REPORT

END TERM EVALUATION
NATIONAL TUBERCULOSIS CONTROL
PROGRAM OF VIET NAM
2007-2011

November 21 – December 2, 2011
### LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>05-06 Center</td>
<td>aka Training and Education Center</td>
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<tr>
<td>ACF</td>
<td>Active Case Finding</td>
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<tr>
<td>ACT</td>
<td>Evaluation of effectiveness of active case detection method among those who had contacted with TB reservoir (project with University of Sydney)</td>
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<tr>
<td>ACSM</td>
<td>Advocacy Communication and Social Mobilization</td>
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<tr>
<td>AFB</td>
<td>Acid Fast Bacilli</td>
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<td>ARV</td>
<td>Anti-Retro Viral therapy</td>
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<tr>
<td>BSL</td>
<td>Bio- Safety Level</td>
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<tr>
<td>CCHD</td>
<td>Center for Community Health Development</td>
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<td>CCM</td>
<td>Country Coordinating Mechanism (of Global Fund)</td>
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<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention (United States)</td>
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<td>CHS</td>
<td>Commune Health Station(s)</td>
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<td>CIDA</td>
<td>Canadian International Development Agency</td>
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<td>Cm</td>
<td>Capreomycin</td>
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<tr>
<td>CPT</td>
<td>Cotrimoxazole Preventive Therapy</td>
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<td>Cs</td>
<td>Cycloserine</td>
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<td>DCDC</td>
<td>District Center of Disease Control</td>
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<td>DGH</td>
<td>District General Hospital</td>
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<tr>
<td>DHB</td>
<td>District Health Bureau; aka District Health Office</td>
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<td>DHC</td>
<td>District Health Center; aka District Preventive Medicine Center</td>
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<tr>
<td>DHO</td>
<td>District Health Office; aka District Health Bureau</td>
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<tr>
<td>DOTS</td>
<td>Directly Observed Treatment Short-course</td>
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<td>DP</td>
<td>Development Plan (2007-2011; sometimes referred to as 2006-2010)</td>
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<td>DPMC</td>
<td>District Preventive Medicine Center; aka District Health Center</td>
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<td>DST</td>
<td>Drug Sensitivity Testing</td>
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<td>DTU</td>
<td>District TB Unit</td>
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<td>E</td>
<td>Ethambutol</td>
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<td>EPTB</td>
<td>Extrapulmonary TB</td>
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<td>EQA</td>
<td>External Quality Assurance</td>
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<td>FDC</td>
<td>Fixed Dose Combination</td>
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<td>FLD</td>
<td>First Line Drugs</td>
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<td>FM</td>
<td>Fluorescence Microscopy</td>
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<tr>
<td>FSW</td>
<td>Female Sex Worker</td>
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<td>GDF</td>
<td>Global Drug Facility</td>
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<tr>
<td>GF</td>
<td>Global Fund (to fight AIDS, Tuberculosis and Malaria)</td>
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<td>GFATM</td>
<td>Global Fund to fight AIDS, Tuberculosis and Malaria</td>
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<td>GLC</td>
<td>Green Light Committee</td>
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<td>GoV</td>
<td>Government of Viet Nam</td>
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<td>H</td>
<td>Isoniazid</td>
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<td>HCMC</td>
<td>Ho Chi Minh City</td>
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<td>HE</td>
<td>Health Education</td>
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<td>HMIS</td>
<td>Health Management Information System</td>
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<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HR</td>
<td>Human Resources</td>
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<td>HRD</td>
<td>Human Resource Development</td>
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<tr>
<td>IBBS</td>
<td>Integrated Biological and Behavioral Surveillance</td>
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<tr>
<td>IC</td>
<td>Infection Control</td>
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<td>IPT</td>
<td>Isoniazid Preventive Therapy</td>
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<td>IDU</td>
<td>Injecting Drug User</td>
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<td>IEC</td>
<td>Information, Education and Communication</td>
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<td>ISTC</td>
<td>International Standards for TB Care</td>
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<td>KAP</td>
<td>Knowledge, Attitude, Practice</td>
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<td>Km</td>
<td>Kanamycin</td>
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<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>USD</td>
<td>United States Dollar</td>
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<td>VAAC</td>
<td>Viet Nam Administration on AIDS Control</td>
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<td>VCT</td>
<td>Voluntary Counselling and Testing</td>
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<td>VITIMES</td>
<td>Viet Nam TB Information Management Electronic System</td>
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<td>VMA</td>
<td>Viet Nam Medical Association</td>
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<td>VSTP</td>
<td>Viet Nam Stop TB Partnership</td>
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<td>WHO</td>
<td>World Health Organization</td>
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<td>WPRO</td>
<td>Western Pacific Regional Office</td>
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<tr>
<td>XDR TB</td>
<td>Extensively Drug-Resistant Tuberculosis</td>
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<tr>
<td>Z</td>
<td>Pyrazinamide</td>
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<tr>
<td>ZN</td>
<td>Ziehl Neelsen</td>
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5.7.1.3 Operational research (OR)

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i. PREFACE

This report comprises the findings, achievements, challenges and recommendations of the end term evaluation of the 2007-2011 Viet Nam National Tuberculosis (TB) Program (NTP) Development Plan (DP). Viet Nam began implementing some TB control activities in 1957 with the establishment of the national tuberculosis hospital. The Viet Nam NTP was formed in 1986 and DOTS activities were piloted in 1989 with the DOTS Strategy being formally adopted in 1992, with support of two non-governmental organizations (NGOs): the Medical Committee Netherlands Viet Nam (MCNV) and the Royal Netherlands Tuberculosis Association (KNCV Tuberculosis Foundation) and gradually expanded the DOTS services, reaching 100% coverage by 2000. In 1995, the Government of Viet Nam (GoV) declared tuberculosis control a national priority. Viet Nam’s tuberculosis control program has been one of the most successful in terms of treatment outcome, with treatment success rates of new (acid-fast bacilli (AFB) smear-positive cases consistently over 90 per cent since 1998. Despite this achievement, the country ranks as 12th among the 22 countries with the highest TB burden in the world. It also features among the 27 high MDRTB burden countries that account for approximately 85% of the world’s estimated cases of MDRTB. TB case notification (all forms) has declined by 0.8%/year and 1.7%/year for new AFB smear-positive cases since the mid 2000s. The first national prevalence survey performed in 2006-2007 indicated that the national prevalence rate for smear positive TB for all age groups is 145/100,000 population, 1.6 times higher than previously estimated by the World Health Organization in 2006.

Since 1994, the NTP has consistently developed and implemented roadmaps that guide the work of the program. The NTP’s first development plan, which covered the period 1994-1998, concentrated on the strengthening and expansion of the World Health Organization (WHO) Directly Observed Treatment Short-Course (DOTS) strategy. The second plan, from 1994-1998, was an extension of the first. Supported by a grant from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), it also added intensified case finding among high risk groups, remote populations and people living with HIV/AIDS.

The current 2007-2011 DP, as stated in the January 2010 mid-term evaluation:

“was developed under the context of TB control being a priority of the Comprehensive Poverty Reduction and Growth Strategy and the National Millennium Goals of Viet Nam. It was expected to contribute to reduction of TB morbidity, mortality and transmission, and related psychosocial suffering and to prevent development of drug resistance to contribute to the comprehensive poverty reduction and growth strategy.”

The plan focuses on ensuring the quality of DOTS at all levels of the health system; and improving management capacity at all levels, epidemiological surveillance, and diagnostic procedures. It also addresses the components of WHO’s expanded Stop TB Strategy, which includes engaging all public and
private health care providers, TB/HIV, multidrug-resistant tuberculosis (MDR-TB), and at-risk populations such as the urban poor, the homeless, those in remote and mountainous areas, prisoners and people in re-education centers (05-06 centers).
In addition to funding by the Government of Viet Nam, the 2007-2011 development plan activities have been co-financed by the Government of the Netherlands, GFATM, WHO Viet Nam, Life Gap, KNCV, and MCNV.

i. ACKNOWLEDGEMENTS

The international consultants acknowledge the invitation by the Government of Viet Nam to participate in the end-term evaluation of the implementation of the National Tuberculosis Control Program Development Plan 2007-2011. The team would like to express its gratitude to Prof Dinh Ngoc Sy, Manager of National Tuberculosis Program, Dr. Nguyen Viet Nhung, Deputy Manager, and their staff for the support provided during the evaluation, particularly those assigned to translate for the non-Vietnamese speakers and to give context to the points made during the discussions, and to the focal points for the various NTP units.

