availability of free condoms at TB services**

This indicator appears in the national policies, but the level of implementation is not known.
C.3 Cotrimoxazole preventive therapy

*Indicator C.3.1: Proportion of HIV-positive TB patients who receive CPT*

Since CPT is standard for HIV-positive TB patients, this program component has been successful, and stock-outs of Ctx were not reported frequently. Initially, all patients could be provided Ctx from routine general stocks at HFs. After the rapid increase of patients tested, TLCP and NASCOP collaborated on one national supply management system for Ctx prophylaxis. The throughout availability of Ctx appears to be good. There are some issues related to the fact that, when prescribed for other illnesses, Ctx needs to be paid for. TLCP reported that 87 percent of all HIV-positive TB patients received CPT in 2006.

C.4 HIV/AIDS care and support

*Indicator C.4.1: Proportion of HIV-positive TB patients referred to HIV care and support services during TB treatment*

This data is not available. It is assumed that every HIV-positive TB patient will be referred (for being registered under HIV care) immediately or soon after registration for TB, or after testing HIV positive during TB treatment. Effectiveness of this referral procedure strongly depends on specific local set-ups. A referral for HIV care appears in the TB register, but does not call for a check whether patient did indeed go. Hence, HIV-care registered nurses may not be recorded in TB registers. Hitherto, C&T sites in Kenya have been limited to hospitals, whereas substantial numbers of TB patients are diagnosed and HIV-tested in peripheral health centers. Expansion of ART to HCs has not yet fully taken off. Referral of a TB patient for C&T to a hospital will necessitate transport and other patient costs. It also implies 2 tracks of treatment follow-up: for TB in the HC and for HIV care in the hospital. Having two venues may deter some patients from taking this route. It also may explain why the number of HIV-positive TB patients on ART is relatively low.

Field visits reveal that a TB patient often is recorded as “being referred for HIV care.” However, during TB follow-up visits, no mention is made of whether the patient did go, did arrive, did get registered for care, and did or did not qualify for ART. Here is a large role for supportive supervision and on-the-job training to ascertain that these processes are well understood and appropriately recorded and reported.

C.5 Antiretroviral therapy

*Indicator C.5.1: Proportion of HIV-positive registered TB patients given ART during TB treatment*

This data is presented at the national level, although commonly with some uncertainty due to the intrinsic inaccuracy of the monitoring system. Most striking is
that this proportion is relatively low: 27 percent. The data do not enable distinguishing whether (a) the patient was registered for HIV care but ART postponed/deferred, (b) the patient refused, or did not qualify for, ART, or (c) it is unknown whether the patient made it to HIV care. The weight of the indicator is debatable as many relatively healthy patients actually finish their entire TB treatment, or at least the 2-month intensive phase, before they are begun on ART by the HF.

Since the CCCs are overloaded with patients and restrict ART to those who are obviously ill or at least in clinical stage III or IV, these TB patients can be expected to commence ART at any point after successfully completing TB treatment.

D. Indicators not included in the main objectives stated in the Interim Policy

D.1 Political commitment to collaborative TBHIV activities

*Indicator D.1.1: National TB policy addresses links between TB and HIV*

In general, the national TB policies (strategic plans, GFATM proposals, Activity Plans) do address the link.

*Indicator D.1.2: National HIV/AIDS policy addresses links between TB and HIV*

HIV policies (National AIDS Council) marginally address TBHIV under health sector response and then usually as one of the OIs, not the explicit aspects of the co-infection. Health policies have more content on TBHIV, but apparently not to the extent that matches the activities being promoted.

D.2 Partnership development and collaboration

*Indicator D.2.1: Involvement of a comprehensive range of governmental, nongovernmental, community, and private partners in collaborative TBHIV activities*

At the national level, there is strong involvement of a wide range of partners, predominantly those who have funding and TA available (for example, USG partners). The importance of private partners is acknowledged, but progress in true PPPs in TB and TBHIV is slow. Health sector donor coordination is provided in a donor forum with a rotating chair. MOH is not part of this forum.

D.3 Financial resources allocated or available for collaborative TBHIV activities

*Indicator D.3.1: Percentage of total budget required for planned collaborative TBHIV activities that actually was available*

This data potentially is available, although estimates for real-term budget required may lack precision. Available budget is calculated from earmarked TBHIV budget lines in TB as well as HIV GFATM proposals, bilateral donor grants, USG partners, and OGAC budget, to mention the larger ones.
core activities of both TB and HIV programs are actually TBHIV collaboration; hence, strict definitions of specific budget lines are needed to avoid overlap or exclusion. The TB program has grants in Round II (DOTS expansion, urban TB, lab), V (Health system- and district strengthening and VI (MDR TB). WHO and MOH work together using funds from Italian Development Cooperation, Cida, OGAC, WHO, Cida/KNVC). Despite increasing budget available from GFATM and USG, both agencies acknowledge a demand for additional funding for TBHIV collaboration.

No comparison has been made of these figures with the budget lines for TB (and HIV/AIDS) in MOH’s Annual Operational Plan 3 (FY08) (see table 5.3 for TBHIV component), the Joint Program of Work and Funding (the operational document for the SWAp), or the Joint Support Program (the plans for the development partners to support the SWAp). It would be useful to correlate these figures, so that the corresponding figures for NLTP and HIV/AIDS programs could be mapped across these documents.

### Table 5.3 Estimated budget for NLTP 5-year strategic plan: Component TBHIV; 2006-10

<table>
<thead>
<tr>
<th></th>
<th>Objective 2</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Total</th>
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</thead>
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<td>2.1</td>
<td>To establish and maintain functional mechanisms for TBHIV collaboration</td>
<td>4.457</td>
<td>48.029</td>
<td>7.957</td>
<td>48.029</td>
<td>7.957</td>
<td>116.429</td>
</tr>
<tr>
<td>2.2</td>
<td>To improve TB prevention, diagnosis, and proper treatment in PLWHA</td>
<td>912.019</td>
<td>975.144</td>
<td>1.047.034</td>
<td>1.128.910</td>
<td>1.196.201</td>
<td>5.259.307</td>
</tr>
<tr>
<td>2.3</td>
<td>To improve HIV prevention, screening, and treatment for all TB patients</td>
<td>3.480.137</td>
<td>3.956.873</td>
<td>4.500.352</td>
<td>5.119.918</td>
<td>5.826.224</td>
<td>22.883.504</td>
</tr>
<tr>
<td></td>
<td><strong>Total objective 2</strong></td>
<td><strong>4.396.614</strong></td>
<td><strong>4.980.046</strong></td>
<td><strong>5.555.343</strong></td>
<td><strong>6.296.856</strong></td>
<td><strong>7.030.381</strong></td>
<td><strong>28.259.240</strong></td>
</tr>
</tbody>
</table>

Reconciliation of planning for individual programs such as the TB Program and planning for the integrated SWAp is a generic problem and well acknowledged in Kenya. The World Bank is supporting the MOH in realizing this reconciliation because, as one Bank official stated:

“There is a serious danger that the planning for the TB program is, and will be, disengaged from the main planning in the MOH for the SWAp. All DPs (as well as the MOH) should start to encourage consistency in the reporting of financial information, so that the numbers and needs can be compared across documents.”
4.3 TBHIV and Health System Aspects

TBHIV collaboration facilitates more effective service provision in general. Some of the TLCP areas supported in this way included:

- Equipment and supplies such as reagents and microscopes
- Coordination, including support for supervision, report writing, and operational costs
- Personnel issues, including training, refresher courses, and recommendations for deployment.

However, human resource capacity (HRC) remains a critical point as everywhere. Current funding has brought new opportunities for hiring staff, albeit under contracts. Some of these new recruits will be absorbed by MOH after completion of the contract or when the donor money for this activity ceases. Kenya was among the first-tier countries to benefit from the global Stop TB Partnership’s Intensified Support and Action Countries (ISAC) initiative. In Kenya, ISAC focused on addressing the human resource constraints that NLTP was experiencing. In 2005, 26 additional persons were recruited to assist provincial TB and leprosy coordinators (6 persons) and district TB and leprosy coordinators (20 persons). One key responsibility of the ISAC staff is to initiate and/or expand the implementation of TBHIV collaborative activities including the implementation of the integrated TBHIV recording and reporting system in the initial selected 30 pilot districts. ISAC staff, also on a contract basis, will not be taken over by the MOH after the project ends. An additional 10 persons were recruited through the Presidential Emergency Plan for AIDS Relief (PEPFAR) with funds channeled through PATH.

There is no specific training plan for TB or HIV staff to avoid verticality: “Just train any health worker.” A pool of trainers was developed in 2005–06, so enough trainers are available at the provincial level. Trainers of trainers (ToTs) also were trained: the first group in June 2005, the second group in May 2006. In the same period, TB HIV curriculum development and guidelines were adopted locally. In October 2006, the TB HIV training curriculum was printed.25 As a result, some 7000 HWs took the 5-days TBHIV training. HIV Care and TBHIV training overlap not only in content but also in reaching the same people. NASCOP is invited to NLPT training, and vice versa. Training efforts, courses, and materials development are not sufficiently coordinated at all levels. Training is rather fragmented, but also is decentralized to the provincial level. Selection of HWs also is at the provincial level. District Health Management Team (DHMT) decides and is given guiding principles.

The aim is that DHMT coordination will work well and that not too many HWs get over- or under-trained. Preservice training has been responsive, and curricula have been adapted for TB. Training is also parallel with integrated management of adolescent and adult illness (IMAI), in which the same people also are being trained. One observer notes that “training fatigue” is seen. Training now is coordinated through a training committee at MOH. Its effectiveness cannot be gauged, as coordination by MOH is a recent development.

The contribution of community’s to TBHIV activities is still low. Community involvement is preached and appears everywhere in documents, but it is an enormous challenge to gauge what exactly is happening with Advocacy, Communication, Social Mobilization (ACSM), ICF, patient support, treatment support, adherence counseling, and defaulter tracing at community level. Some provinces and districts have community representatives in the coordinating committees and some even are engaged in activities such as the community TB ambassadors in Nyanza, who are assisting with TBHIV M&E. The TB ambassadors’ main task is to enhance case finding and treatment adherence by members of the community, for which the ambassadors have been trained by CDC/MOH within the local TBHIV projects. In many areas, the community is not represented, sometimes because there is no established network or group serving PLWHAs and/or TB. However, often the TBHIV committees are not aware of the existence of these groups.

For example, in a number of districts, there are post-test clubs (PTCs) for people living with HIV/AIDS, and some of these clubs now have included TB patients. Community-based organizations (CBOs) providing HIV/AIDS home-based care (HBC) may be instrumental in identifying people with signs and symptoms of tuberculosis, and ensuring directly observed treatment (DOT) for tuberculosis. In the past, HIV/AIDS programs have resisted direct observation strategy because of privacy and confidentially issues, but with training such fears can be addressed. As one key informant pointed out: “We people with TB observe and remind each other when to take drugs, but people with HIV/AIDS say drug-taking is confidential. They are wrong….”

4.3 Summary of Current TBHIV Status

Kenya is among the first countries that successfully introduced and rolled out some aspects of internationally recommended TBHIV collaborative activities, albeit with considerable delay in the initial stage of implementation. Kenya is the first African country to report TB cases countrywide to use an integrated TBHIV recording and reporting system, as recommended by STOP TB/WHO. Besides the adaptation of the recording and reporting (R&R) system, the roll-out
of routine HIV testing of TB patients is facilitated by the development of a clear policy on HIV testing in clinical settings and the availability of sufficient financial and other resources. Remarkably fast introduction of DTC in TB patients and high uptake of the patients involved have resulted in more than 50 percent of TB patients nationwide being tested for HIV, with figures as high as 82 percent in some provinces. However, the reported proportion receiving ART is low, illustrating the discrepancy between TB services, which are well established at the Health Center level and even below, and HIV care services, which hitherto were provided by hospitals.

Progress appears to be limited to activities related to reduce the burden of HIV in TB patients. The progress in TBHIV collaboration is predominantly the result of TLCP commitment and activity. These are reflected in staff policies, strategic documents, and representation on TBHIV coordinating bodies. The relationship with NASCOP remains uneasy, and TBHIV collaborative activities related to decreasing the burden of TB in PLWHA have lagged far behind. Many favorable conditions necessary to advance the initiative are in place: national, provincial, and district TBHIV committees, political commitment, and substantial funding. What remains to achieve is balanced progress, which depends on better collaboration with NASCOP and more effective joint planning, as well as better coordination with all stakeholders in HIV care and treatment.

Recently completed HIV/AIDS policy documents do include TB, but only the testing of TB patients and provision of HIV treatment and care. TB case-finding and prevention of TB-related HIV morbidity and mortality at HIV entry sites are ignored across the board, indicating that the benefits of these two activities for HIV care in general is ill understood.

During uptake for ARV treatment, some questions with regard to suspected TB are asked. Nevertheless, no standardized TB screening system is available. NLTP suggested introducing TB health staff in the comprehensive care clinic (CCC) who then will be responsible to screen HIV patients and to treat those who have been diagnosed with TB.

4.3.1 Constraints

- HIV-positive TB patients may have to comply with 2 different drug supply and control visit systems, one in the CCC and one in the TB clinic, with all implications for adherence and burden falling on the patient.

- Interruption of supplies for HIV testing kits has hindered fast recruitment of TB patients to access HIV/AIDS care.
• Linkages between TB and HIV services are still a big challenge. TB services are decentralized to the dispensary, whereas ARV services are limited to district hospitals and a few health centers.

• Weak linkage with NASCOP affect good referral systems and access to CPT/ARV and other necessary drugs for TB/HIV co-infected patients.

• Physical facilities for the TB program and the numbers of dedicated human resources are insufficient to meet additional tasks such as DTC, extensive recording and reporting requirements, and increased coordination and training activities.

• Workload of health care workers in the implementation sites is experiencing high demand due to new reporting formats and new skills required in testing and using new tools.

• Newly added intervention in TB clinics regarding HIV testing and counseling has created an urgent demand to upgrade HFs’ physical facilities and to add more space and rooms to cope with congestion and lack of privacy.

• Huge demand to train HWs and communities in TB/HIV collaboration is revealing human and financial resource capacity deficits.

• Advocacy and communication for the TB/HIV collaborative activities necessary to raise awareness/acceptance among communities to accept and increase HIV counseling/testing are weak.

• Structure to implement External Quality Assurance (EQA) is not yet established.

• TB/HIV geographical coverage is incomplete, particularly in mobile communities, hard-to-reach areas, urban set-ups, and slums.

• Involvement of nonpublic-care providers such as private sector, doctors, nurses, COs, herbalists, and quacks has been limited and needs to be increased.

• Standardization of training material is not adequate. Not all stakeholders are using endorsed training materials. Other training material comes in through the back door. Effectiveness of training is questioned by most stakeholders. Pre-service training is not fully implemented.

26 Since quacks are consulted by people in any case, quacks also should be updated. Including them is very contentious.
• Reducing burden of TB among PLWHA in general has a very slow rate of acceptance, preparation, and implementation.

• All levels of government demonstrate insufficient TBHIV commitment and leadership.

• There is no integrated and effective supportive supervision for TBHIV.

• HIV stigma and resulting TB stigma remain among HWs.

• The procurement consortium is top-heavy with bureaucracy.

• Data management is weak at all levels.

• With the national steering committee being seen by most stakeholders interviewed as TB dominated and increasingly inactive; the absence of structured information on the performance of provincial and district committees; and a weak overall district-based system for supportive supervision and M&E, there is a risk of losing momentum and overview.

4.3.2 Recommendations based on identified needs for successful TBHIV collaboration

• Expand TBHIV collaborative activities to all health facilities in all districts including nonpublic providers and the community.

• Sustain EQA activities in the implementing districts.

• Strengthen health care providers’ capacity in TBHIV collaborative activities in the districts and achieve real involvement of the communities in TBHIV care.

• Expand and upgrade physical facilities available for TB control and TBHIV.

• Intensify supportive supervision at all levels, especially in nonperforming districts.

• Increase partnerships; engage all stakeholders, particularly CBOs, PLWAs, and politicians.

• CSOs need to be engaged in TBHIV collaboration efforts at the commu-
nity level.

- Revise curriculum to cover TBHIV in all preservice training institutions.

- Strengthen laboratory network for HIV test, TB microscopy, and culture at all levels, backed by a solid QA system.

- Achieve full coverage of identifying and screening TB suspects among PLWHA.

- Expand implementation of community DOTS for TB and integration with HBC for HIV/AIDS.

- Revise MOH financial management systems to facilitate efficiency in implementing the TB and HIV/AIDS programs.

- Maximize partner coordination, in line with the “Three Ones” principles.27

- Establish effective coordination and harmonization at site level.

- Develop and use clear and practical guidelines in working with networks of PLWHA and availability of advocacy tools.

- Within the framework of recent increased funding opportunities, such as GFATM Round 6 and PEPFAR-Plus for TBHIV, there is an opportunity to restore the balance in TBHIV collaborative activities.