The team appreciated the opportunity to discuss support to tuberculosis control in Viet Nam with international technical and financial partners, including in alphabetical order, Viet Nam country representatives for: CDC, GFATM, KPMG, PATH, Price Waterhouse Cooper (PwC), Royal Netherlands Embassy (RNE), USAID, and WHO Viet Nam.

The team also met with representatives of many Government of Viet Nam ministries, including Education and Training; Finance; Health; Labor, Invalids and Social Welfare (MOLISA); Planning and Investment; Police; and the Viet Nam Administration on AIDS Control (VAAC), as well as personnel from key organizations such as the Farmers’ Union, Women’s Union and Community Center for Health Development (CCHD).

The evaluation’s success was enhanced by the active participation and collaboration of the provincial and district health authorities in organizing the field visits. The team members greatly acknowledge the support and contributions of health staff at all levels, as well as the discussions with private doctors, peoples’ committees, and patients.

ii. EXECUTIVE SUMMARY

This report synthesizes the findings, conclusions and recommendations of the end term evaluation of the “National Tuberculosis Control Program in Viet Nam for the period 2007-2011”. The evaluation was carried out from November 21 – December 2, 2011 by four international experts and four national experts outside of the Viet Nam National Tuberculosis Control Program (NTP) divided over three teams, each of which was accompanied by NTP staff who provided translation, country context and administrative support.
The evaluation team was asked to assess:

1. the progress and the outcomes of the long term, short term objectives of the development plan for the period 2007-2011
2. the political commitment for TB control at all levels with regard to allocation and coordination of human, financial and other available resources at lower levels
3. the outcomes of implementing the MDRTB activities, identify problems and provide recommendations for the future period
4. The outcomes of TB/HIV activities, by looking at the current level of collaboration between the NTP and VAAC in implementing the TB/HIV strategic framework recommended by WPRO, identify constraints and provide recommendations for the future period
5. The outcomes of implemented activities regarding the strengthening of the health system, financing and human resource development of the 2007-2011 development plan; to identify problems and provide recommendations for the future period
6. And document the sources, nature, level, uses and impact of external technical assistance to the NTP during the period under evaluation and provide recommendations for needs and nature of external technical assistance in the future.

MAJOR OBSERVATIONS AND ACHIEVEMENTS, CHALLENGES AND RECOMMENDATIONS

Overall observations and achievements

1. The NTP was able to mobilize over 90% of the required resources for 2007-2011
2. The NTP has made good progress implementing the parts of the 2007-2011 Development Plan that are in line with the original DOTS strategy of political commitment
3. Through advocacy efforts, tuberculosis remains a priority disease for the Government of Viet Nam, qualifying it for additional resources
4. The Viet Nam Stop TB Partnership, which began in 2010, continues to grow, and includes a wide range of participants, including organizations representing governmental, non-governmental, technical, financial, private, and grassroot sectors
5. There has been continued progress in meeting the NTP Development Plan objectives regarding:
   - TB/HIV collaboration, particularly in testing of TB patients for HIV
   - programmatic management of drug-resistant tuberculosis
   - engagement of all health care providers to adhere to NTP objectives, especially reporting of cases
   - collaboration and coordination with the Ministry of Labor, Invalids and Social Affairs (MOLISA) and Ministry of Police, including development of policy guidelines, establishment of TB units in the 05-06 centers and prisons and active TB case finding
Challenges

1. The NTP’s great reliance on external sources of funding for its activities is in jeopardy. The fact that it is now a low-middle income country will also make it less attractive to international donors, who also have to conserve and re-direct their own diminishing resources.
   - Support from the government of the Netherlands will cease at the end of 2011
   - The Global Fund to Fight AIDS, Tuberculosis and Malaria has recently declared that funds increasingly will be limited, and countries will have to work harder to retain the funds already awarded
   - Government agencies that support TB control efforts, such as the United States Centers for Disease Control and Prevention (CDC) and the United States Agency for International Development have had their budgets cut by 25-30%
   - CDC will decrease and then stop funding for staff financial incentives and move to a technical assistance model

Recommendations:

- **The MOH and partner agencies need to advocate for TB to national politicians (the Party and National Assembly) and local authorities, with the technical assistance of external advocacy experts and organizations**
- **GoV (Ministries of Health, Finance, and Planning and Investment) needs to review long term strategic (through 2020 and 2030) and financial plans to take over funding needs currently supported by external assistance**
- **GoV needs to revise staff remuneration scale to provide living wage to eliminate culture of incentives for work**

2. With the expansion of the original DOTS Strategy to the Stop TB Strategy, the vertical nature of the NTP poses a challenge to engage the ministries, organizations, etc for the cross-cutting issues of MDRTB, TB/HIV and PPM to increase case finding.

Recommendations:

- **To optimize case detection, the NTP needs to continue to increase collaboration with the relevant government ministries and organizations that address the key cross-cutting issues (TB in persons living with HIV, people in prisons and 05-06 centers, the fact that many TB suspects seek care in the private sector or large public hospitals not linked to the NTP, the non-reporting of TB cases even though it is a notifiable disease, etc).**
- **The Viet Nam Stop TB Partnership may serve as a hub of communication and advocacy for partners regarding cross-cutting activities**
3. While 43% of TB patients in Viet Nam are now being screened for HIV and receiving appropriate care, including cotrimoxazole preventive therapy and antiretroviral treatment, (almost all through external funding from U.S. government through Life Gap and PEPFAR funds and the Global Fund), the remaining 57% are not currently covered, leaving them without the benefit of life-saving interventions (NB: there are plans to increase coverage, again through external sources of funds). In addition, these services are project-centered rather than patient-friendly (e.g., regarding ease of access to HIV testing, TB screening, and medical care).

Recommendations:
- **GoV needs to increase the percentage of its budget allocations for TB/HIV activities within its routine budget allocations, particularly as external donor contributions decrease and the payment of incentives will not be continued**
- **Under guidance of Minister of Health, NTP and VAAC should develop a joint action and implementation plan focusing on the needs and convenience of the co-infected individual, rather than the requirements of a project**

4. TB case finding continues to stagnate, partly due to the fact that many individuals are seeking TB diagnosis and treatment outside of the NTP, but are not being reported. The currently used model of having private providers refer persons suspected of TB to the NTP has many limitations and is very labor-intensive.

Recommendations:
- **The NTP should rigorously assess current performance and additionality of its PPM activities to feed into a strategic expansion plan by:**
  - Assessing different initiatives by all partners doing PPM work
  - Assessing types of country locations (urban, size of private sector, number of big hospitals, etc), mapping of providers, locating hidden cases, performing pharmacy surveys, etc
- **Prioritizing effective areas of work that bring true impact**
  - e.g., should big hospitals be targeted over pharmacies and small clinics?
  - e.g. **What is the best of the described models for capturing cases: referral of a TB suspect to the NTP vs diagnosis then referral to the NTP vs diagnosis and treatment by the private provider?**
- **Strengthening supervision and support for PPM activities at the central level of the NTP**

5. The NTP is inundated with technical assistance missions, which disrupts its day-to-day work and ability to plan for the future.
Recommendations:

6. **Starting immediately, the NTP should assume its role as the driver of technical assistance, and develop and implement a plan that outlines its objectives and priority needs**
   - Once the plan is finalized, partners can be invited to discuss and give their input

7. **The NTP should develop an internal mechanism to track the quantity and quality of the TA it receives. This mechanism should include how to determine if recommendations were implemented, and if so, their impact.**
1. OBJECTIVES AND METHODOLOGY OF THE END TERM EVALUATION

1.1 Objectives of the end-term evaluation of the NTP Development Plan 2007-2011

The objectives of the end-term evaluation of the NTP DP 2007-2011 are to assess:

1. the progress and the outcomes of the long term, short-term objectives of the development plan for the period 2007-2011.
2. the political commitment for the TB control at all levels with regard to allocation and coordination of human, financial resources with other available resources at lower levels.
3. the outcomes of implementing the MDR activities, identify problems and provide recommendations for the future period.
4. the outcomes of the TB/HIV activities, by assess the current level of collaboration between the NTP and VAAC in implementing the TB/HIV strategic framework recommended by WPRO, identify constraints and provide recommendations for the future period.
5. the outcomes of implemented activities regarding to the strengthen health system, financing and human resource development of the DP 2007-2001. Identify problems and provide recommendations for the future period.
6. and document the sources, nature, level, uses and impact of external technical assistance to the NTP during the period under evaluation and provide recommendations for needs and nature of external technical assistance in the future.