5 WORLD BANK AND TBHIV

5.1 Country Assistance Strategy

The World Bank’s Country Assistance Strategy (CAS) for Kenya was endorsed in June 2004. The CAS is designed to help Kenya achieve its development objectives as set out in the results framework of the Economic Recovery Strategy (ERS).28 The CAS notes that addressing HIV and AIDS is a top priority for the gov-

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27 “The Three Ones” principles are:
1. One agreed AIDS action framework that provides the basis for coordinating the work of all partners
2. One national AIDS coordinating authority, with a broad-based multisectoral mandate
3. One agreed country-level monitoring and evaluation system.

Source: “The ‘Three Ones’ in Action: Where We Are and Where We Go from Here.” UNAIDS/05.08E (Eng. orig. May 2005).

28 IDA and others 2007.
ernment. Kenya’s CAS has resulted key accomplishments, including improved macroeconomic management and growth recovery. It documents challenges such as continuing inequities in income and access to services, and mixed progress on corruption and some structural reforms.

The CAS clarifies four main areas of support:

a. Strengthening public sector management and accountability
b. Reducing the cost of doing business and improving the investment climate
c. Reducing vulnerability and strengthening communities
d. Investing in people.

The Bank Group will continue to emphasize the same priority themes agreed in 2004. Additional themes include reducing vulnerability of communities and investing in people through support of projects that provide social services, such as health and education. The updated strategy’s program more directly targets the poorest people, with continuing attention to the drivers of overall growth. Lending will target some poverty hotspots, such as Western Kenya, Nyanza Province, and urban and peri-urban slums. Approximately 70 percent of poor Kenyans live in these four areas.

In supporting the government’s Governance Strategy for Building a Prosperous Kenya (GSPK) and Governance Action Plan (GAP), the Bank will focus on four sectors:

a. Transparency initiatives including transparency in the judiciary and capacity building in the prosecutorial and judicial services
b. Broadening stakeholder involvement, including additional private participation in infrastructure services such as the ports
c. Accelerating public financial management reforms
d. Improving governance in high-priority sectors: education, HIV/AIDS, health, and roads.

Analytic work in such areas as media development, parliamentary and judicial capacity, and police oversight mechanisms will help lay the foundation for the development and governance agendas. Simultaneously, several measures have been introduced to protect Bank-financed projects against corruption while strengthening country systems. For example, lending by the World Bank in Kenya involves
undertaking safeguards and due diligence analysis in areas in which corruption risks are high before proceeding with lending. This approach was developed after forensic reviews of some World Bank-financed projects confirmed corruption risks.

The Bank's strategy in Kenya continues to emphasize strong partnerships with other development agencies in the spirit of the Paris Declaration on Aid Effectiveness. The Bank has reached an understanding with the government on deepening partnerships beyond the executive branch, including with the judiciary, professional bodies, and civil society organizations.

### 5.2 Total War Against HIV and AIDS (TOWA)

MAP I in Kenya concentrated on the community response, whereas the DARE (Decentralized AIDS Reproductive Health) program addressed the technical aspects. MAPS are loans, but the professional contents are quite flexible. The maximum amount of the loans is defined by World Bank and IMF based on the prevailing debt status of the country. DARE had limited TB money and was closed on September 30, 2007.

In June 2007, the Bank approved a credit of US$80 million for Kenya to expand the coverage of targeted HIV and AIDS interventions to prevent and mitigate the impact of the disease. The “Total War Against HIV and AIDS” (TOWA) Project will assist Kenya to further reduce the prevalence of HIV/AIDS by strengthening the governance of the National AIDS Control Council (NACC). The name originates from a speech by President Kibaki in 2003. The programs include the use of grant funds by NGOs, which will be subjected to rigorous and transparent processes of selection, implementation monitoring, and performance.

TOWA support will enhance governance in NACC through:

- **Results-oriented and performance-based award mechanism for grants**

- **Introduction of transparent decision-making processes with full dissemination of information**

- **Strengthened financial management and procurement capacity.**

Implementation will be monitored closely to ensure that the support reaches the groups at high risk of contracting HIV and AIDS and maximizes impact through better coordination of donor efforts. TOWA, the first new credit from the World Bank for HIV/AIDS in Kenya since December 2000, is a 4-year, US$115 million project financed by a credit of US$80 million from the World Bank and US$33 million from Britain's Department for International Development (DFID). The
Government of Kenya’s contribution is US$2 million, plus the salaries and many of the operating costs of the National AIDS Control Council (NACC). TOWA has been designed in the context of the “Three Ones” principles. The development objective of the project is to assist Kenya to expand the coverage of targeted HIV/AIDS prevention and mitigation interventions through two components:

a. Support to strengthen governance and coordination capacity (US$31 million). This component will strengthen the strategic leadership of NACC and its governance, and the capacity building of implementing partners.

b. Support for program implementation (US$84 million). This component will make financial resources available to civil society, public sector, private sector, and research institutions, focusing on initiatives in line with KNASP, thus responding to priorities identified by the Joint Annual Program Review (JAPR). This component also will support the procurement of essential HIV/AIDS commodities (US$20 million to procure condoms, anti-TB drugs, and bed nets for PLHWA). UN agencies will be contracted for the procurement. Drugs will be procured through GDF.

TOWA is developed fully within the framework of KNASP 2005/06–2009/10. The 5-year cost of KNASP is estimated at US$2.4 billion, with the annual requirements rising. In KNASP, the annual HIV funding requirement was estimated at US$315 million in 2005–06, increasing to US$400 million in 2006–07, US$470 million in 2007–08, and US$525 million in 2008–09. The annual increases are due partly to the increasing numbers of people needing treatment and also to the rising numbers of Orphans and Vulnerable Children (OVC) needing support.

Kenya is receiving considerable support to finance KNASP, including from PEPFAR, GFATM, DFID, and a number of other bilateral donors and foundations. The commitment of the PEPFAR was approximately US$186 million in 2005–06 and approximately US$320 million in 2006–07. In the case of the GFATM, there are commitments of approximately US$130 million for HIV and AIDS. The contributions from other partners—including the United Nations, other bilateral donors, and the National Business Council—amounted to approximately US$19 million in 2005–06. The existing DFID HIV and AIDS Prevention and Care (HAPAC) Project provided US$24.8 million between 2004 and 2007, and DFID plans to provide an additional US$80 million for the next 5 years.

However, financing is not as stable as it may appear:

c. Funds for the program, currently in debate, fall short of estimated requirements.

d. The existing external support to the HIV and AIDS program in Kenya
does not correspond well with KNASP priorities.

e. The real value of much of the external assistance is considerably diminished by large purchases of branded ARV drugs rather than generics.

f. Much of the external funding comes from off-budget external sources.

g. Most of the external support comes through the “project mode,” although MOH is increasing efforts to coordinate support programs.

To address these financing drawbacks, five initiatives are underway:

a. The “Three Ones” principles have been widely endorsed by the government, development partners, and other stakeholders as the guiding framework to harmonize TBHIV activities in Kenya.

b. NACC also has established a Harmonization Task Force to increase coordination and alignment among the development partners.

c. NACC and partners increasingly are mainstreaming HIV and AIDS in ministerial and sector budgets and work-plans.

d. The sustainability of funding commodities is being reviewed by the government and a consortium of stakeholders.

e. The design work for the planned Sector-Wide Approach (SWAp) in the health sector also is examining in detail how the wider issues of sustainability could be addressed. There is a multiplicity of partners and programs in the HIV and AIDS sector in Kenya, resulting in 80 percent of support for the program being off the GoK’s budget. Coordination of efforts under NACC has significantly improved, especially with the JAPRs.

HIV/AIDS will continue to exert a heavy burden on the health infrastructure in Kenya, so the role of the Ministry of Health (MOH) is critically important. Under the Decentralized AIDS and Reproductive Health (DARE) Project, the Bank already is providing health-sector-specific support for the national HIV and AIDS Program, including the procurement of condoms and essential drugs. The design of the planned new Health SWAp (which would address some of the infrastructure and capacity issues, in addition to the procurement of medical supplies and commodities through the MOH) is underway. It is expected to be supported by the Bank, as well as by other development partners. Lessons of experience include:
a. The external support provided to NACC in the past was essential for the progress achieved and needs to be continued.

b. The initial emphasis of the work of the public-sector AIDS Coordinating Units was on the “internal domain”; the emphasis needs to be broadened.

c. The role of the financial management agency should be strengthened and arrangements made to mitigate concerns about inappropriate selection of projects and “briefcase NGOs.”

d. Kenya’s HIV and AIDS epidemic is one of the most comprehensively monitored in Africa, but strengthening programmatic M&E is needed.

e. In the past, NACC suffered from a lack of creative, results-based, and effective leadership. Going forward, it is imperative that there is strong leadership and that key NACC management systems are strengthened.

f. It is necessary to address TBHIV and malaria/HIV linkages in light of the latest technical findings in these areas.

TOWA will include support for activities by civil society and the private sector. Proposals from the private sector, civil society organizations, research institutions, and universities will be invited in a focused and structured manner through the mechanism of a Call for Proposals (CFPs). The focus will be results, not inputs. The prioritized result areas will be determined annually within the framework of KNASP and based on areas identified as priorities in the JAPR. Priorities (1) will be given to interventions with the largest impact in preventing spread of HIV and (2) will target populations who are most susceptible to infection or most affected already. Such populations include, but are not necessarily limited to; (1) commercial sex workers (CSWs); (2) OVC; (3) highly mobile populations (truck drivers, migrant workers); (4) women (including widows); (5) youth (including young girls); (6) workers in small and medium-sized enterprises, microenterprises, and the informal sector; (7) people with disabilities; (8) people exposed to sexual assault.

The dual Tuberculosis (TB) and HIV epidemic is a major challenge to the health services. In recent times, TB cases have more than doubled, due mainly to the impact of the HIV and AIDS pandemic. Approximately 30 percent of TB patients are HIV positive. The threats of multidrug resistant (MDR) and extremely drug resistant (EDR) TB, especially among people living with HIV and AIDS (PLWHA), are a growing concern. Thus, addressing the TBHIV linkage is critical in the fight against HIV and AIDS.
The national TB control program is based on a solid five-year strategic plan, with the directly observed treatment (DOT) strategy as the cornerstone for TB control. As part of this effort, it is critical to ensure an adequate supply of TB drugs, for which funding is needed. In addition, it has been discovered that malaria is more severe and frequent in PLWHA. Malaria also may increase mother-to-child, as well as adult-to-adult, HIV transmission. Clearly, there is need to provide long-lasting insecticide-treated nets (ITN) to PLWHA as part of the comprehensive care package. For these reasons, the TOWA Project will support the procurement and distribution of some commodities that are essential to the fight against HIV and AIDS. In principle, commodities related to the response to HIV and AIDS and its linkages with the malaria and TB programs will be eligible for project financing. Such commodities include condoms, drugs, test kits, and laboratory equipment and supplies. The TOWA Project will respond to priority needs for these commodities in a flexible manner. However, the project plans to focus on key commodities for which there is a funding gap by contributing (1) US$12 million to condom procurement, (2) US$4 million toward the procurement of first-line TB drugs, and (3) US$4 million toward the procurement of ITN for free distribution among PLWHA who live in malaria zones. Although ARV drugs also are an important HIV and AIDS commodity, they are being funded by other sources (especially GFATM and PEPFAR). If necessary, TOWA also could procure small amounts of other commodities and reagents) on a highly limited basis.

5.3 Opportunities for the World Bank to Engage in TBHIV Collaboration

There appear to be three opportunities for the World Bank to contribute to TBHIV collaboration:

a. The World Bank supports the Kenya National AIDS/HIV Strategic Plan (KNASP). It is a solid plan with a results-based framework. Most partners and donors in HIV want to buy in. The main contributor is PEPFAR, with almost half a billion US$. In the HIV policies (National AIDS Council), TBHIV is marginally addressed under health sector response and than usually as one of the OIs. The more explicit aspects of the co-infection do not appear. Health Sector Policies and Strategic Plans have more on TBHIV but not to an extent that matches the needed activities being promoted to make TBHIV collaboration effective. Using this opportunity to further engage in TBHIV requires, first of all, that TBHIV activities are comprehensively included in the strategies and policies developed by the AIDS Council (such as KNASP) and NASCOP.
The respective budget lines in the plans should reconcile with the other funding opportunities for TBHIV, existing or anticipated.

b. TOWA is described in the previous section (5.2). TB is well represented in TOWA. Thus, following the new “Call for Proposals” approach, there should be better opportunities for TBHIV collaborative activities to be included.

c. The Health SWAp is supported by the Joint Support Program (the plans for the DPs, including World Bank, to support the SWAp). It is based on the National Health Strategic plan II,29 and the Joint Program of Work and Funding. In principle, this support is following the way the government is moving. It is accompanied by a Code of Conduct to be heeded by government, development partners, and private partners.

The Joint Program of Work and Funding (operational document for the SWAp) was developed in 2006 and lies at the basis of the Annual Operational Plan 3 (FY08) of the MOH. For TBHIV to be reflected in the Health SWAp, it is mandatory that the both TB program and HIV/AIDS program carefully plan their respective activities in the frame of TBHIV collaboration, do the necessary costing, and reconcile the required budgets with all other funding opportunities from the various DPs supporting both programs. This detailed preparation would reduce projected funding gaps as well as duplication.

1 INTRODUCTION

1.1 Country Profile

Formed in 1964, the United Republic of Tanzania is a union between the then-Tanganyika and the islands of Zanzibar. The country, the largest in East Africa, is divided into 26 regions. It has a population of 35 million. Twenty-three percent live in urban areas and 77 percent in rural areas. Tanzania also is 1 of the world’s poorest countries in the world, ranking 140 of 162 in the Human Development Index. Forty-eight percent of the population lives in absolute poverty with under US$1 per day to spend. Annual per capita expenditure on health is approximately $16, of which $8 goes to HIV/AIDS. Recently, Tanzania has made significant economic progress, benefiting from a stable political situation and increasing foreign investment. However, these improvements are threatened by the growing impact of HIV/AIDS.

Despite very limited resources, Tanzania has a well-developed basic healthcare-delivery system. Sixty-one percent of it is government owned. The remaining 39 percent is run by NGOs, parastatal organizations, voluntary agencies, and the private sector. The country has approximately 5,000 healthcare facilities, geographically distributed so that 70 percent of the population is within 5 km of a facility and 90 percent is within 10 km. Services are organized in three levels. Six tertiary hospitals provide the most comprehensive care and serve predominately as referral hospitals. The secondary level consists of regional hospitals. The primary level consists of dispensaries,

† On the map of Tanzania above, stick pins indicate the operational HIV care and treatment sites in 2006.
1 MOHSW 2003.
2 TACAIDS 2006.
3 MOHSW 2003.
health centers, and district hospitals. Administratively, the health system is largely decentralized. The Ministry of Health and Social Welfare (MOHSW) has direct responsibility for the referral hospitals and regulatory power over all health facilities. However, facilities at the district level are administered by the regional health management team (RHMT) or council health management team (CHMT).

### 1.2 HIV/AIDS

Although malaria ranks as the number one cause of morbidity and mortality in Tanzania, in the last decades, HIV/AIDS has spread widely. According to the results of a recent nationwide population-based survey on HIV/AIDS, the overall HIV prevalence among adults 15 to 49 years is 7 percent. Females have a slightly higher rate (7.7 percent) than males (6.3 percent). Regional differences range from 2 percent to 13.5 percent (figure 4.1). It is estimated that up to 50 percent of hospital beds in Tanzania are occupied by patients with HIV/AIDS-related conditions. To date, it is estimated that 1.3 million people including adults and children are living with HIV or AIDS, of whom an estimated 400,000 are AIDS patients in need of antiretroviral therapy (ART). However, there are signs that the overall national figures are stabilizing and even have been going down slightly in the last five years.

Although Tanzania is a regional success story economically and politically, AIDS-related mortalities are changing its demographic profile. Life expectancy may decrease from 61 years (1995) to 46 years in 2010 due to the HIV/AIDS epidemic. HIV-infected patients occupy approximately 60 percent of all urban hospital beds, and tuberculosis (TB) has quintupled from 12,000 cases in 1983 to over 60,000 in 2006.

TB is the leading cause of mortality among AIDS patients, accounting for 30 percent of all deaths.

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4 TACAIDS 2005.
5 NACP 2006.
6 NBS 2006.
7 MOHSW 2005.
This extra load puts significant demands on an already under-funded and under-staffed health sector. Tanzania has one of the world’s higher national prevalence rates of HIV/AIDS. Illness and deaths due to HIV/AIDS gradually are draining both managerial and professional personnel as well as the productive work force. Tanzania’s GDP is predicted to be 15 percent–20 percent lower in 2010 than it would have been without the AIDS pandemic.