1.2 Methodology of the Evaluation

Because the above objectives were interrelated with the six objectives of the 2007-2011 Development Plan itself, the team decided to organize its work according to the latter, with the addition of numbers 2 and 6 above, which were specifically requested at the introductory meeting on the first day of the mission. To summarize, the team used the following eight objectives as the basis for the evaluation, using a format of a) Observations and Achievements, b) Challenges and c) Recommendations for each topic.

Objective 1: To ensure provision of high quality DOTS services of health services delivery
Objective 2: Increased access to and use of health services of ethnic minority groups and the poor
Objective 3: To develop and implement Public-Private mix DOTS in urban areas of 12 big provinces
Objective 4: Implementation of framework of HIV/TB collaborative activities
Objective 5: Development and provision of diagnosis and treatment for patients with MDRTB
Objective 6: Increased access to TB diagnosis and treatment for people in penitentiary and re-education institutions (05-06 centers) in 16 provinces

Objective 7: To assess the political commitment for, staffing, funding and management of the NTP

Objective 8: To make recommendations on the role and value of TA

The evaluation was carried out from November 21 – December 2, 2011 by three sub-teams, consisting of four international and four national experts, accompanied by NTP staff for translation and administrative support (Annex 1). The evaluation started with a briefing meeting of the evaluation team, partners and NTP staff. In the afternoon of the first day, the teams departed for their assigned series of visits: Group 1 remained in Hanoi Group 2 went to Quang Ninh, Thai Binh and Thanh Hoa provinces Group 3 went to Ho Chi Minh City (HCMC) and Can Tho provinces

The sub-teams visited districts in six provinces and met with high level representatives of local and international partners of the NTP, as well as staff of the NTP and ministries that interface with it (Annex 2). The people met and reports of the field visits are highlighted in Annexes 3 and 4. In addition to the meetings and visits, the team reviewed key documents. On the afternoon of November 30 and the morning of December 1, 2011, sub-teams sat together to prepare a draft presentation of their findings and recommendations. An overall summary of findings and recommendations was presented and discussed at the debriefing meeting on December 1 (Annex 5). A shortened presentation was shared at a meeting of the Viet Nam Stop TB Partnership on December 2 (Annex 6).
2. NTP DEVELOPMENT PLAN 2007-2011

2.1 Goals and Objectives of the NTP Development Plan

The goals of the NTP Development Plan 2007-2011 are:

1. To reduce tuberculosis mortality, morbidity and transmission and related psycho-social suffering in order to contribute to the comprehensive poverty reduction and growth strategy of Vietnam
2. To prevent development of drug resistance

with the same first six objectives of listed under “1.2 Methodology of the evaluation”. The objectives and the Service Delivery Area (SDAs) under each objective are presented in Annex 7.

2.2 Policy and strategies of the NTP

2.2.1 Policy package for TB control

The following text is taken verbatim from the January 2010 mid-term evaluation of the 2007-2011 Development Plan, as the policy package for TB control has remained the same.

“In order to achieve the targets for TB control in the face of new challenges, the NTP identified the following areas that needed strengthening:

- The capacity of the general public health services to sustain and expand DOTS implementation without compromising the quality of case detection and treatment
- Community involvement in TB care and a patient – centered approach to improve access to care and use of health service
- Collaboration and synergy among the public, private and voluntary sectors to ensure accessible and quality assured TB diagnosis and treatment under the national guidance
- HIV/TB collaborative partnerships and approaches
- Implementation of the DOTS strategy as well as measures to cure existing multi drug-resistant TB

2.2.2 Strategies

- Sustained political commitment to increase human and financial resources and make TB control a nationwide priority integral to the national health system
- Access to quality assured TB sputum microscopy for case detection among persons presenting with or found through screening to have symptoms of TB. Special attention for case detection among HIV infected people and other high risk groups, such as household contacts of infectious cases and people in institutions
• Standardized short course chemotherapy for all cases of TB under proper case management conditions, including direct observation of treatment.
• Uninterrupted supply of quality assured drugs with reliable drug procurement and distribution systems.
• Recording reporting system enabling outcome assessment of all patients and assessment of overall program performance."
3. OVERVIEW OF COUNTRY, HEALTH SYSTEMS AND NTP STRUCTURE

3.1 Country and Health Systems Overview

3.1.1 Demographics

The estimated population of Viet Nam was 85,789,573 in 2009, 49.5% of which were male, with most (70.4%) of the population living in rural areas. Viet Nam has 54 different ethnic groups, with the Kinh representing 87% of the total population. The rest are ethnic minorities scattered all over the country, mostly in mountainous and remote areas. Population migration is an important factor in rural-urban population growth differentials.

3.1.2 Political situation

Viet Nam is a socialist republic and one-party state governed by the Communist Party of Viet Nam. The National Assembly is designated the highest representative body of the people and is the only organ with constitutional and legislative powers. Beyond the central government, the People’s Committees at different levels are responsible for daily administration at the local level. Mass organizations, such as the Women’s Union, Farmers’ Union and Youth Union, exist to serve the interests of the people and to act as a link between the people and the Party. Although the political system is stable, the country’s senior leaders have raised concerns on a number of occasions about the lack of transparency, administrative inefficiency and corruption. Steps have been taken to strengthen open public debate and effective rule of law from the central to local level.

3.1.3 Socioeconomic situation

Vietnamese authorities have moved to implement a free-market economy with socialist orientation, to modernize the economy and to produce more competitive, export-driven industries. This has led to a strong rate of growth in gross domestic product (GDP). In 2000, the GDP per capita was only about US$ 400. By 2009, however, it stood at USD 2,953, representing an increase of 166%.

3.2 Health Situation and Trends in Relation to TB and HIV

3.2.1 HIV / AIDS

Viet Nam essentially managed to keep the growth rate in HIV infections to under 0.3% in the period from 2004 to 2010. The 2011 HIV prevalence rate is estimated to be 0.297% (0.212 – 0.383; all ages).  

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1 Where data are not given specific citation, they are from the CHIPS Country Profile Viet Nam 2011 revision (WHO)
3 From Vietnam HIV/AIDS estimates and projections 2007 – 2012 (EPP)
prevalence of 187 per 100,000 people. VAAC data from 2010 indicates that there were 13,815 new HIV infections, 6,510 new cases of AIDS and 2,556 reported deaths due to HIV/AIDS in 2009, with an estimated 183,938 people living with HIV and 44,022 people living with AIDS. The HIV prevalence rate in adults (from 15 to 49 years old) was 0.45% (0.32-0.58) in 2011. The HIV epidemic remains largely concentrated among key populations at higher risk; there is a high level of HIV prevalence among injecting drug users (17.2%)\(^5\), female sex workers (4.6%)\(^6\), and their partners and men having sex with men (9.4% and 5.3% in Hanoi and HCMC, respectively)\(^7\), while HIV prevalence among pregnant women remains low (0.26%). HIV prevention, care and treatment services are being expanded rapidly. It is estimated by the Ministry of Health that the number of people living with HIV in need of antiretroviral treatment increased from 47,516 in 2007 to 89,269 in 2011.\(^8\) The National Action Plan states that 70% of adults and all children infected with HIV will be eligible to receive ARV by the year 2010.

### 3.2.2 Lifestyle-related health problems

Lifestyle-related health problems are becoming increasingly important, particularly those related to tobacco use, alcohol and drug abuse; injuries due to road accidents or violence; suicide; and mental disorders. However, non-users of tobacco, alcohol and drugs, particularly women and children, may also suffer from external effects like passive or second-hand smoking, domestic violence, traffic accidents and exposure to HIV/AIDS. In 2002, the adult male smoking prevalence rate was 56.0% (compared with 50.0% in 1998). Data from the Global Adult Tobacco Survey, Viet Nam 2010\(^9\) show that this has reduced to 47.4%.

### 3.3 Health System

#### 3.3.1 Organization of health services and delivery systems

The health system is a mixed public-private provider system, in which the public system plays a key role in health care, especially in policy, prevention, research and training. The private sector has grown steadily since the ‘reform’ of the health sector in 1989, but is mainly active in outpatient care; inpatient care is provided essentially through the public sector.

The health care network is organized under state administrative units: central, provincial, district, commune and village levels, with the Ministry of Health at the central level. In the public sector, there are 783 general hospitals, 144 specialized hospitals and 11,636 primary health centers. The establishment of the grassroots health care network (including commune and district levels) as the foundation for health care has yielded many achievements, especially that of contributing towards attainment of national health care goals for the entire population.