1.2.1 Response

The first case of AIDS in Tanzania was reported in 1983. Two years later, MOHSW established the National AIDS Control Program (NACP). In 1999 the President declared AIDS a national disaster. In December 2000, he launched the Tanzania Commission for AIDS (TACAIDS), reporting to the Prime Minister’s office, to lead a multisectoral response to HIV/AIDS. Although NACP had made significant advances in blood safety, sexually transmitted infection (STI) management, healthcare worker training, and education, it had limited capacity to coordinate a multisectoral response to the epidemic. TACAIDS would formulate related policy and ensure coordination of governmental and nongovernmental AIDS-related programs, advocacy, and resource mobilization. TACAIDS introduced a multisectoral HIV/AIDS strategy to build a multisectoral response to HIV/AIDS that also involved patient care and impact mitigation, along with ongoing prevention campaigns.8

Figure 4.2 Linkages among HIV/AIDS stakeholders in Tanzania

In practice, MOHSW, along with the regional and district councils, remains the implementing body for government-provided clinical services. NACP actively cooperates with TACAIDS, which focuses on the nonclinical aspects of AIDS management. In turn, each has strong links to the various healthcare providers, including NGOs, faith-based organizations (FBOs) and the community. The HIVAIDS response in Tanzania is supported by a growing number of development partners consisting of bilateral and multilateral organizations, international NGOs, and academia. Figure 4.2 does not claim completeness but illustrates the variety of institutions linked to the HIVAIDS response.

8 TACAIDS 2005.
In 2003 the National AIDS Control Program (NACP) developed the National HIV/AIDS Care and Treatment Plan 2003–2008 (NCTP). This plan provides quality, efficient, and timely care to 1.7 million HIV-positive individuals through a program that is integrated with the existing public and nonpublic healthcare infrastructure. A Care and Treatment Unit (CTU) was created within NACP to oversee program operations. NCTP aims to have more than 400,000 patients on treatment by the end of 2008. NTCP was approved by Cabinet decision in October 2003: “The plan’s reach is broad, its goals ambitious, its schedule aggressive, and its challenge relentless.”

**Table 4.1 Progress of NCTP, December 2007**

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative total number of persons ever enrolled for HIV care</td>
<td>263,000</td>
</tr>
<tr>
<td>Cumulative number of patients ever started on ART</td>
<td>135,000</td>
</tr>
</tbody>
</table>

*Source: Epidemiology Unit, NACP, Ministry of Health and Social Welfare 2007*

1.2.2 The objectives of the National HIV/AIDS Care and Treatment Plan are to:

- Provide quality, continuing C&T to as many HIV+ residents of the United Republic of Tanzania as possible, building on the careful planning already completed by the Ministry of Health and the Tanzania Commission for AIDS

- Strengthen the healthcare structure of Tanzania through expanding healthcare personnel, facilities and equipment, and comprehensive training in the C&T of people living with HIV and AIDS (PLWHA)

- Foster information, education, and communication (IEC) efforts focused on increasing public understanding of care and treatment (C&T) alternatives, reducing the stigma associated with HIV/AIDS, and supporting ongoing prevention campaigns

- Strengthen social support for C&T of PLWHA in Tanzania through home-based care, local support groups, and treatment partners.

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1.3 Tuberculosis

In 1977 the MOHSW launched the National TB and Leprosy Program (NTLP) with the assistance of the International Union against Tuberculosis and Lung Disease. To control TB in a resource-poor country, together they formulated strategies that developed into a model TB program. The NTLP was the birthplace of the WHO-recommended Directly Observed Treatment Short Course (DOTS) strategy, which has been implemented countrywide and worldwide since 1986.

Even though NTLP has been functioning well, since 1983, the number of TB cases has surged due to the rampant HIV infection in Tanzania. The absolute number of cases notified jumped from 11,753 in 1983 to 62,100 in 2006—an increase of almost 6-fold in 25 years. The majority of cases appear in younger age groups between 15–45 years.

The impact of the HIV epidemic on TB transmission in Tanzania was assessed by estimating the trend in annual risk of TB infection (ARTI) from 1983–2003. In 2003 a tuberculin survey was conducted among school children aged 6–14 years. ARTI was 0.7 percent. Despite a doubling of notification rates of smear-positive TB since 1983, 0.7 represented a 2.7 percent average annual decline since the first survey. In other words, despite substantial increases in TB incidence, the overall population-level effect of the HIV epidemic on TB transmission in Tanzania has been limited. These data suggest that, in the presence of a strong TB control program, the HIV epidemic has limited impact on TB transmission.11

Figure 4.3 25-year trend in increase of TB notifications (in absolute numbers) in Tanzania, 1979–2005

Source: MOHSW 2006.

11 Egwaga and others 2006.
According to WHO estimates, NTLP detects only approximately 45 percent of smear-positive cases (boxes 4.1 and 4.2). The treatment success rate, approximately 80 percent for 2000–04, rose to almost 85 percent in 2005, a good achievement nationwide. Multiple drug resistance (MDR) is still low at approximately 1 percent among newly diagnosed patients and has not increased over the years, indicating proper control activities. However, the high rate of deaths (approximately 10 percent) due mainly to HIV has made it difficult for Tanzania to reach the WHO global TB target of 85 percent TB cure rate.

**Box 4.1 TB burden in Tanzania**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence (all cases/100,000 pop/yr)</td>
<td>342</td>
</tr>
<tr>
<td>Incidence (smear-positive/100,000 pop/yr)</td>
<td>147</td>
</tr>
<tr>
<td>Prevalence (all cases/100,000 pop)</td>
<td>496</td>
</tr>
<tr>
<td>Mortality (deaths/100,000 pop/yr)</td>
<td>75</td>
</tr>
<tr>
<td>Of new adult TB cases (15–49 yrs), % HIV</td>
<td>29</td>
</tr>
<tr>
<td>New TB cases multidrug-resistant, 2004 (%)</td>
<td>1.8</td>
</tr>
<tr>
<td>Previously treated TB cases multidrug-resistant, 2004 (%)</td>
<td>7.6</td>
</tr>
</tbody>
</table>

*Source: WHO estimates 2005.*

The main challenges reported by NTLP are:

- Low case notification rate vis-a-vis WHO estimates
- Necessity to introduce new approaches to TB case notification beyond passive case-finding strategy
- Necessity to scale up TBHIV collaboration as a strategy to increase case detection
- Shortage of health care human resources at all levels.

**Box 4.2 DOTS implementation and surveillance in Tanzania, 2005**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notification rate (new and relapse/100,000 pop/yr)</td>
<td>159</td>
</tr>
<tr>
<td>Notification rate (new sputum smear positive, or ss+)/100,000 pop/yr)</td>
<td>66</td>
</tr>
<tr>
<td>DOTS case detection rate (new smear-positive, %)</td>
<td>45</td>
</tr>
<tr>
<td>DOTS treatment success (new smear-positive cases, 2005 cohort, %)</td>
<td>84</td>
</tr>
<tr>
<td>Of new pulmonary cases notified under DOTS, % smear-positive</td>
<td>55</td>
</tr>
<tr>
<td>Of new cases notified under DOTS, % extrapulmonary</td>
<td>22</td>
</tr>
<tr>
<td>Of new smear-positive cases notified under DOTS, % in women</td>
<td>37</td>
</tr>
</tbody>
</table>

*Source: WHO 2007.*
Acknowledging the need to determine Tanzania’s TB prevalence, NTLP planned a national TB prevalence survey for 2007–08. This survey was to include 60,000 adults in a nationally representative sample. It was estimated that approximately 6,000 participants would be classified as TB-suspect based on screening with a symptom questionnaire and chest X-ray. The participants were to be interviewed to obtain detailed information on health-seeking behavior. However, as of end 2007, the survey had not yet commenced.

The recently approved Global Fund to Fight AIDS, TB and Malaria (GFATM) proposal for TB control will provide resources to hire and train staff, especially laboratory technicians, to improve case-finding. New initiatives to involve all care providers, especially in the private sector, also will increase case detection, which is estimated to be well below the global target of 70 percent. There are plans to scale up collaborative TBHIV activities and introduce ART in TB clinics. This initiative will improve adherence and result in favorable treatment outcomes, which, in 2005, remained just below the global target of 85 percent.

In addition to the uncertainty around the actual prevalence of TB in Tanzania, there is limited validated information on obstacles and barriers in TB case-finding. Given all the potential causes for delay in presentation or in diagnosis of TB—be it patient- or health-service-related—there is an imminent need to identify the major contributors to low case-finding to design effective interventions that will increase the case detection rate (CDR).
3 **SUMMARY OF TBHIV COLLABORATION IN TANZANIA**

### 3.1 History

TBHIV collaboration in Tanzania commenced after a TBHIV implementation-plan-writing workshop hosted by the WHO Regional Office (AFRO) in Nairobi 2002. Ethiopia and Kenya also participated. Early activities consisted of initiation of TBHIV collaborative activities in three pilot sites: Iringa, Korogwe, and Temeke. These activities were funded with WHO Stop TB (STB) seed money. In 2004 Tanzania’s National Tuberculosis and Leprosy Control Programme (NTLP) secured a GFATM grant (Round 3) with this main objective: “Scaling up Access to Quality Voluntary Counseling and Testing for Tuberculosis and HIV/AIDS in Tanzania Mainland.” Provider-initiated testing and counseling (PITC) was introduced in 45 of 126 districts, and an increasing number of TB patients were routinely tested for HIV and referred for HIV care if found positive. In September 2005, the German Leprosy/TB Relief Association (GLRA), Royal Netherlands Tuberculosis Association/Foundation (KNCV), MOHSW, and WHO was jointly reviewed the pilot phase and forwarded their recommendations for scaling up. In 2005–06, NTLP revised manuals, recording and reporting (R&R) formats, and registers to capture essential HIV data in the routine TB monitoring and evaluation (M&E) system. In collaboration with NACP, US Centers for Disease Control (CDC), WHO, and Program for Appropriate Technology in Health (PATH), the National Tuberculosis and Leprosy Program (NTLP) developed, reviewed, and field-tested a TBHIV manual for trainers of trainers (ToTs) and healthcare workers (HCWs) and a facilitators’ guide.

Following encouraging results from this pilot phase, in October 2006, with technical support from CDC and WHO, NTLP started scaling up TBHIV services, targeting to cover all districts by June 2008. Needs assessments were conducted in 11 new districts in 4 regions; Tanga, Iringa, Morogoro, and Shinyanga. Forty-seven health facilities were selected to start implementing collaborative TBHIV services. During the same period, the Program for Appropriate Technology in Health (PATH), on behalf of NTLP, extended services to 4 regions; Arusha, Dar es Salaam, Mwanza, and Pwani. Thirty-one facilities had been providing TB/HIV services by the end of 2007. Political commitment was obvious after public announcements by the Minister of Health that TB was a national emergency and that TB and HIV programs had to work together intensively. During the same period, the initiation and subsequent acceleration of HIV C&T (C&T) profoundly changed the environment for TBHIV collaboration. Many changes occurred, particularly in 2005 and 2006, when HIV C&T was established in all hospitals of the country. Primary funding came from the President’s Emergency
Plan for AIDS Relief (PEPFAR) and Global Fund (GF) Rounds 2, 3, and 5 grants for HIV/AIDS. CDC Tanzania expanded and collaborated with American universities as technical partners in the roll-out of HIV C&T. USAID supported through technical partners such as Family Health International (FHI) and PATH. PharmAccess provides TA to NACP and the Armed Forces. By the end of 2006, a National TBHIV Coordination Committee was established and a draft national TBHIV policy prepared. The latter is still awaiting official endorsement. In 2007 TBHIV collaborative activities were extended to 85 districts.

3.2 Current Activity

In the framework of HIV C&T expansion, NACP and United States government (USG) partners included TBHIV activities in their programs, initially at the hospitals, followed by health centers. All renewed efforts to accelerate TBHIV collaboration are facilitated by new funding opportunities, in particular, the approval of a PEPFAR Plus-up grant specifically for TBHIV activities and an approved TB proposal in GF Round 6, including a TBHIV component for which grant negotiations are concluding.¹³

Currently, TBHIV collaborative activities are scaled up beyond the few pilot districts that have started implementation, with the aim to cover the whole country by 2015. This coverage includes training health care providers at TB clinics in HIV/AIDS care and prevention. The country received financial support from GFATM Round 3 to implement TBHIV collaborative activities in 45 of 126 districts. In 2005 the country also accessed PEPFAR financial support to implement TBHIV activities in 50 additional districts in the next 5 years. Even so, to cover the entire country, 31 more districts still will need to be supported. These were included in the GFATM Round 6 grant and will lead to full coverage of all districts by end-2008. Implementation of TBHIV activities is done in collaboration with a broad coalition involving a few private providers, mainly in urban areas; FBOs; and local governments.

Achievements in TBHIV collaboration (as of July 2007):

- Documented political commitment and perceived importance among all stakeholders
- Multistakeholder national TBHIV advisory committee
- Funding secured for a wide range of activities
- TBHIV activities extended to 85 districts

• Large numbers of staff trained in PITC and TBHIV collaboration
• Increased coverage of routine HIV testing of TB patients, provision of CPT, and referral for HIV C&T.

Constraints identified:
• Strong commitment and acceleration commenced only recently after a protracted pilot phase
• Weak implementation capacity at NTLP national unit and in regions
• Insufficient coordination among all technical partners involved
• Weak links between NTLP and NACP
• TBHIV seen as primarily a TB program activity
• Weak M&E system; no reliable nationally aggregated TBHIV data available
• Intense coordination and joint planning required to unify and coordinate the large number of stakeholders and technical partners in TBHIV
• No system for structured regular supportive supervision and on-the-job training
• Low private sector, civil society, and community involvement in planning and implementation

4 REVIEW OF TBHIV COLLABORATIVE ACTIVITIES AND M&E INDICATORS

A To establish the mechanisms for collaboration

A.1 A coordinating body for TBHIV activities effective at each level

Indicator A.1.1: Existence of a coordinating body for TBHIV activities effective at all levels

There is a recently established National TBHIV Coordinating Committee that has only met once. A recent national TBHIV policy, drafted by a technical working group (TWG) consisting of WHO and partners, is under review by the Ministry of Health and Social Welfare (MOHSW). There was some delay in the endorsement of this policy following essential changes of higher officials at MOHSW.

14 MOHSW, NTLP 2007.
Official endorsement is expected by the end of 2007. The National TBHIV Coordinating Committee includes the following members:

- Chief Medical Officer (MOHSW) Chair
- National Collaborative TBHIV Activities Coordinator Secretary
- Program Manager (NTLP) Member
- Program Manager (NACP) Member
- Director for Preventive Services (MOHSW) Member
- Director for Hospital Services (MOHSW) Member
- Director for Human Resource Development Member
- Representatives of TBHIV key partners Members
- Program Officer TBHIV (NACP) Member
- Program Officer responsible for TBHIV activities (NTLP) Member
- Representative of TBHIV patient support groups Member
- Representative from the community Member

The functions of the National TBHIV Coordinating Committee include but are not limited to:

- Appoint technical working groups to address specific TBHIV issues
- Endorse rules and regulations for TBHIV activities at lower levels
- Appraise and approve operational guidelines for collaborative TBHIV activities
- Appraise, approve, and coordinate implementation of strategic and annual TBHIV plans
- Appraise periodic technical and financial progress reports and audited financial statements
- Appraise and approve terms of references to backstop consultants for TBHIV activities
- Facilitate mobilization of necessary human, financial, and material resources
required to implement TBHIV plan of operations, including capacity building

- Facilitate development of coordinated TBHIV joint communication and advocacy strategy

- Facilitate mobilization of communities to elicit participation in joint TBHIV activities

- Oversee implementation of operational research and monitoring and evaluation to develop sound, evidence-based best practices in collaborative TBHIV activities.

The national TBHIV policy advocates TBHIV coordination committees at regional, district, and HF levels. In the 85 districts in which TBHIV collaboration is being implemented, the funding comes mainly from PEPFAR, WHO, GFATM, and the Clinton Foundation. Each respective implementing partner will have a district TBHIV officer in place who works closely with the District TB Leprosy Coordinator (DTLC) and coordinates with the District AIDS Coordinator (DAC). S/he also may be a co-opted member of the Council Health Management Team (CHMT) and is supposed to link with community-based services for advocacy, communication and social mobilization (ACSM); follow-up; and adherence issues. Although not aware of the existence of a national TBHIV committee, FHI and PATH facilitate a HF-level coordination structure that meets regularly. However, their experience is that this activity is difficult to sustain. On the HIV side, there is a National AIDS Care Coordination Committee (NACCT), but NTLP is said not to be involved. All interviewed stakeholders stressed that TBHIV-related coordination is deficient at all levels. However, it is believed that collaboration could be more successful at the district level than at the national level. There appears to be a perception of committee disease. For example, for HIV programs and HIV/malaria and other committees compete in requiring regular meetings. The National Inter-Agency Coordinating Committees (NIACCs) under the Country Coordinating Mechanism (CCM) of GFATM have almost the same composition and agenda as the TBHIV committees.