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\(^4\) From Vietnam HIV/AIDS estimates and projections 2007 – 2012 (EPP)
\(^5\) From Sentinel surveillance report 2010
\(^6\) From Sentinel surveillance report 2010
\(^7\) From Integrated Biological and Behavioral Surveillance (IBBS) 2006
\(^8\) From Vietnam HIV/AIDS estimates and projections 2007 – 2012 (EPP)
\(^9\) From Global Adult Tobacco Survey Viet Nam 2010,
population. The health stations in communes provide primary health care services, including consultation, outbreak prevention and surveillance, treatment of common diseases, maternal and child health care, family planning, and hygiene and health promotion. In 2009, there were 102 private hospitals, accounting for 8.9% of the total number of hospitals nationwide, with 5,822 beds, accounting for 3.2% of the total number of hospital beds.

3.3.2 Health care financing

Since 2000, the State has continued building and adjusting health financing policies with greater concern for equity, efficiency and development than in the past. The broad orientation of health financing was decided upon in the 1990s through development of a health insurance scheme, the partial-user-fee policy and the Government resolution on “social mobilization” in the areas of education, health and culture. These orientations have created a health financing system that combines partially subsidized state health services with health services that collect user fees from patients. Nevertheless, the partial user fees created some contradictions and have led to inequalities. Therefore, the Government had to pay attention to financial assistance for certain social groups, especially for the poor. Health financing underwent further major changes in the 1990s as the State began to strongly promote decentralization of public finance, which had major implications for the health sector. Total health expenditure in 2009 was 7.2% of GDP, with government expenditure accounting for only 38.5%. Most health finance is used for curative and preventive care (93%-98%): curative care accounts for 75.2% and preventive care for 23.6%, and there is some expenditure on scientific research and training (less than 2%). By 2008, within the sphere of the government system, the number of enrollees in public health insurance was over 37.7 million, accounting for 43.76% of the population, including compulsory insurance, voluntary insurance and insurance for the poor.

3.3.3 Human resources for health

Currently, the number of health workers per bed in general for the whole country is 1.4 (including contract workers). The number of medical doctors on average for the whole country is about 2.6 per 10 beds, while the number of nurses is about 3.0 per 10 beds. The number of doctors per 1,000 population is 0.66, the number of nurses is 0.88, and the number of pharmacists is 0.12 (not including the private sector).

According to data from the Ministry of Health, of all health workers at the provincial level in the whole country, 81.8% are working in curative care and 13.0% in preventive medicine, while those in management account for 4.0%. The number of health staff in public facilities increased from 241,498 in 2003 to 301,980 in 2009. Total staff at the central, provincial, district and communal levels include: 56,661 medical doctors (including PhD and Masters degrees), 10,524 pharmacists (in 2008), 75,891 nurses and 24,998 midwives.

3.4 Structure of the NTP
The Viet Nam NTP is administratively under the Ministry of Health, which in turn is responsible for provincial, district and commune level health services (Annex 8). The NTP provides technical support to the three regions of the country. The National Lung Hospital (NLH) covers 41 provinces (actually 38 provinces and 3 major cities -- Ha Noi, Hai Phong, Da Nang) of the northern and central regions. The two Central TB hospitals (central 71 hospital) in Thanh Hoa and Central TB hospital in Phuc Yen (central 74 hospital) participate with the NTP in supervision of TB activities in 12 of the 41 provinces in the North and Central regions, while Pham Ngoc Thach Hospital (PNT) in Ho Chi Minh City (HCMC) is responsible for 20 provinces and 2 major cities (HCMC, Can Tho) in the southern region. The Viet Nam NTP performs the activities typically associated with a tuberculosis control program, namely diagnosis (including laboratory services), treatment and follow-up of patients; supervision, management and evaluation; recording and reporting of cases; planning (including projecting need and ordering of supplies and medication); training and research; and advocacy, communication and social mobilization.

In 2004, Government Decree 172 rearranged of district health services into three levels: 1) the District General Hospital (DGH), an inpatient facility with responsibility for treatment; 2) the District Preventive Medicine Center ((DPMC); also known as a District Health Center (DHC)), in charge of prevention; and 3) the District Health Bureau ((DHB), also known as a District Health Office (DHO)), responsible for personnel management.

Government Circular 03/2008 reassigned communal health personnel to the DPMC from the DHB, thereby changing the staffing structure for TB at district level. Because of the difficulty in implementation of Government Decree 172 (due to insufficient number of facilities and staff), Circular 03/2008 also clarified that the model of district health facilities could be either a district health center (serving both curative and preventive care – model 1) or have the DGH and the DPMC separated (model 2). It is a provincial decision as to which model is chosen. Health staff in model 1 (combined model) and DGH, DPMC (model 2) receive a salary from the Provincial Health Bureau while health staff at DHB receive a salary from the district peoples’ committee, leading to unstable health staffing if the district people committee’s leaders are not interested in health.

Since TB services moved from the DGH to the DPMC, there has been a loss of seasoned TB clinicians (many of whom remained at the DGH) and a split between where TB cases first entered the health system and where they were later treated. Since some physicians negotiated to stay at the DGH level, there have been some staff shortages at the DPMC level.
4. EPIDEMIOLOGICAL SITUATION OF TUBERCULOSIS IN VIET NAM

4.1 Tuberculosis disease burden

Globally, Viet Nam is among the 22 countries with a high burden of tuberculosis. According to the latest global estimate, the estimated prevalence of all forms of TB is 334 per 100,000 population; the estimated incidence is 199 per 100,000 population; and the estimated TB mortality is 34 per 100,000.

<table>
<thead>
<tr>
<th>Table 1. Key Indicators of TB Burden in Viet Nam, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (thousand)</td>
</tr>
<tr>
<td>TB burden (2010 estimate)</td>
</tr>
<tr>
<td>Incidence (all forms/100 000 population)</td>
</tr>
<tr>
<td>Prevalence (all forms/100 000 population)</td>
</tr>
<tr>
<td>Mortality (deaths/100 000 population)</td>
</tr>
<tr>
<td>Prevalence of HIV in adult incident TB cases (%)</td>
</tr>
<tr>
<td>New multidrug-resistant TB cases (%)</td>
</tr>
<tr>
<td>Previously treated multidrug-resistant TB cases (%)</td>
</tr>
<tr>
<td>Surveyed in 2006</td>
</tr>
</tbody>
</table>

(Global Tuberculosis Control 2011, WHO)

A national TB prevalence survey was conducted in 2006–2007. The prevalence of smear positive and culture positive TB was calculated as 196.8 (confidence interval 149.6–243.9) per 100,000 and 307.2 (confidence interval 248.8–365.6) per 100,000, respectively¹⁰ (Hoa et al, 2010).

4.2 TB case notification trend and geographical distribution

Between 2000 and 2010, the TB case notification rates (Table 2) were in a declining trend for both new smear-positive and all forms of TB. The smear-positive notification rate declined faster than the rate for all forms of TB, being -1.7% per year compared with -0.8% per year, respectively.

<table>
<thead>
<tr>
<th>Table 2: Notified TB Cases and Rate in Viet Nam, 2000-2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>New smear positive</td>
</tr>
<tr>
<td>Exhausted in 2000</td>
</tr>
<tr>
<td>2001</td>
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<tr>
<td>2002</td>
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<td>2003</td>
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<td>2008</td>
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<tr>
<td>2009</td>
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<tr>
<td>2010</td>
</tr>
<tr>
<td>Notification rate (/100 000 pop)</td>
</tr>
<tr>
<td>Exhausted in 2000</td>
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<td>2001</td>
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<td>2002</td>
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<td>2003</td>
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<td>2008</td>
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<td>2010</td>
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<tr>
<td>New and relapse</td>
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<tr>
<td>Exhausted in 2000</td>
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<td>2002</td>
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<td>2008</td>
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<td>2009</td>
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<tr>
<td>2010</td>
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<tr>
<td>Notification rate (/100 000 pop)</td>
</tr>
<tr>
<td>Exhausted in 2000</td>
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<td>2002</td>
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<td>2003</td>
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<td>2007</td>
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<tr>
<td>2008</td>
</tr>
<tr>
<td>2009</td>
</tr>
<tr>
<td>2010</td>
</tr>
</tbody>
</table>

Figure 1: Trend of Case Notification Rates (all forms of TB and smear-positive), 2000–2010

(Data source: Annual WHO report from NTP Viet Nam, 2011)

Figure 2: Number of TB Suspects Tested with Smear Microscopy, 2000-2009

(Data source: Annual WHO report from NTP Viet Nam, 2010)

Whether the declining trend in case notification reflects a true epidemiological trend or is due to reduced case detection effort is an important programmatic question. The above figure represents the number of TB suspect tested for smear microscopy for TB. The number of smear examinations increased between 2003 and 2006 along with the DOTS expansion in the country and has been stable since then. In other words, TB case notification has been steadily declining over the past several years, even though there has not been a parallel decline in case finding efforts during the same time period.