A.2 Surveillance of HIV prevalence among TB patients

Indicator A.2.1: HIV sero-prevalence among all TB patients

Although at the national level, this data is not available, 2 large surveys in the past 15 years have provided relevant information. Between 1991–1993 and 1994–1998, HIV prevalence among TB patients in mainland Tanzania (excluding Kigoma) rose sharply from 28 percent to 40 percent in new, smear-positive
TB patients. In recent years, the steepest increase in HIV prevalence was observed in the youngest birth cohorts, suggesting that there has been much HIV transmission among young adults. Between these 2 surveys, the notification rates of new smear-positive TB increased by 50 percent from 54 to 74/100000 population. It was estimated that approximately 60 percent of this increase was attributable directly to HIV.\textsuperscript{15}

To date, there is no structured HIV surveillance among TB patients. However, the new TBHIV policy includes HIV surveillance based on diagnostic counseling and testing (DCT) of TB patients. Data from the routine DCT of TB patients is computerized using the Electronic TB Register (ETR) and will be used for surveillance of HIV prevalence among TB patients. NTLP and NACP have a plan to modify and continuously update R&R forms and registers to capture information on TBHIV. Service providers will receive training in the use of modified and updated data collection tools. MOHSW/NACP will strengthen the quality of routine data collection at care and treatment clinics (CTCs) to monitor TBHIV co-infection among people living with TB and HIV. Sentinel surveys will be conducted at planned intervals to complement the information garnered from routine data collection.\textsuperscript{16}

A.3 Joint TBHIV planning

\textit{Indicator A.3.1: Joint TBHIV planning}

There appears to be consensus that true joint TB and HIV planning is not sufficiently practiced. The same can be observed in some essential national policy and strategy documents. NACP Tanzania prepared a new five-year HIV health sector strategy without strong involvement of TB program staff. The TOR mentioned TB only as part of a workshop to develop strategies on further integration of ART, TB, and home-based care (HBC).\textsuperscript{17} TACAIDS prepared a new national HIV/AIDS Multi-Sectoral Strategic Framework.\textsuperscript{18} The framework addressed TB under C&T and proposed to:

- Create and implement stronger mechanisms for collaboration among TB-, HIV- and AIDS-related services

- Identify and adapt “best practices” from the TB/Leprosy Control Program to enhance effectiveness of the HIV and AIDS Care, Treatment and Support Program, especially in adherence

\textsuperscript{15} Range and others 2001.
\textsuperscript{16} MOHSW, NTLP 2007.
\textsuperscript{17} MOHSW 2007.
\textsuperscript{18} TACAIDS 2007.
• Strengthen adequate screening for, and prophylaxis of, early treatment of TB in all PLWHA

• Expand provider-initiated testing and counseling for HIV to all TB services.

The list of contributors to the recently drafted new national TBHIV policy does not include core staff from NACP. One anticipates better joint planning after TBHIV coordination committees are fully operational at all levels.

Indicator A.3.2: Presence of joint TBHIV IEC materials in TB and HIV services
Excellent examples of these materials are found, but they appear to be ad hoc. Availability is limited. NTLP in collaboration with PATH has completed a desk review of collaborative TBHIV advocacy, communication, and social mobilization (ACSM) materials. The materials are being field-tested with different stakeholders to get inputs. The new materials will be finalized after analysis of a Knowledge, Attitude and Behaviour (KAP) study, carried out in 2008 in Arusha, Morogoro, Mwanza, and Mbeya regions.

A.4 Monitoring and evaluation

Indicator A.4.1: Monitoring and evaluation of collaborative TBHIV activities
M&E is not yet standardized and is practiced ad hoc. Some straightforward indicators are collected and provided on demand or for occasions such as conferences or reports to funding entities (Office of the Global AIDS Controller, or OGAC; Communicable Diseases Control, or CDC; GFATM; WHO). Some partners active in TBHIV still use their own reporting structures. Data are received from pilot sites and from the various partners implementing TBHIV, but in different formats. For this reason, nationally aggregated data are not consistently available. In 2007 this situation changed, following the nationwide introduction of new TB Reporting and Recording (R&R) formats, which include HIV parameters.

Tanzania had made geographic divisions based on specific partner involvement. It is a great challenge to harmonize all the reporting available into a standardized and comprehensive national format. NTLP revised its own formats to include TBHIV. In 2007 the revised registers, cards, and forms were disseminated to all TB clinics in the country. TBHIV referral forms were developed to facilitate referral of patients from TB clinics to CTCs, voluntary counseling and testing (VCT), or prevention of mother-to-child transmission (PMTCT), and vice versa. The NTLP manual was revised to incorporate the current approach to TBHIV co-infection management. On the HIV C&T front, the HIV care and treatment card (CTC2) and registers also were revised to capture TBHIV information. The link between MOHSW HMIS/integrated disease surveillance (IDS) efforts and separate data collection on TB and HIV is weak. Although the need is strongly
supported by all involved, the effective coordination of TB- and HIV-related M&E at the national level has a long way to go. With support from technical partners, NACP implemented a new national M&E system for HIV C&T in 2006.

**B To decrease the burden of TB in PLWHA**

**B.1 Intensified TB case-finding**

*Indicator B.1.1: Intensified TB case-finding among PLWHA*

ICF is not yet routinely practiced, certainly not in a standardized way. A national policy and practical guidelines are not yet available. TB and HIV programs both fully admit that this activity has not reached real momentum. There appears to be a serious lack of awareness among staff working in HIV programs of what the benefits of this activity are. Notwithstanding, the GF Round 3 performance report indicates that the proportion of HIV-positive VCT patients who are screened for TB and treated is 90 percent in 45 pilot districts. 19 In contrast, the GFATM Round 4 (HIV, including TBHIV) performance report mentions no result for objective 2:

> Decrease HIV-related morbidity and mortality among persons living with HIV infections in Tanzania. Indicator: Number of TB service providers trained in new treatment guidelines to strengthen cross-referral mechanisms and treatment sites. 20

Implementing ICF is perceived as resulting in an extra burden for the already overstretched staff and increased demand for diagnostics such as X-rays and sputum tests. IPT not being a routine policy, the motivation for ICF remains low. The current articulation of TBHIV within PEPFAR funding and the additional funds made available in 2007 are expected to address this conspicuous gap in TBHIV collaboration. A standardized screening tool to identify TB-suspects at PLWHA entry sites has been developed and implemented in combination with guidelines to diagnose/rule out TB in these suspects.

*Indicator B.1.2: Rate of new cases of TB diagnosed in clients attending HIV testing and counseling services or HIV treatment and care services*

There is no documented information on this indicator.

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B.2 Treatment of latent TB infection (TB preventive therapy)

Indicator B.2.1: Proportion of HIV-positive clients given treatment for latent TB infection

This is unknown. IPT is not routinely practiced, and the general mood seems to shun IPT. The main reasons are:

- Belief that IPT does not sufficiently rule out active TB

- Fear of existing Isoniazid (INH) resistance making IPT ineffective, and fear of developing resistance by giving monotherapy to PLWHA who have subclinical TB or in whom clinical TB is not adequately excluded

Expectation that IPT will create an additional burden for the scarce human resources and a high demand for diagnostic services such as X-ray and sputum-smear (ss) microscopy.

IPT had not yet become a national policy in 2007, and debate on the need is ongoing. Policy documents developed up to 2007 did not contain strong sections related to IPT. However, by the end of 2007, MOHSW urged all HIV C&T providing HFs to implement ICF and IPT for their clients and patients.

B.3 TB infection control in health care and congregate settings

Indicator B.3.1: Proportion of health care and congregate settings that have a TB infection control policy

This activity was addressed only recently. Data are not available, and it is obvious that implementing these policies requires major investments in physical facilities upgrading, equipment, consumables (such as masks), and HRD (training). However, rational and irrational fears of TB transmission among PLWHA negatively affect appropriate planning of TBHIV collaboration at the facility level (what is being done by whom where). The same fear among HWs may increase the HW-induced TBHIV stigma. Anecdotal reports from site supervision indicate that, on many occasions, infection control is not being addressed.

C To decrease the burden of HIV in TB patients

C.1 HIV testing and counseling

This is the activity in which most progress is noted. Called “provider-initiated counseling and testing” (PICT), or diagnostic counseling and testing (DCT), it has been taken up conspicuously. Different training programs/guidelines exist/have been developed for VCT, PICT (for TB), and DCT (in general), creating some confusion. Data collection and aggregation are still considered deficient. However, the activity has seen remarkable progress in the last half-year, and indicative data are available. Uptake by patients appears to be good; few opt out.
This progress is reflected in the presidential campaign for nationwide VCT, commenced in 2007, which has attracted large numbers of people coming forward to undergo the HIV test.

**Indicator C.1.1: Proportion of all registered TB patients who are tested for HIV**

Tanzania is on its way to full implementation of DCT. Questions are raised as to whether the ethical aspects of DCT are truly heeded and opt-out options are really provided. When patients are tested not at registration but during treatment, recording is often omitted. When this box is left empty on the registers, it is not clear whether the patient opted out, or hesitated and waits; or whether the test was not offered for other reasons. For example, it was forgotten, or the test kit was out of stock. The proportions presented relate to specific partners. For example, PEPFAR reports for 61 TBHIV-implementing HFs in 5 regions—up from 50 percent to 80 percent in the first quarter of 2007.  

**Indicator C.1.2: Proportion of all registered TB patients who are tested and are HIV positive**

In general, this data is available at the national level, from routine quarterly reporting. Figures as high as 53 percent are reported.

**Indicator C.1.3: Proportion of TB patients tested who receive post-test counseling**

This indicator is not captured. Procedures related to DCT differ, namely, in how and by whom pre-(group) and post-test counseling are provided.

**C.2 HIV prevention methods**

**Indicator C.2.1: Availability of free condoms at TB services**

This service appears in the national policies, but level of implementation is not known.

**C.3 Cotrimoxazole preventive therapy**

**Indicator C.3.1: Proportion of HIV-positive TB patients who receive CPT**

Preliminary reports indicate that some 51 percent received CPT. It is not clear why the remaining 49 percent had no access to CPT. The situation improved markedly in 2007, when an estimated 85 percent of TB patients were receiving CPT. Some issues relate to the fact that Ctx needs to be paid for when prescribed for other illnesses. In addition, the supply of Ctx may be insufficient or additional requirements for TB/HIV patients not well determined.

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C.4 HIV/AIDS care and support

Indicator C.4.1: Proportion of HIV-positive TB patients referred to HIV care and support services during TB treatment

Limited data is available. In PEPFAR-supported sites, the proportion ranges from 45 percent to 60 percent. However, it is assumed that every HIV-positive TB patient will be referred (for being registered under HIV care) immediately or soon after registering for TB or after testing HIV positive during TB treatment. The data do not enable discerning among (a) patient registered for HIV care but postponed/deferred ART, (b) patient refused ART, or (c) unknown whether patient made it to HIV care. TLCP has distributed the new referral forms for this activity. Effectiveness of this referral procedure depends strongly on specific local set-ups. Referrals for HIV care appear in TB register but do not call for a check whether patient did indeed go. Hence, referred patients enrolled at a CTC for HIV-care and/or treatment may not be recorded in TB registers.

C.5 Antiretroviral therapy

Indicator C.5.1: Proportion of HIV-positive registered TB patients given ART during TB treatment

This data is presented at the national level, although commonly with some uncertainty due to the intrinsic inaccuracy of the monitoring system. Most striking is that this proportion is relatively low (for example, only 22 percent). The main reason given for the low figure is the limited availability of C&T at in rural areas, where most TB activities take place. Many TB patients are diagnosed and treated at the health center level. C&T for HIV is available in hospitals and in a few health centers. However, the number of HCs providing C&T for HIV is increasing and scheduled to reach 500 by 2008.

D Indicators not included in the main objectives stated in the Interim Policy

D.1 Political commitment to collaborative TBHIV activities

Indicator D.1.1: National TB policy addresses links between TB and HIV

In general, the national TB policies (strategic plans, GFATM proposals, Activity Plans) do address the link.

Indicator D.1.2: National HIV/AIDS policy address links between TB and HIV

For HIV/AIDS, three reviews and further development of major strategies are being undertaken and planned, respectively, to impact NACP and require its active participation and contribution:
TACAIDS is developing the National Multisector HIV and AIDS Strategy, of which the health sector is a component. The link with TBHIV is well recognized in this document, although TBHIV appears in the treatment sections rather than as a strategy for prevention of HIV-related morbidity and mortality.

The Ministry of Health and Social Welfare will develop in 2008 the new overall health sector strategy 2008–2012 which will include the HIV and AIDS health sector component.

MOHSW/NACP will finalize and publish in 2008 the new Health Sector HIV/AIDS Strategic Plan II 2008–2012 (HSHSP II), as a continuation of the prior strategy, which concluded end 2006.

In 2007, to coordinate the work outputs for effective use in government planning and to minimize workloads, the formerly differing planning cycles of these three strategic documents will be aligned to cover 2008–12. NACP’s contribution will address all of these efforts. TB is insufficiently addressed in the new HIVAIDS strategy for 2008–12. This is a major shortcoming. According to the director of TACAIDS, TB is a major determinant in all 4 main areas of this plan so ought to be visible in all these 4 components: prevention; OVC; impact and mitigation; and care, treatment, and support. There is still an opportunity for NTLP to be involved in drafting the Plans of Action. In 2007 participation of NTLP in this process increased.

**D.2 Partnership development and collaboration**

**Indicator D.2.1: Involvement of a comprehensive range of governmental, nongovernmental, community, and private partners in collaborative TBHIV activities**

At the national level, there is strong involvement of a wide range of partners, predominantly those who have funding and TA available (for example, USG partners). Even though the importance of private partners is acknowledged, progress of true public-private partnerships (PPPs) in TB and TBHIV is slow, and efforts by NTLP and NACP seem to have slackened. The KNCV Tuberculosis Foundation has been a key partner of the National TB and Leprosy Program (NTLP) for the past 27 years. USAID works in close collaboration with the NTLP, National AIDS Control Program, Program for Appropriate Technology in Health, and Association of Private Health Facilities of Tanzania (APHFTA). The Stop TB Partnership (STB) provides technical support and assists with fundraising. WHO works through Stop TB in WHO’s African headquarters and regional offices to provide direct technical support. Coordination of PPPs takes place in the Health...
Sector Development Partners Group (DPG), and in the HIVAIDS Donor Coordination Group, a subgroup of the DPG.

The USG C&T partners meet monthly. To date, each partner has focused on its initial expertise, leaving out other core activities. With the extra funding, harmonization should improve, leading to a more systematic, comprehensive, and standardized approach by all USG partners in their respective regions.

D.3 Financial resources allocated or available for collaborative TB/HIV activities

Indicator D.3.1: Percentage of total budget required for planned collaborative TB/HIV activities that was actually available

This data is potentially available, although estimates for real term budget required may lack precision.

Available budget is calculated from earmarked TB/HIV budget lines in TB as well as HIV GFATM proposals, bilateral donor grants, USG partner funding, and OGAC budgets, to mention the larger ones (table 4.2). A costing study on TB/HIV was commenced (with TA from the Royal Tropical Institute (KIT)/WHO); results are expected in 2008. Some core activities of both TB and HIV programs are actually TB/HIV collaborations; hence, strict definitions of specific budget lines are needed to avoid overlap or exclusion.

Despite increasing budget (available from GFATM and USG for 2007 and 2008), more funding is required to reach full national coverage with effective TB/HIV interventions. However, it is uniformly acknowledged that the capacity of the health system may not be sufficient to utilize these funds if they were made available.

Table 4.2 Overview of funds available for TB/HIV in Tanzania (US$)

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEPFAR fund available for TB/HIVa (divided among PEPFAR partners)</td>
<td>23,000,000</td>
</tr>
<tr>
<td>GLRA funds for TB/HIV training</td>
<td>80,000</td>
</tr>
<tr>
<td>USAID (various TB/HIV activities)</td>
<td>5,000,000</td>
</tr>
<tr>
<td>WHO (Italian grant)</td>
<td></td>
</tr>
<tr>
<td>GFATM, TB Round 3, mainly VCT and DCT (total $86,987,868)</td>
<td>23,951,034</td>
</tr>
<tr>
<td>GFATM TB Round 6 (total TB/HIV $13,199,532) (approved and signed)</td>
<td>3,130,628</td>
</tr>
<tr>
<td>Clinton Foundation</td>
<td>144,375</td>
</tr>
</tbody>
</table>

Notes:

a. Total PEPFAR money to Tanzania in 2007 was $190 million. In September 2007, PEPFAR prepared new country operating plans (COPs).
b. GFATM funds are partially for TB/HIV; the other parts are for TB or HIV. It is not easy to disentangle the specific funds available for TB/HIV per se.
c. Round 3 HIV has 3 Sub-Recipients: African Medical and Research Foundation (AMREF), Christian Social Services Commission (CSSC), and Ministry of Health.
5. CROSS-CUTTING ISSUES IN TBHIV

5.1 Training

A great many training activities take place. It is encouraging that large numbers of HWs have received training in one way or another. However, activities appear to be exclusively in-service training. In the haste to prepare HWs for their tasks in C&T, and later for TBHIV, many different training packages were developed by NTLP and NACP with support from donor-funded technical partners without strong coordination. Three main quality issues have been raised: the material (both content and medium), used (mainly power point slide presentations), training methodology, and appropriateness of trainee selection. A fourth issue is that avoidable duplication may occur here and there. The national training curriculum for C&T teams is the same standardized course and includes sufficient coverage of TB. The curriculum requires 9 days: 3 days together, 3 days of technical training separately, and 3 days of practice. The TBHIV training for general health workers (GHWs) is 5 days.

The PITC training module is adequate, but there is need/demand to incorporate additional issues such as rapid testing, ARV eligibility criteria, CPT, and ART information. A national curriculum for DCT (NACP and partners, 5-day training course for PICT/DCT) became available in 2008. Fifty-one districts have been trained to carry out onsite DTC. However, due to the race to train as many workers as possible, training coordination and quality remain concerns. The good news is that the quality of training was evaluated by the International Training and Education Center on HIV (I-TECH) in 2007, and the package is under complete revision, to be completed in 2008.