It has been known from the case notification data as well as the prevalence survey that the TB burden is higher in the Southern region compared to the North and Central areas. Figure 3 shows geographical distribution of the TB notification rate in 2008. In general, provinces in the Southern region carry a high TB notification rate especially those provinces around Ho Chi Minh City and the Mekong Delta areas along the Cambodian border. The provinces with a case notification rate of more than 200 per 100,000 are Ho Chi Minh City, Tay Ninh and An Giang. The provinces with a notification rate of less...
than 50 per 100,000 are mostly located in the mountainous area in the North and the Central Highland.

Viet Nam has a concentrated HIV epidemic in which the core risk groups include Injection Drug Users (IDUs) and female sex workers (FSWs). **Figure 4** shows HIV prevalence among these core groups showing distinctive HIV”hot zones” in the Southern and Northern parts of the country.

**Figure 3:** Geographical Distribution of TB Notification Rate, All Forms of TB, 2008

![Map of Vietnam showing TB notification rates](image1)

**Figure 4:** HIV prevalence Among Sentinel Groups, FSW (left) and IDU (right), 2007

![HIV sentinel surveillance data from "Viet Nam Impact Evaluation Report, MACRO, 2009"](image2)

4.3 **TB case notification – distribution by age group and sex**

The age-group specific notification rate showed a typical linear increasing trend of case notification rate with age. However, the age group between 25 and 34 years of age carries a slightly higher rate than expected for both male and female. Another notable finding is a very low notification rate among children (**Figure 5**).
The trend of age-band and sex specific notification rates was examined in Figure 6. While most age groups are showing decreasing trends over the years, the notification rates in two young age groups, 15-24 and 25-34 years, are gradually increasing.

This increased case notification among young adults has raised concern regarding ongoing transmission of TB among some groups of young adults. Several studies tried to address this issue in recent years in different study locations (Buu 2010, Duc 2007, Thanh 2010). The most plausible explanations include internal migration, especially associated with urbanization and, to a somewhat lesser extent, the HIV epidemic among young adults.

(Data source: NTP Viet Nam, 2011)

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The level of TB case detection can be assessed by comparing TB case notification and the corresponding TB prevalence based on prevalence surveys. Figure 7 shows the patient diagnostic rate, originally suggested by Borgdorff\textsuperscript{12} in 2004, applied to the data from the Viet Nam national prevalence survey 2006—2007 (Hoa 2010). According to the figure, the level of case detection appeared to be better among female than male. Younger age groups had higher chance of being detected compare to older groups. Case detection among those between 25-35 years of age was exceptionally high with PDR 0.95. This might support the argument that increased reporting of TB among young adults is related to internal migration because the migration might have caused underestimation in prevalence (i.e., short-term residents were removed from the sampling frame).

Figure 7. Prevalence of Smear-Positive TB, Relative to Case Notification Rate, and Patient Diagnostic Rate (PDR)

5. FINDINGS, ACHIEVEMENTS, CHALLENGES, CONSTRAINTS AND RECOMMENDATIONS

5.1 Objective 1: To ensure provision of high quality DOTS services at all levels of health services delivery

*NB: The observations, challenges and recommendations noted here address the most critical observed practices, rather than all. For a description of the system, the reader is referred to the 2010 mid-term evaluation of the development plan.*

5.1.1 Observations and Achievements

Viet Nam has a strong and mature vertical TB control program with well developed basic DOTS components.

5.1.1.1 Case finding

Case finding is passive; individuals who suspect they have symptoms of TB may go directly to a district TB unit (DTU) or commune level health workers can refer TB suspects to the DTU (of which there are more than 600) where microscopy (and X-ray, if available) is provided and treatment of drug-susceptible TB for adults is initiated (*Table 3*).

Table 3: Number of Smears for TB Case Detection by Region, 2010

<table>
<thead>
<tr>
<th>Province</th>
<th>Total testing cases detected</th>
<th>Percent examined/ population (%)</th>
<th>AFB(+) # of Specimens</th>
<th>AFB(-) # of Specimens</th>
<th># smear (+) cases registered</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 Total</td>
<td>1 2 3 Total</td>
<td></td>
</tr>
<tr>
<td>North</td>
<td>278,536</td>
<td>0.71</td>
<td>2,593 5,188 11,090 18,871</td>
<td>25,659 13,640 220,366 259,665</td>
<td>12,485</td>
</tr>
<tr>
<td>Center</td>
<td>114,896</td>
<td>0.82</td>
<td>1,428 1,903 5,252 8,583</td>
<td>6,082 1,941 98,290 106,313</td>
<td>4,411</td>
</tr>
<tr>
<td>South</td>
<td>308,102</td>
<td>0.90</td>
<td>3,061 4,577 26,150 33,788</td>
<td>7,297 3,072 263,945 274,314</td>
<td>15,898</td>
</tr>
<tr>
<td>Total</td>
<td>701,534</td>
<td>0.80</td>
<td>7,082 11,686 42,492 61,242</td>
<td>39,038 18,653 582,601 640,292</td>
<td>32,794</td>
</tr>
</tbody>
</table>

It is noted that 88% and 94% of suspects had 2 or 3 smears for detection of AFB smear positive and smear negative, respectively. The microscopy centers are quality assured based on a Lot Quality Assurance System (LQAS), introduced in 2008/2009. The DTUs send all slides once per month to the provincial level for LQAS sampling, blinded re-checking. Feedback is systematically provided (*Tables 4 and 5 show the results for similar periods in 2009 and 2011*).
Table 4: Results of Smear Re-checking During First 9 Months by Region, 2009

<table>
<thead>
<tr>
<th>Region</th>
<th>Total # of specimens</th>
<th>Total # of specimens to be checked</th>
<th>Total nr of specimens checked</th>
<th>Major error</th>
<th>Minor error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>North</td>
<td>387,369</td>
<td>42,046</td>
<td>34,650</td>
<td>170</td>
<td>0.49</td>
</tr>
<tr>
<td>Central</td>
<td>237,292</td>
<td>20,254</td>
<td>16,094</td>
<td>100</td>
<td>0.62</td>
</tr>
<tr>
<td>South</td>
<td>591,617</td>
<td>25,914</td>
<td>25,703</td>
<td>102</td>
<td>0.40</td>
</tr>
<tr>
<td>Total</td>
<td>1,216,278</td>
<td>88,214</td>
<td>76,447</td>
<td>372</td>
<td>0.49</td>
</tr>
</tbody>
</table>

Table 5: Results of Smear Re-checking During First 9 Months by Region, 2011

Comparing QA results by region in the periods 2009 and 2011, it is noted that the number of major and minor errors has fallen, an indication that the system is well implemented. Spot checking during the evaluation confirmed this.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Total slides</th>
<th>Slides</th>
<th>N slides</th>
<th>major errors</th>
<th>minor errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>done</td>
<td>need rechecked</td>
<td>rechecked</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>North</td>
<td>491,473</td>
<td>48,550</td>
<td>31,992</td>
<td>108</td>
<td>0.25</td>
</tr>
<tr>
<td>Central</td>
<td>466,395</td>
<td>31,556</td>
<td>24,745</td>
<td>82</td>
<td>0.33</td>
</tr>
<tr>
<td>South</td>
<td>404,458</td>
<td>18,796</td>
<td>18,744</td>
<td>62</td>
<td>0.33</td>
</tr>
<tr>
<td>Total</td>
<td>1,362,326</td>
<td>98,902</td>
<td>86,910</td>
<td>252</td>
<td>0.29</td>
</tr>
</tbody>
</table>

5.1.1.2 Notification:
see chapter on epidemiology
TB cases among PLHIV are separately notified since 2011.
Closed settings: Data from 23 prisons and six 05-06 centers managed as DTU are available from 2010.

5.1.1.3 Treatment
is with the following regimen for new cases:
2S or E(HRZ)/6(HE)
The 6 month regimen with 2(RHZ)E/4(RH) has been piloted in 3 provinces, but has not yet been expanded.
Retreatment cases receive 2S(HRZ)E/1(HRZ)E/5R3H3E3.
DOT is provided in the intensive phase. At most sites, TB patients are provided DOT at communal health stations. Only a few DTUS provide DOT, mostly in the urban areas where patients live close to one. For the continuation phase, patients receive medications for one, two or four weeks (depending on the area) and self administer the drugs. Commune health staff do home visits every two weeks to check the patient card. Commune health center staff are responsible for tracing defaulters (by telephone, home visits). Patients travel to the DTU after the 2nd, 5th, 7/(8)th month of treatment for smear monitoring.
5.1.1.4 **Treatment outcomes**

Treatment outcomes for new AFB-smear positive cases are consistently high (> 90 %) (Table 6).

### Table 6: Treatment Outcome for Retreatment Cases by Subgroup, 2009, 2010, 2011 (9 mo)

<table>
<thead>
<tr>
<th></th>
<th>Success</th>
<th>Died</th>
<th>Failure</th>
<th>Default</th>
<th>TO**</th>
<th>Evaluated</th>
<th>Registered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. relapse ss+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>84.9</td>
<td>5.2</td>
<td>4.3</td>
<td>2.9</td>
<td>2.7</td>
<td>6604</td>
<td>6622</td>
</tr>
<tr>
<td>2010</td>
<td>83.1</td>
<td>4.7</td>
<td>3.7</td>
<td>3</td>
<td>2.5</td>
<td>7483</td>
<td>7503</td>
</tr>
<tr>
<td>2011*</td>
<td>85.6</td>
<td>5.4</td>
<td>4.4</td>
<td>2.7</td>
<td>2.5</td>
<td>5299</td>
<td>5317</td>
</tr>
<tr>
<td>2. failure ss+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>66.9</td>
<td>7.2</td>
<td>17.2</td>
<td>4</td>
<td>4.7</td>
<td>580</td>
<td>583</td>
</tr>
<tr>
<td>2010</td>
<td>61.3</td>
<td>7.6</td>
<td>20.6</td>
<td>5.3</td>
<td>4.3</td>
<td>622</td>
<td>629</td>
</tr>
<tr>
<td>2011*</td>
<td>60.3</td>
<td>5.7</td>
<td>19.3</td>
<td>6.7</td>
<td>8</td>
<td>436</td>
<td>440</td>
</tr>
<tr>
<td>3. retreat ss+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>72.7</td>
<td>6.4</td>
<td>3</td>
<td>14</td>
<td>4</td>
<td>329</td>
<td>329</td>
</tr>
<tr>
<td>2010</td>
<td>72.9</td>
<td>8.2</td>
<td>2</td>
<td>10.1</td>
<td>6.8</td>
<td>355</td>
<td>357</td>
</tr>
<tr>
<td>2011*</td>
<td>68.3</td>
<td>7.9</td>
<td>4.6</td>
<td>12.5</td>
<td>4.9</td>
<td>304</td>
<td>305</td>
</tr>
</tbody>
</table>

*9 months **TO transfer out

As can be expected, treatment outcomes in failure and retreatment cases are significantly less positive than in relapse cases.

Treatment outcome for TB/HIV: national data not yet available

5.1.1.5 **Closed settings (Tables D and E)**

### Table 7: Treatment Outcome New AFB ss+ (2009 cohort)

<table>
<thead>
<tr>
<th></th>
<th>Cured</th>
<th>Completed</th>
<th>died</th>
<th>failure</th>
<th>default</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL %</td>
<td>SL %</td>
<td>SL %</td>
<td>SL %</td>
<td>SL %</td>
<td></td>
</tr>
<tr>
<td>Prisons</td>
<td>610</td>
<td>13</td>
<td>27</td>
<td>23</td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td>05-06</td>
<td>114</td>
<td>2</td>
<td>21</td>
<td>0</td>
<td>8</td>
<td>14</td>
</tr>
</tbody>
</table>

### Table 8: Treatment Outcome Retreatment AFB ss+ (2009 cohort)

<table>
<thead>
<tr>
<th></th>
<th>cured</th>
<th>completed</th>
<th>died</th>
<th>failure</th>
<th>default</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL %</td>
<td>SL %</td>
<td>SL %</td>
<td>SL %</td>
<td>S L %</td>
<td></td>
</tr>
<tr>
<td>Prisons</td>
<td>129</td>
<td>13</td>
<td>3</td>
<td>9</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>05-06</td>
<td>10</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

5.1.1.6 **Practical Approach to Lung Health (PAL)**

PAL was implemented with Netherland funding support in 8 provinces. An evaluation has not taken place yet.

Preliminary results were presented as in the attached figure where PAL initiatives started in Q1 of 2011 (Figure 8).
Under Global Fund Round 9, the Center for Community Health Development (CCHD) is a sub-recipient to implement PAL in the six following provinces: Thanh Hoa, Thai Nguyen, Yen Bai, Khanh Hoa; Lam Dong (mountainous), Dong Nai (industrial). The selection criteria were based on the average population, presence of industry (Dong Nai), and low notification.

In 2011, PAL activities have been implemented in 20 communes (4 districts, 2 provinces). In 2012, PAL activities will be extended to more 2 provinces, 4 districts and 20 communes. The total in Phase 1 will be 4 provinces, 8 districts and 40 communes (4 provinces of Yen Bai, Khanh Hoa, Lam Dong and Dong Nai). Activities so far have consisted of implementation of a baseline survey, production of PAL-related information material targeting community health workers and families and training of community health workers, district level health staff, and families.

The baseline survey revealed the importance of feeding back information to the commune health staff of the outcomes of any referral. This would motivate staff to continue to refer suspects.

5.1.1.7 Drug and supply management

A well established system of quantification of medications and laboratory supplies prevents stockouts in the periphery. Drug storage in the visited facilities was not always adequate (for example, small storage rooms).

See Section 5.7.5 on funding and management for the imminent emergency regarding first line drug procurement.

5.1.1.8 Monitoring and supervision

An electronic TB information system (VITIMES) has been developed and is available at the provincial level in all provinces (aggregated data). An interface to capture data from the private sector and general hospitals has been recently added. KNCV provides technical support for the development of the system.
VITIMES is currently available in all districts of HCMC and 3 other provinces at the district level. It was reported that due to software difficulties, expansion has not been as fast as expected. The team did not evaluate the performance of the system.

5.1.2 Challenges

5.1.2.1 User charges
The team found that user charges exist. All patients receiving streptomycin must buy the water for injections and syringes. Prescribed vitamins are also charged. Sputum tests for TB suspects are charged in some districts, even though the cups and staining material are provided free by the NTP. In addition, Chest X-ray examinations are not included in the package of care.

5.1.2.2 Treatment regimen
The 8-month regimen for new cases is still in use, although the 6-month regimen using rifampicin throughout treatment is known to be more effective based on international clinical trial, and is the regimen recommended by the World Health Organization. The NTP has piloted the 6-month in a number of provinces and is considering the wide application of this regimen based on the evaluation results of the pilot.

5.1.2.3 Childhood TB
The proportion of children (0-14 years) notified under the NTP in the past years (2008-2011) ranged from 0 to 0.1 % against the estimate that 11% of global incident cases occur in children. TB in children is mostly diagnosed and treated at provincial level in pediatric hospitals.
Since the mid-term evaluation, the low detection of childhood TB is attributed to the following challenges: limited diagnostic capacity at the district level, diagnosis and treatment on provincial level (pediatric hospitals) and / or private sector without notification; if culture is underway, patients often are lost to follow-up before the results become available.
The WHO guidelines for TB in children (2006) have been translated and complemented by a more detailed country specific diagnostic pathway in 2008.
Child contact screening is not done routinely. IPT is not provided, but children of index cases are followed-up for 24 months.
Children are treated with the following regimen: 2 (HRZ) E/4RH using adult drug formulations that are broken down according to the child’s weight. There are no pediatric formulations available.
Current dosage recommendations are consistent with WHO 2006 recommendations and therefore different to the more recently revised (2011) dosage recommendations of WHO, but suitable for the currently available FDCs.
5.1.3 Recommendations

- TB diagnosis and treatment should be completely free of charge to the patient.
- The NTP should urgently plan and scale-up use of the 6 month TB treatment regimen, including the use of DOT in the continuation phase for new and retreatment patients because of rifampicin.
- The WHO-recommended case definition of needing only two specimens for examination, and the presence of AFB on at least one slide should be adopted.
- The diagnosis and treatment of TB in children should be decentralized to the district level based on clinical and CXR assessment.
5.2 Objective 2: Increased access to and use of health services of ethnic minority groups and the poor

5.2.1 Observations and Achievements

Among ethnic minority groups (mountainous/remote areas), the 2007 prevalence survey found that the prevalence of smear-positive tuberculosis was significantly lower in remote areas (134.3 per 100 000) as compared with urban (203.2 per 100 000) and rural areas (219.4 per 100 000). (Hoa, N.B. et al., 2010)\textsuperscript{13}

Notification of TB cases (see section on Epidemiology) has been lower in mountainous areas than in rural and urban areas, even though in some remote and mountainous areas, active case finding to increase case detection is done.