For the primary level, the country adapted integrated management of adolescent and adult illness (IMAI) modules. The three training curricula for TB DCT, PITT, and VCT all differ but often may overlap. Training courses are too short to guarantee high quality, but this was accepted for the sake of rapid roll-out. For example, VCT training now requires only 9 days instead of the earlier 6 weeks. Furthermore, workshops keep clinical staff from their work in the HFs. It was observed that, since the inception of DCT and other training curricula, sometimes no clinical staff have been available in entire districts for weeks.

NACP Tanzania, National Training Curriculum for Comprehensive Management of HIV/AIDS.
5.2 Human Resource Capacity

Regarding the crisis in human resources for health (HRH), there is indeed much talking but little concrete action. A new HR for health strategy is issued by MOHSW in 2007. This is expected to spur the hitherto delayed development of human resource capacity in the health sector, which was attributed to perceived inactivity of MOHSW in this field. MOHSW has a new Permanent Secretary (PS), new Chief Medical Officer (CMO), and new Director of Preventive Services. The government of Tanzania (GoT) does not want one ministry having different strategies for HR management than another ministry, so it has made no exceptions for MOHSW. Notwithstanding, some initiatives have taken place (Mkapa Foundation is behind some). Salaries have been increased. There is a new task force for HRC, and the HR strategy has been distributed. GFATM Rounds 2 and 4 have some provision for hiring extra staff for underserved regions. Mkapa Foundation funded some underserved districts to employ 30 specialists. There have been 3000 new recruitments in health (mainly auxiliaries). TBHIV assistants are scheduled for each district that has partner funds. The HR situation could deserve some attention on the national scale from the World Bank. However, the Bank’s main emphasis is building capacity in the regions/districts.

NCTP dwells at length on strengthening the plan in sustainability, integration, motivation, and professional cadres. MOHSW had a hiring freeze from 1991 to 2006. However, the government has made key recommendations that are reflected in the NCTP and in the Health Sector Strategic Framework 2003–2008, two of which are quoted here:

- That a thorough study be completed during the first year of the program to develop a specific human resource plan for the program (National HIV/AIDS Care and Treatment Plan, p. 35)

- That the WHO Office in Tanzania, in cooperation with several donor countries, undertake a study of health care human resource issues. (The status of this study could, however, not be verified) (Health Sector Strategic Framework 2003–2008, May 2003).

For instance, the salaries of the partner-supported NACP staff are higher than the nominal government salary structure for NACP. Indeed, a great many staff within NACP work under divergent remuneration schemes. NACP supporting partners provide the financial means to enable NACP to do this. At the outset of the Care and Treatment Unit (CTU), NACP could not fill all posts envisaged in the NCTP. NACP partners noticed these gaps and seconded staff to NACP. NACP accepts this situation, realizing that this remuneration flexibility is required to attract
competent staff and achieve its targets. Higher salaries are considered justifiable due to the absence of civil service entitlements for these contracted staff. However, this situation is not motivating for GoT staff who have heavy responsibilities within NCTP. One partner addressed the inequity by topping-up salaries to all government-paid staff. However, this solution was only temporary; the partner discontinued this support in 2007. NACP prefers to post a fulltime new M&E officer in each region who is supported by the respective partners for that region. The reason is that sites at the regions that are assisted by partners appear to perform better. This tendency may be related to better remuneration. However, partner support at only some sites reputedly can create a two-tiered staff, with resulting hostilities based on the better remuneration received by partner-supported staff. How does the development of differential remuneration affect existing staff working on basic salaries? How will this arrangement work smoothly?

The ARV treatment plan calls for significant additions in medical staff to expand the healthcare system’s capacity to provide quality C&T to PLWHA. A Health System Review in 2006 indicated that a shortage of health workers impedes Tanzania’s NCTP from scaling up ARV treatment to all HIV-infected patients who urgently need medication. Approximately 10,000 extra healthcare workers are needed to accomplish the NCTP targets. The plan established strengthening the health infrastructure as 1 of its 4 key goals. The 2006 NACP HF Assessment Report indicated that the already overburdened health system is not equipped to address this challenge. Fortunately, staff-hiring possibilities are increasing. For example, GFATM provided $6 million to hire additional HCWs. The challenge is to recruit, enroll, and train healthcare workers fast enough to keep up with the demand expected once the availability of treatment becomes generally known.

Detailed information on the current number of employed healthcare workers in Tanzania’s public and private facilities is not readily available. Partners are lined up to cover all regions country-wide to support ARV C&T. Consequently, fora can be convened to assign roles and share decisions, while NACP in collaboration with TACAIDS coordinates that response on behalf of the health sector. However, given the scope of the needs across all healthcare activities, it will be a sizable challenge to meet the needs of the C&T program. Thus, additional technical support from partners can be justified. One more critical challenge is to deploy full-strength CTC teams to the regions, even to the district level.

Community involvement

Community involvement constantly is specified in documents. Nevertheless, it is an enormous challenge to gauge exactly what is happening in ACSM, intensified case finding (ICF), patient support, treatment support, adherence counsel-
ing, and defaulter tracing at the community level. NCTP puts huge emphasis on practice at the health facility level, but not beyond. Promising initiatives and anecdotal practices are reported, but a coordinated approach appears to be absent. Poor links with community-based care are reported.

Rehabilitation and building long have been debated. Furthermore, the maintenance aspect of all investment in infrastructure is largely ignored. Partner initiatives have been scattered, mainly for rehabilitation.

5.4 Summaries of Field Visits

5.4.1 Bagamoyo District Hospital

Bagamoyo District has 239 TB Treatment HF of which 3 are HCs. Two HCs were selected to start ART and TB cotreatment soon. The district has 82 registered village HWs who are unpaid and report to the nearest HFs. The DTLC and District TBHIV coordinator (DTHC) (on the PATH payroll, s/he reports to the DMO) are in the same office and share all TB-related work. They see TB patients who have been diagnosed in the OPD, or suspects who are then subjected to a diagnostic pathway. They do PTC (trained for this by NTLP/PATH and Medico Mundo). The procedure is, first, group counseling of (new) TB patients, followed by the individual approach to propose the test. If the patient accepts, the test is done at the TB ward. If s/he opts out, the test is rediscussed at a subsequent visit. Patients have both a high acceptance rate and a high HIV positivity rate. TB patients can choose DOT (at the TB ward) if they live close by. Others bring a relative and are instructed to take the treatment at home supervised by the relative. More serious patients or nonadherent patients are admitted to the entire intensive phase in the usually full TB ward and in other wards. The Electronic Treatment Register (ETR) was broken. However, in general, the system has been adapted to capture the HIV variables of TB patients. The other registers have changed and include HIV parameters. However, a quick look revealed that the HIV variables are not accurately filled out, indicating poor communication between the CTC and TB units even in this small hospital in which they are next door to each other.

HIV-positive patients are sent to the CTC, which is supported by Columbia University (ICAP). In the CTC, 960 patients are under care, 500 of them under ART. The M&E system is in place, including the indicators for TB treatment. ICF for TB or IPT is not practiced. There is a printed question-based screening tool for TB, but the counselors do not understand its application. It appears to be used only for patients who were already diagnosed with TB. Despite the DTHC being onsite, there is no regular coordination between TB and CTC. The DMO
is happy with the construction, and the DTHC is part of the Council Health Management Team (CHMT) when relevant meetings are held. TBHIV activities appear in the annual CHMT health plan (CCHP), which is submitted to MOHSW prior to distribution of block grants to the districts. DMO mentioned the need for new facilities and more attention by management to other OIs.

5.4.2 Mwananyamala Hospital, Kinondoni Region, Dar es Salaam

Dar es Salaam has 4 regions for TB control: Kinondoni, Ilala I, Ilala II, and Temekte. There are 8 District Tuberculosis and Leprosy Coordinators (DTLCs), 2 at the hospital. Since 2007, the hospital has had DCT (group precounseling), which takes 20 to 30 minutes. CTC is present at the TB clinic at the hospital. There is a shortage of rooms in which to do the counseling and test in reasonable privacy. Home-based care workers are well trained, and do patient treatment support (PTS) with a treatment supporter.

A DTHC is seconded by PATH to the Regional Tuberculosis and Leprosy Coordinator (RTLC) and provides TA to the other 8 DTLCs, helps out with patients, provides DCT, and works on monitoring. The TB region registers some 5000 patients each year, a high proportion of whom are smear positive. There are 43 DOT centers in the region. Nine provide DCT as well. For ART the patient must go to the hospital. TBHIV patients also can start ART at the TB clinic. For this purpose, a designated MD and a C&T nurse/counselor are attached to the TB clinic. For new patients, baseline laboratory work is done at the adjacent CTC, but the lab staff takes the specimen at the TB site. The patient thus does not have to move. After TB treatment, the patient continues at the CTC. Administration and recording is done on the CTC forms and collated at the CTC. Harmonizing follow-up dates is difficult for patients taking DOT at home or at one of the DOT HFs in the region. A patient may be scheduled for two different days and thus queue twice instead of once. Response of the patient is required prior to her/him being allowed to take DOT at home.

The TBHIV coordinator provides TA and advocacy at the CTC. All TB patients there get CTX. ART patients at the CTC who develop TB go to the TB clinic for treatment and registration, but continue ART at the CTC. All acid-fast bacilli microscopies (AFBs) from all entry points are done at an ill-outfitted lab, which does have a fluorescent microscope. Up to 100 smears are taken a day; 10 percent–20 percent are positive. The staff (2) look very dissatisfied and claim that the work load is high and the facility inadequate. TB suspects are waiting together with other TB patients in one and the same crowded sitting bay. Even though the risks are well recognized by the workers, infection control is minimal or absent.
There is a network of somehow remunerated home-based care (HBC) community health workers (CHWs) who are very efficient in monitoring adherence (defaulter tracing). The nearby CTC is still crowded at 4 pm, and nurses claim that the working days are from 7 am until 9 pm (shifts). Patients have to wait many hours. The administrative work load is heavy. Work space is inadequate. DTLCs and the DTHC wish to be trained in ART so that they can manage ART patients as well. The hospital has no TBHIV coordinating committee. PATH supports TB there; Harvard supports CTC. A new premises for C&T was built on the compound.

### 6 WORLD BANK AND HEALTH SECTOR SUPPORT

#### 6.1 Current World Bank Health Sector Projects

The International Development Association (IDA) is supporting the implementation of the Government of Tanzania 2000–2011 health program through participating in the Health Sector-Wide Approach (SWAp) and financing a slice of the total health expenditures. IDA’s support for 2000–11 was organized in 3 phases:

- The first phase of the Health Sector Development Project (HSDP, US$22 million) was implemented in 2000–03. It aimed to accelerate the reforms and emphasize institutional capacity development.

- The second phase of the HSDP (HSDP II, US$64 million) was approved in 2003, ran through December 2007, and supported the implementation of the Second Health Sector Strategic Plan 2003–08 (HSSP II). The HSSP II objectives were to expand the reforms and systems/capacity development for better management of resources and quality improvements.

- The third phase of HSDP (2008–11) was expected to support the final phase of the government’s program with the objectives to institutionalize output-based management, and institute improved systems for high quality care.

When the second phase of the project (HSDP II) was negotiated in November 2003, it was agreed that, on completion of HSDP II (December 2007), the Bank would shift the funds from direct sector support to general budget support, that is, commit funds through the Poverty Reduction Support Credit (PRSC) rather than through a specific health sector project. However, the conditions for the

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24 As of February 2007, MOHSW was considering extending HSSP for one additional year to meet the original objectives.
transition to the PRSC were not fully met. For this reason, GoT requested IDA to extend HSDP II for two additional years and to seek additional financing. The proposed financing would provide support to the GoT’s current Health Sector Strategic Plan (HSSP II) for an additional two years to 2012. Specifically, it would continue to finance this successful program through its completion, delaying the planned transition to the PRSC, while financing gaps in the overall HSSP related to a shortfall in anticipated parallel financing for malaria. In June 2007, the World Bank Board of Executive Directors approved this additional IDA credit of US$60 million for GoT to support the second phase of HSDP.

Figure 4.6 Sector Share of World Bank Lending to Tanzania (April 2007)

Through this project, there will be increased funds for more efficient delivery of essential health services and staffing at the district level. Nine development partners—Canada, Denmark, Germany, Ireland, Netherlands, Norway, Switzerland, United Nations Fund for Population Activities (UNFPA), and the World Bank—will contribute to this “health basket fund” to reduce transaction costs and strengthen government systems. IDA funds are employed to finance activities under the health sector’s Medium-Term Expenditure Framework (MTEF), which defines objectives, strategies, and associated expenditures for each year. In addition to reducing transaction costs, this approach improves ownership, sustainability, and implementation capacity. Reproductive and child health, malaria, and HIV/AIDS are services that receive substantial funding from the pooled fund. Sixty percent of the “additional financing” (totaling US$35 million) will disburse through this pooled fund. Additional financing will support activities for FY07–08 and FY08–09 at the central, regional, and district levels and at secondary/tertiary hospital levels that focus on health service delivery and quality.
At the district level:

- Quality of health services will be addressed through integrating HIV/AIDS activities at all levels, improving service agreements (contracts) with non-governmental providers, developing incentives to increase staff motivation, increasing accountability by publishing annual district health budgets and performance data, using client satisfaction tools to assess quality of service delivery, developing in-service training plans, implementing the health care waste management plan, and ensuring that adequate technical and support capacity is available to councils.

- Necessary household and community-based actions will be addressed through scaling up to the nation-wide level and institutionalizing preventive actions.

- The financing gap in the health sector will be reduced by strengthening the management of user fees, community health funds, drug revolving fund, and health insurance.

- Equity of access to health services will be improved through addressing the exemption system for the poor and vulnerable; monitoring the impact of fees on the poor; and devising new resource allocation formulas for block grants to districts.

At the secondary and tertiary hospital levels:

- Hospital management will be improved by developing a cadre of hospital managers, mandating Hospital Strategic Plans and operational plans, establishing Hospital Boards, and strengthening hospital financial and management.

- Quality will be improved through repairs to facilities and preventive maintenance, and enhanced performance audits including monitoring service delivery outputs.

- The impact of the HIV/AIDS epidemic on hospital staff will be mitigated through human resource development strategies and integrating AIDS care at all levels.

At the regional level:

- Quality will be improved through providing managerial and technical support to districts; strengthening the inspectorate function and performance audits; introducing a quality assurance program; supporting districts in data
collection, data management, and decision-making; and strengthening district capacity for supportive supervision.

At the central ministries level:

- Health financing will be improved through improved budgeting and advocating for increased government allocation for health; pooling external finances; improving contract management, and enhancing community voice and ownership in cost-sharing/community health financing (CHF)/insurance.

- The human resource crisis will be addressed through long-term staffing planning; innovations to address distribution, motivation, and retention of staff; and more strategic use of Zonal Training Centers.

- Quality will be improved through medical and clinical audits; harmonizing technical management guidelines; standards for service agreement and contracting; accreditation of health institutions (public and private); consultations/collaboration with civil society; and the development of QA at health delivery points.

- The consequences of HIV/AIDS on skilled human resources will be addressed through the integration of HIV/AIDS prevention and treatment in existing services and introducing and/or strengthening PMTCT and highly active antiretroviral therapy (HAART).

- Monitoring and evaluation will be strengthened through investing in minimum information packages at district and facility levels and assessing health sector performance based on poverty reduction support (PRS) indicators and health sector performance profile indicators.

No new construction nor acquisition of land is supported under the HSDP II. To mitigate potential harm caused by improper disposal of medical waste, the Health Care Waste Guidelines and the Management Plan adopted under HSDP II will continue to be followed. HSDP II focuses on legislation and regulation; standardizing practices; collection, storage and disposal; capacity; and management. Implementation of the Waste Management Plan does not involve any new construction or acquisition of land. Guidelines on incinerators and waste pits imply adaptations to, or replacement of, existing facilities that occupy existing sites on facility grounds. WB Tanzania admits not being keen on funding specific technical components. Since the Multicountry AIDS Program (MAP I) has phased out, current health sector support comes through pooled funding from 9 donors ($75 million). The framework is the MTEF. Components are largely selected by
MOHSW in communication with the pooled funds members.

The added value of WB in the context of the huge funding already available to Tanzania for HIV and even TBHIV is questionable. Given the available funding absorption problems, GoT may even request the Bank to shift its focus to non-health sectors. The provision of TA by the Bank is not required in this TBHIV area because plenty is available. MAP and pooled funds are financing strategies that do not carve out specific activities. However, at the country level, the Bank can allocate grants to specific projects within these frameworks. Examples are policy dialogue, financing strategy, and advisory role. Public financing mechanism constraints are well known, but have not been well addressed in the hurry to “get things done.”