The poorest of the poor are two and a half times more likely to have TB

![Figure 9: Prevalence of Active TB Disease by Household Expenditure, 2006-7, Viet Nam](image)

Under the Primary Health Care Expansion (PHCE) project, the consultants were told that during the period under evaluation, the NTP’s activities to reach suspects and patients in remote areas and among the poor were strongly linked to advocacy, communication and social mobilization (ACSM) related activities.

By the end of 2007, over 200 remote districts have been supported by the first phase of the PHCE project, including 50 districts from Global Fund Round 1 funds (30 and 20 districts in 2005-2006 and 2007 respectively). Under Global Fund Round 6, PHCE phase 2 activities were implemented in 300 district turns (30, 70, 100 and 100 districts in 2008, 2009, 2010 and 2011)


\textsuperscript{14} Hoa et al, 2010 Int J Tuberc Lung Dis 15(1):32-37
respectively) in mountainous and remote areas. Activities targeting poor and homeless people have also been implemented in 9 cities. The initiatives established new or continued collaboration with Farmers’ and Women’s Union, the Red Cross Society, district/ward public security, youth volunteers, health workers of commune health centers and community health volunteers. Activities included enhanced communication/health education about TB in the community, training of health staff for increased case finding, and improved case management (by encouraging home visits).

According to the 2009 NTP annual report, 83.5% of the estimated TB cases among the poor were detected and successfully treated. The cure rate and treatment completion rate in the poor and homeless was ~ 80%. The main site for case management was the district TB unit and commune health station (97%). Main challenges identified were lack of mobility (60%) and illiteracy (76%).

5.2.2 Challenges

- People living in remote and mountainous areas may suffer from several challenges related to health care. The difficulty of measuring the impact of ACSM-related activities is well known. The routine recording and reporting system of NTP does not include information about the role and contribution of communities/ACSM related activities in TB control.
- Because the NTP relies mostly on passive case detection, identifying TB cases can be difficult because of the geographical barriers as well as fewer health facilities in these parts of the country.
- Administrative procedures to access the health services that do exist are complicated and take time.
- The indirect costs for accessing health services are very high and even if some poor people have health insurance, they face co-payments of 5-20%, which are unaffordable.
- Many poor people do not want to seek health care in public health sectors.
- The communities suffer from general lack of health information, not just that related to TB. They often do not know about the government’s policy regarding the TB program, such as free treatment.

5.2.3 Recommendations

The NTP is encouraged to monitor health seeking behavior on the treatment card (e.g. in the PAL project) so that health staff can distinguish in their records between people suspected of having TB who are referred by the community/initiative or self-referred. The treatment card could also reflect the choice of community-based support for case management.
5.3 Objective 3: To develop and implement Public-Private (and Public-Public*) mix DOTS in urban areas of 12 big provinces
*(NB: in Viet Nam, PPM is used for both, and signifies “engaging all health care providers”)

5.3.1 Background
According to Infectious Disease Law (03/2007/QH12), TB is a notifiable disease (Class B – intermediate category) and all cases should be reported to the relevant government facilities (i.e. district health center (DHC) or TB hospitals). However, as in many other high burden countries, the diagnosis and treatment of TB is common outside the NTP system, especially in large cities where private sector facilities are abundant. TB drugs, including some second-line ones are often available in private pharmacies with or without a prescription.
In addition to the private health facilities, some of the public general hospitals also diagnose and treat TB patients without reporting their cases to the NTP system. It has been known that TB patients cared for outside the system are often treated with non-standard regimens with drugs of unknown quality. 15 It is also frequent that patients do not complete the whole treatment course. The situation poses significant challenges for prevention and control of drug-resistant TB.

5.3.2 Observations and Achievements
The NTP has initiated and implemented PPM activities since 2004. A national PPM advisory board has been formed and a focal person for PPM has been identified in the NTP. Two zonal and one national workshop have been organized to discuss designs for PPM models. After the pilot implementation in Hai Duong province in 2004, followed by Thanh Hoa and Thai Binh provinces in 2005, PPM activities were expanded to 10 provinces by 2006. Under the National PPM Strategy 2006-2010 and the subsequent strategy for 2010-2015, a total of 15 provinces are implementing PPM, exceeding the target of 12 provinces.
The NTP PPM guidelines, published in 2007, defined four collaboration models: Model 1—referral only, Model 2—diagnosis, Model 3—treatment, and Model 4—diagnosis and treatment. With few exceptions, the majority of PPM facilities opted for Model 1, in which all TB suspects should be referred to public TB facilities (612 Model 1, 3 Model 2 and 5 model 3 facilities were in existence as of 2009).
Beside the regular PPM activities, another prominent initiative embarked upon was the WHO-CIDA (Canadian International Development Agency) project that engages large general public hospitals (Public Public Mix). It has been

known in Viet Nam that some large hospitals (under the MOH and other sectors, such as military hospitals and police hospitals) manage a significant number of TB cases but do not necessarily report all TB cases they diagnose and treat. The project established a system to engage three hospitals (Bac Mai Hospital in Hanoi, Cho Ray Hospital in Ho Chi Minh and Hue General Hospital) and started to enroll patients into the project activities in 2010. **Figure 10** shows the contribution of PPM to TB case detection in terms of the number of cases detected as a result of PPM referrals (bars) and the percentage against the national notification (line). In general, there has been a substantial increase in the contribution of PPM in the last 4 years, with the contribution to the national notification reaching just over 5%. This represents a quite significant proportion considering that the PPM activities have been implemented in only 15 sites out of 63 provinces and cities in the country.

![Figure 10. Contribution of TB cases (All Forms) from PPM Facilities in 15 Provinces, 2008–2011](image)

(Data source: NTP PPM report as of November 2011)

Part of the bars for 2010 and 2011 represents contributions from the three public hospitals under the WHO-CIDA project. Although patient enrolment started only from the last quarter of 2010, the contribution almost equaled the rest of PPM activities, with 2,000 TB cases from the three public hospitals.

### 5.3.3 Challenges

Despite the progress made by PPM, there is great variability in the activity level and performance by province. **Figure 11** displays provinces with PPM activities and the contribution to the provincial notification. The size of the whole pie represents the total TB case load in a province and the slice in pink represents the contribution from PPM. While some PPM sites, including Ho Chi Minh City in South, Da Nang in the Middle Zone and Hai Phong in the North, demonstrate good contribution from PPM, the results are relatively small in others (especially in Ha Noi).
Although the number of cases identified by PPM activities is increasing year by year, assessing its true additionality is a challenge. Figure 12 shows overall notified TB cases between 2001 and 2011 stratified by the cases identified through various intensified case-finding activities since 2008 (WHO-CIDA public hospitals, other PPM activities, cases from 05-06 centers and prisons, and from routine case finding. At least through visual examination of the case notification trend, it is difficult to recognize the additionality of PPM to the case notification as of 2011. There is the possibility that many of the TB cases that were reported through the PPM system would have been detected in any case through the routine NTP system. This might be especially true in provinces/cities where the private sector capacity is low and market size of TB drugs in the private sector is small. In such areas, the majority of TB cases could have been referred to the TB hospital even in the absence of PPM activities. There is a need to conduct a PPM situation analysis that includes a rigorous assessment of the additionality of PPM activities in all 15 provinces.
The recent experience of the public hospital linkage (WHO-CIDA project) calls for rethinking of the PPM strategy in Viet Nam. It is worth thoroughly analyzing and discussing the fact that engaging only three hospitals yielded a significant contribution almost equal to the yield of the rest of PPM activities. Since PPM is so labor intensive, including advocacy and training for a large number of care providers, a careful situation analysis and the strategic targeting of types of care providers is critical. In addition, expanding the collaborative models beyond the Model 1 (referral only model) to Model 2 (diagnosis) and Model 4 (diagnosis and treatment) is most likely to increase the effectiveness of PPM in some settings, e.g. large public and private hospitals.