The final 2006 Tanzania Public Expenditure Review (PER) stated:

There is a marked contrast between the arbitrary approvals, unpredictable timing, and lack of consultation that characterize those programs coordinated by TACAIDS, and the joint planning, avoidance of interruptions in treatment, and good follow-up reported to us in respect of the project support to the C&T plans. Tanzania Multicountry AIDS Program (TMAP) and GFATM Round 3 have been the main sources of funding of local government area (LGA) budgets. Funding has been unpredictable with respect to both timing and amount, and decisions on what would receive funding have been made by TACAIDS rather than reflecting locally selected priorities. The geographical distribution of funding also has been highly distorted, with one-third of districts receiving no funding from either GFATM or TMAP.25

In December 2006, a situational analysis was performed of all departments of NACP and provided the necessary input to the TACAIDS working groups and subsequently to the actual formulation of the strategies. The overall goal was for the reviewed and adopted HIV Strategy of MOHSW 2008–2012 to be the national guiding document for the health sector’s specific response to HIV and AIDS.

6.2 Opportunities for TBHIV within World Bank Funding Modalities

When looking at the gaps and constraints in full roll-out and comprehensive implementation of TBHIV collaboration, there was a striking, almost unanimous agreement among all stakeholders that potentially substantial additional funding (such as funding by multinationals, or pooled funding from bilaterals) should not

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address specific technical aspects of TBHIV collaboration but rather assist in creating the required conditions for effective implementation. In summary, these are:

- Upgrading, expanding, and building new physical facilities to address the pressing needs for space and improved infection control in the context of HIV care treatment and TB control.

- Address the perceived increasing shortage in human resource capacity (continually talked and written about. Although a plethora of largely ad hoc unsustainable initiatives is being piloted, the perception is that no initiative really addresses the problem in a fundamental way.) The need is for Bank is to somehow employ (secondment) more local staff within MOHSW system. They need to be mobilized or recruited, or positions must be created.

- Adapt the health system, to be able to accommodate TBHIV collaborative activities, in particular:
  - (Decentralized) coordinated monitoring, supervision, and evaluation
  - Reliable recording, reporting, analysis, and distribution of data
  - Establishment of an effective and comprehensive laboratory network
  - Improved finance management capacity at government level.

### 6.3 Conclusion

The implications of effective implementation of TBHIV collaborative activities with full coverage require considerable funding sustained for years to come. To effectively combat TBHIV, not only the specific technicalities of TBHIV but also the performance of core activities of both the TB and HIV health sector programs must be in good shape. TBHIV collaboration must be fully addressed in HIV/AIDS strategic plans, which usually lie at the basis of Multisectoral AIDS Program—T-MAP in Tanzania.

Regarding perceived needs for additional financial support, the consensus emerged that TBHIV collaborative care could advance if the critical support system preconditions were met. One therefore must look beyond the immediate boundaries of specific TBHIV collaboration activities and ensure support to a wider range of support systems. Physical infrastructure, (financial) management capacity building, and human resource capacity are seen areas in which WB is particularly strong. To realize and sustain nationwide coverage of effective and effective implementation of TBHIV collaborative activities, increased and long-term funding
for needs to be ensured. TB/HIV must be thoroughly addressed in HIV/AIDS policy documents and WB project proposals that all support the National Multi-Sectoral Strategic Framework on HIV and AIDS 2008–2012 Tanzania.
1 INTRODUCTION

This summary report is not a full and detailed description of Eritrea’s National TB Control Program (NTCP), nor does it provide an extensive collection of figures and tables. Such a report would be too technical and too lengthy to serve as an appendix to the Draft Aide-Mémoire of the World Bank HIV/AIDS/STI, Malaria, TB and Reproductive Health Project (HAMSET II) mission. Instead, this report focuses on the strengths and weaknesses of NTCP, identifies program components that need to be introduced, and proposes a plan to strengthen NTCP. All recommendations are in line with the 2005 World Health Organization (WHO) global STOP TB Strategy (STB).

The findings are based on (a) a review of a large number of relevant publications; (b) field visits to three zones—Maekel, Anseba, and Gash Barka—in 2006; (c) discussions with program staff at all levels and with representatives of the National Health Laboratory; (d) discussions with partners ((World Bank, WHO country office, and Global Fund to Fight AIDS, TB and Malaria (GFATM) portfolio manager)), and (e) analysis of available program data.

1 This report is a comprehensive review of Eritrea’s entire TB program but does not contain an in-depth treatment of TBHIV.
The last section of this report proposes a comprehensive and rational approach to program strengthening. It contains a concrete and detailed operational plan that addresses quarterly all of the issues presented below.

2 SHORT DESCRIPTION OF THE STRUCTURE AND MODUS OPERANDI OF NCTP

2.1 General Information on Eritrea’s Health System in Relation to the Administrative structure

Eritrea gained independence in 1993. The population is estimated to be 3.8 million, of whom only 20 percent live in urban areas. The country covers 124,000 square kilometers and is divided into 6 administrative zones (Zobas), 57 subzones, 699 administrative areas, and 2564 villages. The structure of the health delivery system follows the administrative system. There are facilities at the national level (Ministry of Health, referral hospitals), zonal hospitals and zonal communicable diseases control (CDC) coordinators, mini-hospitals at the sub-Zoba level, and health centers providing health services to a number of villages within a sub-zone. Health centers coordinate several health stations, which are relatively near the villages (5 km on average).

NTCP

The Ministry of Health (MOH) is divided into three main departments: Health Services, Regulatory Services, and Human Resource Development (HRD). The National Tuberculosis Control Program (NTCP) falls under the National HIV/AIDS and Tuberculosis Control Division (NATCoD). NATCoD is responsible for the planning, implementation, and monitoring and evaluation (M&E) of all activities related to the control and prevention of HIV/AIDS/STI and Tuberculosis in Eritrea. The national Tuberculosis Team consists of 2 medical doctors and 1 social scientist. Two of them had been recently appointed and had not yet received TB specific training.

Case detection and treatment

TB diagnosis is based on smear microscopy at the health center and Zoba level. There is no smear microscopy at the health station level. A confirmation of a diagnosis of smear-negative TB is limited to the Zoba level and is based on clinical history and X-ray. Currently, there is no capacity for culture and drug-susceptibility testing (DST) in Eritrea (see sec. 3, first bullet).
In 1997 Eritrea introduced the directly observed treatment (short course) (DOTS) strategy. In 2006 the program changed to fixed-dose combination tablets, which are received through a grant of the Global Drug Facility (GDF). The intensive phase of treatment is supervised at the health center or Zoba level, although in some areas, DOT is further decentralized to the health station level. New patients are treated with 2HRZE/6HE.²

3 STRENGTHS OF THE ERITREAN NTCP

Eritrea’s NTCP is characterized by a clear and uniform structure throughout the country and an uninterrupted supply of drugs, microscopes, reagents, recording and reporting (R&R) forms, and registers at all levels. Antituberculosis drugs are available only through NTCP. Thus, there is no private sector involvement.

Cure and success rates are acceptable/good and rather stable throughout the country. Success rates for the 2004 cohort of smear-positive patients ranged from 79 percent in Zoba Maekel to 93 percent in the Southern Red Sea. The other 4 Zobas reported between 82 percent and 89 percent.

The full integration of HIV/AIDS and TB services at the central, zonal, and district levels offers ample opportunities for effective collaboration and cross-referral.

A 2005 Lot Quality Assurance Sampling (LQAS) survey showed that 75 percent of men and 66 percent of women aged 15–49 years knew at least 2 of the most important symptoms of TB. Equally important, 92 percent and 78 percent, respectively, considered TB curable. Lastly, 95 percent of women and 96 percent of men knew the closest place to receive treatment.³

Recent progress includes

- A National TB Reference Laboratory was established within the National Health Laboratory. The new Mycobacteriology Department is supplied with new equipment for culture and drug-susceptibility testing (DST) and complies with international (US CDC) safety standards (safety cabinet class 2, MGIT 960, sufficient airflow changes, HEPA filters). The renovation was

² This regimen involves 2 mos. of Isoniazid+Rifampicin+Pyrazinamide+Ethambutol (2HRZE), followed by 6 mos. of Isoniazid+Ethambutol (6HE). Previously treated patients receive the 2SHRZE/1HRZE/5HRE regimen, which involves 2 mos. of Streptomycin+Rifampicin+Pyrazinamide+Ethambutol (2SHRZE), followed by 1 mo. of HRZE (1HRZE), then 5 mos. of Isoniazid+Rifampicine+Ethambutol (5HRE).

³ MOH Eritrea 2005.
finalized in March/April 2005. However, the technicians have no experience with culture and DST procedures. As a result, the laboratory will be operational only once the technicians involved have received on-the-job technical training by international partners.

- In 2005, with technical assistance (TA) from KNCV Tuberculosis Foundation, The Netherlands, Eritrea conducted a TB prevalence survey. The results of this labor-intensive study provided country-specific epidemiological data that enabled NTCP to monitor and evaluate TB case detection.

- A 5-year TB strategic plan for 2004–08 was finalized. The plan describes current NTCP policies and provides an overview of strategies, key activities and indicators, and the related budgets.

- The National Health Laboratory and NATCoD prepared a draft “Proposal for External Quality Assessment (EQA) Program for Acid-Fast Microscopy in Eritrea.” The proposal is now final and under implementation.

- Fixed-dose combination drugs were introduced in the country through the Global Drug Facility (GDF, STOP TB Partnership, Geneva).

- Pilot studies involving nutritional support to TB patients during the intensive phase of treatment are successful.

- NATCoD is preparing a joint HIV/TB approach to behavior change communication (BCC).

This list of substantial achievements illustrates that Eritrea, with the support of partners, invests in the care and support of Eritreans suffering from TB and, by doing so, is reversing the TB epidemic. Although most crucial components of an effective framework for programmatic TB control are present, some need to be strengthened. Addressing the weaknesses listed below will provide Eritrea with a TB control program that not only provides high-quality DOTS but also builds capacity to face the challenges of the near future. They include increasing HIV prevalence, drug-resistant tuberculosis, expanding community involvement, and TB high-risk populations.

As TB and HIV/AIDS are integrated at all levels, there are ample opportunities for joint activities (BCC, home support) and cross-referral (VCT and TB diagnosis in HIV infected individuals). However, an effective integrated approach to the HIV/AIDS and TB epidemics requires equally strong disease-specific programs. Therefore, urgent action is required to strengthen the TB program.
4 PROGRAM COMPONENTS THAT REQUIRE STRENGTHENING

Despite the progress, some major TB program weaknesses persist. These include (a) insufficient human capacity at the central (NATCoD) level, (b) inadequate supervision and technical support at all levels (for both quantity and quality); and as a result, (c) a weak R&R system at all levels, (d) inadequate case detection, (e) absence of an EQA system for the microscopy network, and (f) an obsolete (1997) National Manual. In addition, there is little preparedness for new challenges such as (g) systematic HIV/TB cross-referral, including (h) the systematic surveillance of HIV among TB patients, (i) drug-resistance surveillance (DRS), (j) management of drug-resistant cases, and (k) further decentralization of DOT. These issues are detailed in the lettered points below and in section 5.

a. The required actions require sufficient and well-trained TB staff at the national (NATCoD) level. In contrast to the other HAMSET diseases, there is no disease-specific TB focal point in the WHO country office to guide and assist the program. Of the new (2005) medical staff on the central TB team, only one has since received international training that covers all elements of modern programmatic TB control. The operational plan, both content and pace, cannot be realized with the current staff. Therefore, human resource development (HRD) at central level is the first and crucial step to strengthen the TB program.

b. Supervision is crucial to TB control, especially in a relatively young program such as in Eritrea, in which several policy changes (treatment regimens, forms) have been introduced since its inception in 1997. Whereas the supervision from the national levels is disease specific, the supervision at the Zoba and sub-Zoba levels is integrated within the communicable diseases control (CDC) context (integrated with HIV/TB and malaria). National supervision is hampered by human resources and financial constraints. The integrated nature of supervision within the Zobas offers opportunities (transport, efficiency, collaboration among programs) but also carries the risk of being too superficial. The field missions showed that written supervision reports are rare and that those that did exist did not address obvious shortcomings observed by the mission. The two Zobas (outside Maekel) visited during the mission reported that no national level supervision visit took place in 2005. Clearly, supervision is crucial to any attempt to strengthen the program, and it needs to be done comprehensively and systematically.

c. A reliable R&R system is required to monitor program performance and to develop evidence-based polices. Current data show inconsistencies and
gaps at all levels and demonstrate that the basic principles of cohort registration are not well understood. At both the national and Zoba levels, reported treatment outcome cohorts (for the nation, Zoba, or district) are significantly larger than the linked notification cohorts. For example, in 2004, 720 new smear-positive cases were notified, whereas treatment outcomes were reported for 793 cases. In addition, there is confusion about the way the smear conversion rate needs to be calculated. Obviously, there is an urgent need for a critical review (by NATCoD) of current R&R policies, forms, and practices, followed by an R&R training program targeting all peripheral levels.4

**Case detection in Eritrea is an intriguing subject.**

- WHO estimates indicated an overall TB incidence of 271/100,000 per year and 119/100,000 incidence for smear-positive cases, the latter constituting 44 percent of all cases. However these estimates were based not on Eritrean tuberculin-surveys but on global estimates for the “high-burden-TB countries.”5 The preliminary results of a 2005 national prevalence survey showed a much lower TB burden, with a smear-positive prevalence of 77.4/100,000 (95 percent confidence interval (CI) 73.5–81.2), whereas WHO estimated a 222/100,000 prevalence. In addition, WHO and the Eritrean authorities used different estimates for the population—4.1 million inhabitants and 3.2 million, respectively.

- In the reality of the Eritrean program, 2005 case-detection rates showed significant differences among Zobas. The rate for “all TB cases” ranged from 56/100,000 (Debub) to 283/100,000 (Southern Red Sea Zone, or SRSZ). The smear-positive detection rates ranged from 16/100,000 (Debub) to 57/100,000 (SRSZ).

- Over 2003–06, the national notification data showed a steep decrease (approximately 30 percent) that applied to all TB categories. The number of new smear positives dropped from 887 in 2003 to 720 in 2004 and 654 in 2005. Similarly, the number of smear negatives dropped from 2045 in 2003 to 1735 and 1412 in 2004 and 2005, respectively.

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4 Since 2006, the review and training both have taken place.

5 These figures came from the WHO website, http://www.who.int/tb/country/global_tb_database/en/index.html. Please note, however, that WHO data are updated frequently. Therefore, the data listed on the website in 2008 are different from those listed in 2005.
• To make the assessment even more complex, 2004 case-detection data showed an unusual distribution of diagnostic categories. There was an unexplained over-representation of smear-negative and extra-pulmonary cases, and under-representation of smear-positive cases. Nationwide, smear-positive cases accounted for 19 percent of all TB cases, whereas smear-negative cases and extra-pulmonary accounted for 47 percent and 34 percent, respectively (2004 data was comparable with 2003 and 2005). The relatively low prevalence of HIV-infection in TB patients could not fully explain this distribution of patient categories. After all, preliminary results of two surveys showed relatively low HIV co-infection rates, ranging from 11 percent in the prevalence survey (smear-positive cases)\(^6\) to 26 percent in an urban referral hospital (all cases).\(^7\)

• An analysis of the yield of smear-positivity among suspects was made in all laboratories visited by checking the laboratory registers during the field visits. The yield ranged from 4 percent in Elabared Health Center and Godaif Community hospital to 7 percent and 8 percent, respectively, in Hagaz Health Center and Barentu Hospital, to 21 percent in the OPD of Keren Hospital. At the same time, many cases were diagnosed with smear-negative TB. It is policy to confirm the diagnosis of smear-negative TB at the Zoba level. The program of the field visit did not allow for an assessment of the quality of smear-negative diagnosis (checking X-rays and patient records), nor could the team evaluate the effects of outreach programs in SRSZ and Gash Barka.

• A comprehensive analysis of the adequacy of case detection in Eritrea is necessary to assess the case-detection rate and identify shortcomings and opportunities for improvement. This exercise will require the assistance of TB epidemiologists, while using all available indicators and information listed above. These are prevalence survey results, detection rates in different Zobas, validity of cohort data, population estimates, quality of smear-negative diagnosis, and HIV prevalence in different patient categories.

  d. Inadequate microscopy services may contribute to the low detection rate of smear-positive cases, especially, in the absence of a systematic approach to EQA within the microscopy network. Potential reasons for


\(^7\) MOH Eritrea. The 2005 TB-HIV Co-infection Survey.
false negative smears include (a) quality of the specimens, (b) quality of the solutions, (c) staining process, and (d) readings of the slides. Smear microscopy, although a relatively simple procedure, needs to be executed with care and experience. Therefore, the limited number of positive smears/year/technician was an issue of concern in all three Zobas visited: Maekel, Anseba, and Gash Barka. Most laboratory technicians detected on average only 2–6 positive smears per year. In response to these findings, the “Proposal of External Quality Assessment Program for Acid-Fast Microscopy” was finalized and implemented. These achievements required close collaboration among the National Health Laboratory and NATCoD and an EQA-specific training program for laboratory technicians and supervisors at different levels of the program. The National Health Laboratory was commissioned to organize, monitor, and evaluate the EQA program.

e. Revision of the “Manual of the National Tuberculosis/Leprosy Control Program in Eritrea” (first ed.,1997) is urgently needed. Although parts of the old manual are still relevant, other crucial sections, such as treatment policies, related R&R forms, and TB epidemiology must be revised. In addition, new interventions, especially in the field of TBHIV, microscopy EQA, and DRS need to be included. The revised manual must form the basis for a comprehensive HRD program.

f. In principal, intensive treatment is limited to Zoba hospitals and health centers, which are part of the TB drug distribution system. However, these centers may be long distances from patients’ homes. Obviously, patients prefer to be treated near their homes, especially after their clinical status has improved and they may feel able to start working and caring for their family again. NTCP successfully piloted the possibility of decentralizing DOT to the health stations in some areas. However, decentralization has not yet extended to the entire country.

Clearly, the distribution of fixed-dose combination drugs below the health center level requires careful communication between the centers and the stations. However, it seems that in the era of home-based care (HBC), community involvement, and decentralization “the distribution of a two months’ package of drugs” from health center to health station should be possible. A clear policy is required to ensure that patients who live far from health centers will have access to DOT at the health station.

8 The national manual was revised in 2006.
level. The related conditions procedures for drug distribution below the health center level should be developed and incorporated in the new TB manual.

5 PROGRAM COMPONENTS THAT NEED TO BE INTRODUCED

a. Systematic HIV/TB program cross-referral, including the systematic surveillance of HIV among TB patients, is crucial for both NATCoD policy development and case management. Cross-referrals will benefit both public health and patients suffering from dual TBHIV infection. Eritrea has made major progress in HIV/AIDS control. Voluntary counseling and testing (VCT) services are available throughout the country. The 2005 LQAS survey showed that, in the 15–49 years age group, 14 percent of women and 20 percent of men voluntarily had undergone an HIV test. This high rate may have been due to a combination of a mandatory (all religions) HIV test before marriage and effective BCC.

The LQAS survey further showed that 48 percent of women and 67 percent of men knew at least 2 benefits of VCT. As most VCT centers are located near the TB diagnostic services (within the same health centers), cross-referrals between VCT centers and TB services is highly feasible. Until 2006, cross-referrals were limited and depended on the assessment of the health care worker (HCW) involved. Several HCWs expressed that they did not feel comfortable in raising the VCT issue with newly diagnosed TB patients. In daily practice, only patients with symptoms highly suggestive of HIV/AIDS are referred, and vice versa. However, the LQAS survey results and observations within the communities during the field visit showed that VCT had become accepted by the communities. Pilot BCC interventions targeting HIV/AIDS risk groups in the communities such as hotel and bar-workers had been very successful and included TB.

During the field visit, excellent knowledge of TB and HIV/AIDS was observed among women at increased risk who had been involved in these joint BCC activities. At that time, the knowledge of HIV/AIDS and TB within the community as well as knowledge of the strength of both disease programs was not yet evenly distributed throughout the country. However, the integrated nature of Eritrean HIV/TB services offered obvious opportunities to pilot systematic cross-referral between these services.
HIV testing in TB patients should result in representative information on HIV prevalence in TB patients, while simultaneously distinguishing smear-positive, smear-negative, and extrapulmonary cases. TB patients diagnosed with HIV co-infection should have access to ARV treatment, which has been decentralized to the Zobas. On the other hand, HIV-infected patients should receive TB-specific information, education, and communication (IEC), with the explicit advice to consult TB services whenever pulmonary symptoms occur and be referred for TB diagnosis when pulmonary symptoms exist.

b. Eritrea has not yet been able to implement TB drug-resistance surveillance (DRS). Although the low failure rates and acceptable cure rates suggested that Eritrea did not have a major multi-drug resistance (MDR) problem, chronic (most likely MDR) cases were reported in all Zobas visited. It is of major importance to do a baseline assessment of the prevalence of resistance to first-line drugs in Eritrea and monitor the situation periodically (every 5 years).

This kind of information is crucial for a rational design of the (re)treatment regimen and the preparation of the program for MDR-TB case management. For instance, levels of resistance to Streptomycin are high in several African countries. If that were the case in Eritrea as well, the current retreatment regimen would need to be reconsidered—and has been. On the other hand, if resistance to INH were low, Eritrea should consider introducing a rifampicin containing the continuation phase for the first-line regimen. Such a regimen is more effective in HIV-infected patients and would reduce the duration of the treatment by two months.

A drug susceptibility survey (DRS) requires a (1) country-specific representative sampling of cases, (2) quality-assured reference laboratory, and (3) DRS-specific training program for the selected sites. Although it may take to 4–6 months to train the laboratory technicians in the National Health (TB Reference) Laboratory to perform culture and DST according to international standards, it is recommended to start the preparations for the survey gradually. WHO Geneva or KNCV can assist with the design of the sampling method. WHO also may be able to offer financial support in the context of the Global Drug Resistance Surveillance Program. Logistical challenges, such as the transport of sputum and the training of the involved sites, can be resolved in 2005 to start the survey in the first quarter of 2006.9

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9 This is still a relevant recommendation. As of 2008, the survey has not yet been carried out.
c. The programmatic management of MDR cases, although not yet a high priority in Eritrea, takes 1–2 years of preparation. The NTCP should start preparing for this intervention by introducing systematic diagnostic drug sensitivity testing (DST) in cases at increased risk for MDR TB. These include chronic cases, failures of retreatment, and, if capacity and finances permit, all retreatment cases. This intervention not only will serve patients and inform policy development but also will ensure that the culture and DST capacity of the TB reference hospital is routinely used. (Why install expensive equipment and invest in high-tech lab safety if these diagnostic services are not used?) After all, a DRS is a once-in-5-years event, which will not be enough to maintain culture and DST quality in the National Reference Laboratory. After other program priorities have been addressed, the KNCV consultant, who is a global expert in programmatic management of MDR-TB, can assist NCTP to prepare a program component for MDR-TB diagnosis and treatment.

The actions listed above require specific training activities during the coming years. It is strongly recommended that NTCP collaborate closely with the MOH Human Resources Division and involve an international expert with proven experience in supporting the human resource development (HRD) components of TB programs.

6 OPERATIONAL PLAN FOR THE PERIOD 2006–SECOND QUARTER 2007

Obviously, the recommendations and actions in the preceding section cannot be implemented simultaneously but need rational—and, most of all, feasible—priority-setting. The proposal below takes into account additional human capacity (either locally recruited, and/or an international consultant who may or may not be based in Eritrea).

For the sake of practicality, the plan comprises all (components of) recommendations and activities listed above in a quarterly fashion.

The operational plan outlined below shows that activities related to one and the same item may be represented in several quarters. The aim of this scheme is to present all the subsequent preparatory and implanting steps required for a certain intervention in a reasonable timeframe. At a first glance, the list may seem endless. However, some of the activities may take only a few hours but are crucial
enough to be listed. For background and motivation for the activities below, see the preceding section.

**Activities in 2006, quarters 1 and 2:**

**Human resources at NATCoD level**

- Recommended: Participation of Dr. Mineab Sibhatu in the IUATLD/KNCV TB program managers’ course in Hanoi, April 2006.\(^{11}\)

- NTCP explore the possibility of creating a 2-year post for an experienced international TB consultant (to be seconded to NCTP).\(^{12}\)

- Eritrean authorities consider strengthening the national TB team with a nurse or medical doctor. Ideal profile: Experience in TB control in Eritrea at the Zoba level, management skills, and affinity for epidemiology.\(^{13}\)

- World Bank consider the routine involvement of the KNCV consultant in HAMSET II missions to monitor progress and offer TA to the program (especially during the strengthening process in 2006 and 2007).\(^{14}\)

- National Health Laboratory (a) identify an international (preferably WHO supranational) laboratory for TA, culture, and DST on-the-job training and (b) agree with that laboratory on a sufficient number of weeks for training at the end of the second quarter or the beginning of the third quarter. (Note: Eligible laboratory experts often are overwhelmed, so arrangements should be made as soon as possible.)\(^{15}\)

- NTCP contact WHO Geneva (copying WHO country and country office) to explore the possibility of financial and technical support for future DRS. For WHO Geneva, contact nunnp@who.int, copying wrighta@who.int \(^{16}\)

- Depending on decisions made related to the above bullet points, additional TA may be needed to revise the manual\(^{17}\); and to revise DRS, HRD, preparations for MDR-TB management, and operations research.\(^{18}\) However, arrangements need to be made well ahead of time.

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\(^{11}\) Instead, Dr. Sibhatu went to Japan for training.

\(^{12}\) The TB consultant has been recruited.

\(^{13}\) This action is still pending.

\(^{14}\) The Bank continued to use KNCV consultants, but to develop the TBHIV integration guidelines and update the TB manual.

\(^{15}\) This action is still pending.

\(^{16}\) This recommendation is still relevant and the contact information still accurate.

\(^{17}\) This recommendation has been carried out.

\(^{18}\) These actions not yet carried out.
Supervision
- In these quarters, the priorities are to review and revise the policies. However, this period can be used to explore ways to overcome financial barriers to NATCoD supervision visits, for instance, exploring the use of GFATM funds for combined HIV/TB activities.

Strengthening recording and reporting
- A critical review (at NATCoD level) of current R&R policies, forms, and practices. This activity should be linked to the revision of the 1997 manual.\(^\text{19}\)

Assessment and improvement of case detection
- Finalize the analysis of the results of the 2005 prevalence survey, and present and evaluate these results at the expert Tuberculosis Surveillance and Research Unit (TSRU) meeting in Beijing, April 2006.\(^\text{20}\)
- Mission to SRSZ (preferably during the second KNCV mission) to analyze case detection in the Zoba and the experiences with “outreach case-finding.”\(^\text{21}\)
- Collect and validate all relevant data related to case detection in Eritrea.\(^\text{22}\)
- Decide whether TA is required to analyze this complex set of information, and if so, contact that person to ensure that s/he is available in the third quarter.

Quality of smear microscopy
- The draft “Proposal of External Quality Assessment Program for Acid-Fast Microscopy” needs to be finalized. This is a joint activity of the National Health Laboratory and NATCoD.\(^\text{23}\)

Revising the guidelines
- Perform detailed review of the 1997 guidelines, identifying obsolete text, text that must be revised, and new program components that need to be added (see above).\(^\text{24}\)
- The latter require new policy development related to several technical issues, and hence consensus/approval at the NATCoD and MOH level.\(^\text{25}\)

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\(^{19}\) As noted earlier, the old TB manual was revised in 2006.

\(^{20}\) These actions were carried out.

\(^{21}\) The mission to SRSZ was carried out.

\(^{22}\) These actions were taken.

\(^{23}\) The draft proposal was finalized.

\(^{24}\) The review was carried out.

\(^{25}\) NATCoD and MOH approval was secured.
Therefore, it is recommended to establish a writing committee and a review panel with relevant partners and authorities.\textsuperscript{26}

This decision-making process needs to take place in May 2006 to be able to revise and finalize the manual in the third quarter (preferably starting in the second quarter). This process should not be underestimated as it covers all technical details of the current and “near future” modernized NTCP.\textsuperscript{27}

**Addressing the overlap between the TB and HIV/AIDS epidemic**

- For NATCoD and the Ministry of Health to decide whether the systematic cross-referral between HIV/AIDS and TB services, for both surveillance and patient-care purposes will become an official policy.\textsuperscript{28}

- If yes, this needs to be reflected in the new NTCP guidelines.

- If yes, pilot sites needs to be selected.

- Guidelines must be prepared and finalized.

**Drug Resistance Surveillance**

- Contact WHO Geneva (copying WHO country and Regional office) exploring the possibility of financial and technical support for future DRS. For WHO Geneva contact nunnp@who.int, copying wrighta@who.int \textsuperscript{29}

- If yes, arrange for TA in the third quarter (sampling method, training materials).

**Preparation of DOTS-Plus**

- Develop policy at NATCoD and Ministry of Health level whether to prepare for MDR-TB case management and systematic culture and DST in TB patients at increased risk of (M)DR-TB.\textsuperscript{30}

**Further decentralization of DOT**

- A decision needs to be made at NATCoD and Ministry level whether or not to systematically decentralize DOT to Health Care Stations and, if so, under which conditions. If yes, this decision needs to be reflected in the revised TB manual. Thus, the decision needs to be made in May/June.\textsuperscript{31}

\textsuperscript{26} These recommendations have been carried out.

\textsuperscript{27} These recommendations have been carried out.

\textsuperscript{28} All four recommendations in this section have been carried out.

\textsuperscript{29} This recommendation is still relevant and the contact information still accurate.

\textsuperscript{30} Since this assessment was made, the policy has been developed.

\textsuperscript{31} The policy was developed, and implementation is being rolled out.
Activities in 2006, quarter 3:

**Human resources at NATCoD level**
- Implement and follow up decisions and arrangements made in the previous quarters.

**Supervision**
- Implement routine supervision to all Zobas and use these visits to (a) inform the Zobas about the recent (policy) developments and related timeframes and (b) discuss planned pilots (for instance, HIV/TB cross-referral and surveillance) with selected Zobas.\(^{32}\)

**Strengthening recording and reporting**
- Introduce the revised R&R policies in the new NTCP guidelines (manual).\(^{33}\)

**Assessment and improvement of case detection**
- Comprehensively analyze case detection in Eritrea in general and the different Zobas in particular, based on all data collected in the previous quarter.\(^ {34}\)
- Communicate the findings to the Zobas and WHO (country, regional, and HQ Geneva).\(^{35}\)

**Quality of smear microscopy**
- Develop training material and a short manual to facilitate the introduction of the EQA system in the country.\(^{36}\)

**Revising the guidelines**
- Revise the guidelines based on the consensus reached in the previous quarter.\(^ {37}\)
- Print the guidelines (ensure an attractive lay-out and cover).

**Addressing the overlap between the TB and HIV/AIDS epidemic**
- Incorporate HIV/TB policies in the new NTCP manual (based on the consensus reached in the previous quarter)\(^ {38}\)
- Produce a short “integrated” manual for both VCT and TB services that clearly describes the procedures involved.

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\(^{32}\) Supervision was implemented and is a recurring activity.
\(^{33}\) The revised R&R policies have been introduced.
\(^{34}\) Implementation of this recommendation is in progress.
\(^{35}\) These actions are still pending.
\(^{36}\) The guideline is finished and implementation under roll-out.
\(^{37}\) The guidelines have been revised and printed.
\(^{38}\) All three recommendations in this section have been implemented.
• Share information with the selected pilot sites mentioned above.

**Drug Resistance Surveillance**

• With the support of WHO, develop a DRS sampling method.\(^{39}\)

• Develop training material for the sites involved based on the sampling method.

• Confirm that the culture and DST performance of the TB reference laboratory within the National Health Laboratory has been approved by a supranational laboratory.

**Preparation of DOTS-Plus**

• If the decision was made to systematically perform DST in patients at increased risk of MDR-TB, a GLC application needs to be prepared to the WHO Green Light Committee for access to preferentially priced second-line drugs to treat MDR-TB. A GLC application requires TA by an expert in the programmatic management of MDR-TB, DOTS-Plus (for instance KNCV, WHO). Given the limited number of available experts, it is recommended that the expert be contacted in time to make arrangements for the first quarter of 2007.\(^{40}\)

• Invite the MDR-TB/GLC consultant to the Guideline Workshop to be organized in January/February 2007 so that s/he gets familiar with the program and the policies.

**Further decentralization of DOT**

• Revise the manual according to the decision made in the previous quarter.\(^{41}\)

**Activities in 2006, quarter 4:**

**Human resources at NATCoD level**

• Implement and follow up decisions and arrangements (for instance, TA arrangements with international partners) made in the previous quarters.\(^{42}\)

**Supervision**

• Implement routine supervision to all Zobas. Use these visits to (a) inform the Zobas about the recent (policy) developments (new manual) and time-frames, (b) discuss planned pilots (for instance, HIV/TB cross-referral and

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\(^{39}\) Action on the three recommendations in this section is pending.

\(^{40}\) Action on both recommendations in this section is pending.

\(^{41}\) The manual was revised.

\(^{42}\) Both recommendations have been implemented.
surveillance) with selected Zobas.43

• Send an invitation to the Zobas (and Centers?) to attend the TB symposium in January/February 2007.

Quality of smear microscopy
• Implement training activities related to microscopy EQA (TB reference laboratory and NATCoD).44

Revising the guidelines and launch workshop
• Distribute the new manual within the country.45

• Prepare a national workshop on TB and TBHIV control to launch the new guidelines in the revised manual.46

• Consider inviting 1–2 famous international experts (HIV/TB cross-referral, DRS) to cover new topics at the workshop.47

• Consider the involvement of a short-term TB-HRD consultant to assist with the workshop and with the implementation of the new guidelines nationwide (training program, job descriptions).48

• Approach the GFATM representative and/or WHO/Public Health and Rehabilitation Programme (PHARPE) to explore the use of GFATM HIV/TB funds or PHARPE funds for this purpose.49

Addressing the overlap between the TB and HIV/AIDS epidemic
• Implement the HIV/TB pilot projects in selected sites.50

• Make a prospective evaluation of the performance of the projects (forms, appoint project coordinator).51

Drug Resistance Surveillance
• Training at the DRS sites involved.52

43 These two recommendations have been carried out.
44 This recommendation is being rolled out.
45 The manual was distributed.
46 This national workshop is upcoming.
47 Action is pending.
48 Action is pending.
49 This recommendation was carried out.
50 The implementation has been carried out.
51 This action is pending.
52 This recommendation is pending.
Preparation of DOTS-Plus

- No actions this quarter (too busy with higher priority actions listed above).
- Recheck arrangement made with DOTS-Plus consultant.  

Activities in 2007, quarter 1:

Human resources at NATCoD level

- Evaluate the human resources at the national level, both quantity and quality.
- Evaluate compliance with this operational plan.
- Adapt the plan, if necessary.
- Formulate a new operational plan 2007–08, taking into account conclusions related to the items above.

Supervision

- Confirm the participation of all relevant partners and Zobas in the TB Guidelines Workshop.
- Intensify supervision of the “newborn” HIV/TB pilot sites.

Quality of smear microscopy

- Implement the EQA system for the microscopy network.  

Revising the guidelines

- Organize the national TB and TBHIV control workshop to launch the revised manual with the new guidelines.  

Addressing the overlap between the TB and HIV/AIDS epidemic

- Intensify supervision of the newborn HIV/TB pilot sites to detect problems.

Drug Resistance Surveillance

- Training at the DRS sites involved continued.  

53 This action is pending.
54 This recommendation is being implemented.
55 This recommendation has been carried out.
56 This action is pending.
• Preparation of DOTS-Plus

• Arrange DOTS-Plus mission after the TB and TBHIV control workshop to prepare a GLC application.
### APPENDIX 2.1 PERSONS INTERVIEWED IN ETHIOPIA

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Position</th>
<th>Phone</th>
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</tr>
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<tbody>
<tr>
<td>Dr Zerihun Tadesse</td>
<td>FMOH</td>
<td>Disease Prevention and Control</td>
<td>911252351</td>
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</tr>
<tr>
<td></td>
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<td>Acting Department Head</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr Bekele Chaka</td>
<td>FMOH</td>
<td>Acting TB Team Leader</td>
<td>911684223</td>
<td></td>
</tr>
<tr>
<td>Dr G/Selassie Okubagzhi</td>
<td>WB</td>
<td>Health Specialist</td>
<td>911201526</td>
<td></td>
</tr>
<tr>
<td>Dr Olusegun Babaniyi</td>
<td>WHO</td>
<td>WR</td>
<td>911400075</td>
<td></td>
</tr>
<tr>
<td>Dr Thierry Comolet</td>
<td>WHO</td>
<td>TB Medical Officer</td>
<td>912164875</td>
<td>comolett.et.et.afro.who.int</td>
</tr>
<tr>
<td>Dr Akram Eltom</td>
<td>WHO</td>
<td>HIV Team Leader</td>
<td></td>
<td>eltama.et.et.afro.who.int</td>
</tr>
<tr>
<td>Dr Tesfaye Abicho</td>
<td>WHO</td>
<td>TBHIV Training Consultant</td>
<td></td>
<td>tesfayea.et.et.afro.who.int</td>
</tr>
<tr>
<td>Dr Marina Tadolini</td>
<td>WHO</td>
<td>TB APO</td>
<td>912139914</td>
<td>tadolinim.et.et.afro.who.int</td>
</tr>
<tr>
<td>Dr Degu Jerene</td>
<td>WHO</td>
<td>Chair, HAPCO-TBHIV TWG</td>
<td></td>
<td></td>
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<tr>
<td>Dr Yibeltal Assefa</td>
<td>HAPCO</td>
<td>HIV team leader</td>
<td>911254246</td>
<td></td>
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<tr>
<td>Dr Betru Tekle</td>
<td>HAPCO</td>
<td>Director</td>
<td>114669666</td>
<td></td>
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<tr>
<td>Dr Caroline Greene</td>
<td>CDC</td>
<td>Director</td>
<td></td>
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<tr>
<td>Dr Meaza Dernissie</td>
<td>CDC</td>
<td>TBHIV Officer</td>
<td>911500521</td>
<td></td>
</tr>
<tr>
<td>Dr Omer Ahmed Omer</td>
<td>USAID</td>
<td>Deputy HIV/AIDS Team Leader</td>
<td>911424631</td>
<td></td>
</tr>
<tr>
<td>Ms Susan Bachelor</td>
<td>USAID HQ DC</td>
<td>Director TB</td>
<td>911482581</td>
<td></td>
</tr>
<tr>
<td>Ms Connie Davis</td>
<td>HIV Gap</td>
<td>Regional Director, Nairobi</td>
<td>912055390</td>
<td><a href="mailto:carladececelli@gmail.com">carladececelli@gmail.com</a></td>
</tr>
<tr>
<td>Ms Carla Decotelli</td>
<td>Tulane</td>
<td>M&amp;E specialist, Ethiopia</td>
<td>912065590</td>
<td><a href="mailto:carladececelli@gmail.com">carladececelli@gmail.com</a></td>
</tr>
<tr>
<td>Dr Zenebe Melaku</td>
<td>ICAP</td>
<td>Country Director</td>
<td>91125347</td>
<td><a href="mailto:zy2115@columbia.edu">zy2115@columbia.edu</a></td>
</tr>
</tbody>
</table>
## Appendix 2.1 Persons Interviewed in Ethiopia

<table>
<thead>
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<th>E-mail</th>
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<tr>
<td>Dr Ezra Shimellis</td>
<td>ICAP</td>
<td>TBHIV Advisor</td>
<td>911674458</td>
<td></td>
</tr>
<tr>
<td>Ms Francesca Stuer</td>
<td>FHI</td>
<td>Country Director</td>
<td>111270942</td>
<td></td>
</tr>
<tr>
<td>Dr Aida Girma</td>
<td>FHI</td>
<td>Sr Technical Officer Care and Support</td>
<td></td>
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</tr>
<tr>
<td>Dr Altaye Kidane</td>
<td>FHI</td>
<td>Technical Director</td>
<td></td>
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</tr>
<tr>
<td>Mr Ahmed Ahmed</td>
<td>GLRA</td>
<td>Country Representative</td>
<td></td>
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</tr>
<tr>
<td>Mr Abraham Aseffa</td>
<td>AHRI</td>
<td>Research Director</td>
<td></td>
<td></td>
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<tr>
<td>Ms Wzo Mekdes</td>
<td>EHNRI</td>
<td>TBHIV Focal Technician</td>
<td>911247091</td>
<td></td>
</tr>
<tr>
<td>Mr Eshetu Lemma</td>
<td>EHNRI</td>
<td>TB Laboratory Head</td>
<td>911247091</td>
<td></td>
</tr>
<tr>
<td>Dr Marina Madeo</td>
<td>Italian Development Cooperation</td>
<td>Chair, HIV/AIDS Donor Coordination, Health and HIV/AIDS Advisor</td>
<td>911684204</td>
<td><a href="mailto:marina.madeo@gmail.com">marina.madeo@gmail.com</a>, <a href="mailto:m.madeo@itacaddis.org.et">m.madeo@itacaddis.org.et</a></td>
</tr>
<tr>
<td>Mr Aseffa Seme</td>
<td>AAU</td>
<td>TBHIV Costing</td>
<td>911228193</td>
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</tr>
<tr>
<td>Dr Yegeremu Abebe</td>
<td>Clinton Foundation</td>
<td>Country Director</td>
<td>115545629</td>
<td><a href="mailto:yigeremu.abebe@ethionet.et">yigeremu.abebe@ethionet.et</a></td>
</tr>
<tr>
<td>Dr Theo Pas</td>
<td>RNE</td>
<td>1st Secretary Health and HIV/AIDS</td>
<td>13711100</td>
<td><a href="mailto:theo.pas@minbuza.nl">theo.pas@minbuza.nl</a></td>
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APPENDIX 3.1 PERSONS INTERVIEWED IN KENYA

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<th>Name</th>
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<tbody>
<tr>
<td>Albertus Voetberg</td>
<td>World Bank Lead Health Specialist ACT</td>
<td>ACT Africa TBHIV focal point</td>
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<tr>
<td>Adam Lagerstedt</td>
<td>World Bank Kenya</td>
<td>Senior Health Specialist</td>
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<tr>
<td>Wacuka Ikua</td>
<td>World Bank Kenya</td>
<td>Chief Operations Officer World Bank</td>
<td></td>
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<tr>
<td>Dr Joseph Sitienei</td>
<td>NLTP</td>
<td>Program Manager</td>
<td>722740130</td>
</tr>
<tr>
<td>Dr David Muthama</td>
<td>NLTP</td>
<td>Focal Officer for MDR TB, Hard-to-Reach Areas and GFATM Issues</td>
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<tr>
<td>Dr Victor Ombeko</td>
<td>NLTP</td>
<td>Focal Officer for TBHIV</td>
<td></td>
</tr>
<tr>
<td>Jane Onteri</td>
<td>NLTP</td>
<td>Focal Officer for ACSC</td>
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<tr>
<td>Dr Jeremiah Chakaya</td>
<td>CDC Kemri / NLTP</td>
<td>Chair, DOTS Expansion WG Dept Director, WHO Board STB Partnership</td>
<td>721694484</td>
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<tr>
<td>Dr David Okello</td>
<td>WHO</td>
<td>Country Representative WR</td>
<td>733608429</td>
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<tr>
<td>Dr Joel Kangangi</td>
<td>WHO</td>
<td>NPO TB</td>
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<tr>
<td>Dr Joyce Onsongo</td>
<td>WHO</td>
<td>DPC</td>
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<tr>
<td>Dr Rex Mpazanje</td>
<td>WHO</td>
<td>HIV AIDS Coordinator (Intl.)</td>
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<tr>
<td>Dr Mohammed Ibrahim</td>
<td>NASCOP</td>
<td>Program Manager</td>
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<tr>
<td>Dr Emily Koech</td>
<td>NASCOP</td>
<td>ART Officer/TB liaison</td>
<td>721564762</td>
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<tr>
<td>Dr P. Kembe</td>
<td>PATH</td>
<td>TBHIV Focal Officer</td>
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<tr>
<td>John Wasongo</td>
<td>USAID</td>
<td>TBHIV</td>
<td>202713008</td>
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<tr>
<td>Dr David Odhiambo</td>
<td>CDC (tel 202713008)</td>
<td>Head TB Unit</td>
<td>722704238</td>
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<tr>
<td>Boaz Chelluget</td>
<td>NACC</td>
<td>Head Policy, Research, M&amp;E</td>
<td>722747484</td>
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<tr>
<td>Dr John Andungosi</td>
<td>FHI</td>
<td>Care and Treatment FHI</td>
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<td>Peter Mwarogo</td>
<td>FHI</td>
<td>Country Director</td>
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<tr>
<td>Dr P. Kimuu</td>
<td>NLTP</td>
<td>Provincial TB Coordinator Nbi North</td>
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<tr>
<td>Magdalene King’ori</td>
<td>NLTP</td>
<td>District TB Coordinator Langata</td>
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<tr>
<td>Mr J. Martin</td>
<td>NLTP</td>
<td>District TB Coordinator Bagathi</td>
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<tr>
<td>Dr Daniel Kimani</td>
<td>MSF Belgium</td>
<td>Bbagathi CCC MD</td>
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<tr>
<td>Ian van Engelgem</td>
<td>MSF Belgium</td>
<td>Nairobi</td>
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<tr>
<td>Josaya Onyango</td>
<td>CDC Kisu Nyanza</td>
<td>CDC Provincial TB</td>
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<tr>
<td>Anja van’t Hoogt</td>
<td>CDC/Kemri Kisu</td>
<td>TB/HIV research</td>
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<tr>
<td>Allyn Nakashima</td>
<td>CDC Atlanta</td>
<td>TB/HIV GAP</td>
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<tr>
<td>Mark Hawken</td>
<td>Columbia University</td>
<td>Country Director Kenya</td>
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<tr>
<td>Charlotte Warren</td>
<td>Population Council Nairobi</td>
<td>PMCTC/ TB/HIV</td>
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<tr>
<td>Martha Ackers</td>
<td>CDC</td>
<td>Head Care and Treatment</td>
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### APPENDIX 4.1 PERSONS INTERVIEWED IN TANZANIA

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<tr>
<td>Ms Julie McLaughlin</td>
<td>WB AFTHT</td>
<td>Lead Health Specialist</td>
<td>2114575</td>
<td><a href="mailto:jmclaughlin@worldbank.org">jmclaughlin@worldbank.org</a></td>
</tr>
<tr>
<td>Dr Rik Peeperkorn</td>
<td>RNE</td>
<td>Health Advisor</td>
<td>0787421597</td>
<td><a href="mailto:rik.peeperkorn@minbuza.nl">rik.peeperkorn@minbuza.nl</a></td>
</tr>
<tr>
<td>Dr Yahya Ipuge</td>
<td>CHAI</td>
<td>Director</td>
<td>754000476</td>
<td><a href="mailto:yipuge@clintonfoundation.org">yipuge@clintonfoundation.org</a></td>
</tr>
<tr>
<td>Dr Mupamba</td>
<td>CHAI</td>
<td>Program Coordinator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Fatma H Mrisho</td>
<td>TACAIDS</td>
<td>Executive Chairman</td>
<td>0754895291 /</td>
<td><a href="mailto:fmrisho@gmail.com">fmrisho@gmail.com</a>; fmrisho@</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2125124</td>
<td>tacaids.go.tz</td>
</tr>
<tr>
<td>Mr Patrick Swai</td>
<td>USAID</td>
<td>TBHIV Coordinator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Eric van Praag</td>
<td>FHI</td>
<td>Director</td>
<td>0755765229 /</td>
<td><a href="mailto:evanpraag@fhitan.org">evanpraag@fhitan.org</a></td>
</tr>
<tr>
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<td>2601866/67</td>
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</tr>
<tr>
<td>Mr Stefan Wiktor</td>
<td>CDC</td>
<td>Country Director</td>
<td>0756200003 /</td>
<td><a href="mailto:wiktors@tz.cdc.gov">wiktors@tz.cdc.gov</a></td>
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<tr>
<td>Dr Bergis Schmidt-Ehry</td>
<td>GTZ</td>
<td>Country Director, Chair DPG HIV</td>
<td>2151911</td>
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<tr>
<td>Dr Lamine Thiam</td>
<td>WHO</td>
<td>HIV Coordinator</td>
<td>700441 /</td>
<td><a href="mailto:thiaml@tz.afro.who.int">thiaml@tz.afro.who.int</a></td>
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<tr>
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<tr>
<td>Dr Neema Simkoko</td>
<td>WHO</td>
<td>TBHIV Focal Officer</td>
<td>2111718</td>
<td><a href="mailto:swairo@nacptz.org">swairo@nacptz.org</a></td>
</tr>
<tr>
<td>Dr Rowland O. Swai</td>
<td>NACP</td>
<td>Director</td>
<td>0754301125 /</td>
<td><a href="mailto:swairo@nacptz.org">swairo@nacptz.org</a></td>
</tr>
<tr>
<td></td>
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<td>2118581</td>
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</tr>
<tr>
<td>Dr Bwijo Bwijo</td>
<td>NACP</td>
<td>NCTP Coordinator</td>
<td>0784530325</td>
<td><a href="mailto:bbwijo@nacptz.org">bbwijo@nacptz.org</a></td>
</tr>
<tr>
<td>Mr Geert Haverkamp</td>
<td>PHARM-ACCESS</td>
<td>Coordinator PEPFAR/GFATM</td>
<td>0754972946</td>
<td><a href="mailto:g.haverkamp@pharmaccess.org">g.haverkamp@pharmaccess.org</a></td>
</tr>
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<tr>
<td>Dr Mohammed Makame</td>
<td>PATH</td>
<td>Country Director</td>
<td>0748448156/2122398</td>
<td><a href="mailto:mmakame@path.org">mmakame@path.org</a></td>
</tr>
<tr>
<td>Ms Fat-Hiya Amri</td>
<td>PATH</td>
<td>TBHIV Coordinator Kinondoni</td>
<td>0787960142</td>
<td></td>
</tr>
<tr>
<td>Dr Eliud Wandwalo</td>
<td>NTLP</td>
<td>TBHIV Coordinator</td>
<td>2118619</td>
<td><a href="mailto:ewandwalo@moh.go.tz">ewandwalo@moh.go.tz</a>; <a href="mailto:ewandwalo@hotmail.com">ewandwalo@hotmail.com</a></td>
</tr>
<tr>
<td>Dr Saidi M Egwaga</td>
<td>NTLP</td>
<td>Program Manager</td>
<td>2118619</td>
<td></td>
</tr>
<tr>
<td>Mr David Ocheng</td>
<td>AMREF</td>
<td>Project Manager Laboratory</td>
<td>2116610/0784274355</td>
<td><a href="mailto:glratznrep@bol.co.tz">glratznrep@bol.co.tz</a></td>
</tr>
<tr>
<td>Mr Roland Muller</td>
<td>GLRA</td>
<td>Tanzania Representative</td>
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<td>Mr Papeni</td>
<td>NTLP</td>
<td>DTLC Bagamoyo</td>
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<tr>
<td>Dr Chilolo</td>
<td>PATH</td>
<td>District TBHIV Assistant</td>
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<td>Dr Pembe</td>
<td>MOHSW</td>
<td>DMO Bagamoyo</td>
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TB and HIV/AIDS Integration in Ethiopia, Kenya, Tanzania, and Eritrea

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