5.3.4 Recommendations

- The NTP should conduct a rigorous assessment of current performance and additionality of PPM, and use the results to feed into a strategic expansion plan that includes an assessment of different initiatives by all partners doing PPM work.
- The NTP should prioritize effective areas of work that bring true impact; for example, hospital engagement over pharmacies and small clinics, according to a good situational analysis.
- The NTP should consider expansion of PPM models (Model 2 and Model 4) other than the referral only model (Model 1) that is currently predominant.
- The GFATM PPM work plan should be adjusted according to the results of the above assessment and strategic discussions.
The NTP should strengthen supervision and support for PPM activities at the central level.
5.4 Objective 4: Implementation of Framework of TB/HIV collaborative activities

5.4.1 Vietnam’s HIV epidemic

Vietnam’s HIV epidemic continues to be concentrated in certain groups, such as injecting drug users (IDUs) (17.2% in general; 14.1% among IDUs in the community and 20.6% among IDUs in prison – Sentinel surveillance report 2010), men who have sex with men (5.3% in HCMC and 9.4% in Hanoi – IBBS (Integrated Biological and Behavioral Surveillance) 2006) and female sex workers (CSWs) (4.6% in general; 4.4% among CSWs in the community and 7.3% among CSWs in prison – Sentinel surveillance report 2010). On the other hand, antenatal surveys show that 0.26% of pregnant women are HIV-infected (0.19% among rural pregnant females and 0.24% among urban pregnant females), with the trend stable at this low level.

The most common opportunistic infection among persons with HIV is TB, affecting 8.4% (5.3% - 12.0%). The proportion of tested TB patients that are HIV-positive is 8.3% (Global Tuberculosis Control 2011).

The implementation of TB/HIV collaborative activities is shared between the NTP and VAAC. The consultants had great difficulty obtaining baseline information during the visit, as the VAAC representative that we spoke with was not one of the decision makers. Although the consultants, at the suggestion of the VAAC representative, provided written questions to be addressed after the meeting, the answers provided were very cursory. The country WHO staff did not attend a scheduled meeting due to a misunderstanding about the date.

5.4.2 Observations and Achievements

Funding for TB/HIV collaborative activities is almost all from external sources. Between 2007 and 2001, the United States government has provided USD 4.1 million (through Life Gap) and the Global Fund, through Rounds 6 and 9 monies provided USD 5.94 million, while the Government of Vietnam has contributed just USD 74,000.

The Life Gap project is the driving force ensuring testing of TB patients for HIV, with all sites visited having almost 100% HIV testing rates, compared with 43% for the country overall in 2010. The co-infection rate varies from 11% to 25% in Quang Ninh province, 22.2% (District 6) in HCMC, 11.6% in Thai Binh compared with 8% for the rest of the country. Patients in Life Gap are provided cotrimoxazole and antiretroviral treatment. There is no routine use of isoniazid preventive therapy.

In Can Tho, the early detection of TB among persons with HIV and the use of ARVs in co-infected patients has led to a decline in TB-related mortality. Before the start of Life Gap in 2009, the percentage of co-infected patients dying of TB ranged from 25.4% in 2006 to 21.4% in 2008; in 2009, the death rate declined to 13.3%, and in the first three quarters of 2010, dropped to 11.3%.

In Ho Chi Minh City, TB HIV collaborative activities started in 2006. Almost 100% of the TB patients are tested for HIV. TB screening for PLH has been carried out since 2008. The collaboration between the two units was said to be good. In terms of medication, there has been no stock out of ARVs or
medication for OIs. Ordering of ARVs is done once a month, with an additional 10% added to cover patients who will be diagnosed in the near future.

5.4.3 Challenges

Although the percent of TB patients with known HIV status has gone from almost 0% in 2006 to 43% in 2010, there is no information for the remaining 57% (NB: assuming that Viet Nam will be able to adhere to the requirements of the Global Fund, which were in flux at the time of this report, it is planned that 50% will be covered by Round 9 2015). Similarly, although the use of ART in co-infected patients has increased dramatically from ~5% in 2006 to 43% in 2010, the remaining eligible patients are not on this life-saving measure.

In HCMC at least, Life Gap is project-, rather than patient-centered, in its approach. Persons in the HIV outpatient center, once screened for TB, have their sputum samples sent-off site. Rapid HIV tests are not done at the point of patient care, but are sent to another facility, with results taking one week. Patients who are co-infected receive their TB and HIV care in two sites 500 meters apart. There is a separate book to record HIV results on TB patients that seems to be in place for the ease of project data collection, when exactly the same information is in the TB register.

Staff are paid incentives for participating in the activities of Life Gap, and there is concern that results will deteriorate when funds are withdrawn, as has been done in Quang Ninh province, where 10 of 14 districts were supported originally, but which has now been reduced to the provincial TB hospital and Cam Pha district, areas where TBHIV cases tend to be concentrated. CDC notes that it currently supports several thousand staff with incentives. However, both it and the Global Fund have signalled their intention to reduce, and then eliminate, staff incentives as part of their portfolios.

5.4.4 Recommendations

- The Government of Viet Nam needs to urgently increase the allocations for TBHIV activities within its routine budget, which must cover both Life Gap sites and the rest of the country that does not have the advantage of this funding source. This is crucial given CDC’s and the Global Fund’s plans to no longer provide staff incentives.
- Under the guidance of the Minister of Health, the NTP and VAAC should develop a joint action and implementation plan that provides a patient-centered approach, focusing on the needs and convenience of the co-infected individual, rather than a project-based model.
5.5 Objective 5: Development and provision of diagnosis and treatment for patients with MDRTB

5.5.1 Observations and Achievements

The components necessary for PMDT (programmatic approach for the management of MDRTB), for which preparation began in 2007, are in place in HCMC and Can Tho, which comprise two of the six PMDT treatment units in the country.

The laboratory in Pham Ngoc Thach Hospital in HCMC is able to do first (FLD)- and second-line drug (SLD) susceptibility testing via Lowenstein-Jensen culture and liquid (MGIT) system; the Hain test is used routinely for determination of isoniazid and rifampicin resistance and external quality assurance is controlled for both FLD and SLD (fluoroquinolone and kanamycin) by the supranational reference laboratory in Adelaide, Australia.

Laboratory staff have been trained on MDRTB standard operating procedures and biosafety. The laboratory has not yet undergone a risk assessment for a fit-for-purpose upgrade of selected biosafety features; funding of this is still to be identified (NB: this assessment has been done at the National Reference Laboratory in Ha Noi).

Infection control has been addressed by Pham Ngoc Thach (PNT) Hospital to include administrative, environmental and personal protection controls. The infection control steering committee meets quarterly. An infection control officer is assigned to each hospital ward, and staff have been trained on infection control and MDRTB measures. A separate elevator is used for the patients who come to the ward; environmental controls include ventilation from appropriately-placed fans and mechanical ventilation in the bathrooms to move air outside of the ward. Infection control activities (training, infrastructure improvement, active surveillance and planning) have been performed in DTU's. Personal protective equipment (PPE, N 95 respirators) is available for health care workers and lab staff.

MDRTB treatment is monitored by a 5 member steering committee as well as PNT Hospital's 11 member Central Treatment Council, which consists of PNT’s physicians, laboratorians, the head nurse, a counselor, a representative of the NTP, a pharmacist and a psycho-social counselor. The treatment regimens that were used for the pilot cohort were:

Cat IVa : 6 months of pyrazinamide (Z), ethambutol (E), kanamycin (Km), levofloxacin (Lfx), prothionamide (Pro), cycloserine (Cs) (PAS) / followed by 12 months of Z, E, Lfx, Pro, CS (PAS)

Cat IVb: 6 months of Z, E, capreomycin (Cm), Lfx, Pro, Cs, (PAS) / followed by 12 months of Z, E, Lfx, Pro, Cs, (PAS)

Other: 18 months of Z, E, Lfx, Cs, and PAS -(pregnant )

(NB: Per the NTP, the regimen has been modified. The duration is 19-24 months depending on the time of culture conversion, and PAS is included with cycloserine in Category IVb)
PNT hospital initiated PMDT in Vietnam, with a first cohort of 101 patients in 2009. Of these patients, 7 pts are HIV-positive, of which 5 are under combined MDR - TB / ARV treatment.

Patients are supported by DOT workers located at the DTU; patients visit the DTU daily throughout the therapy, mostly in the morning before normal working hours. Prothionamide and cycloserine are split into two daily dosages, the afternoon dose is self-administered or monitored by a family member who serves as the de facto DOT worker, at least in HCMC.

When side effects occur, patients are either managed at DTU or referred to PNT; only side effect treatment at the hospital is free-of-charge.

The recording and reporting system, which is done using Excel, captures relevant data (described below).

Drug procurement and storage: the NTP provides SLDs for PNT Hospital. When the patient is discharged from PNT Hospital, it provides the SLDs for the DTU; subsequently drug procurement follows the NTP system for procurement of FLD (quarterly pull system based on notification plus buffer minus stock on hand). Drug storage is in a climatized warehouse separate from FLD; in the districts, drug storage is together with FLD. PAS is in refrigerator.

The preliminary evaluation of the initial cohort of 101 patients at PNT Hospital, recruited from September 9 – December 14, 2009, shows the following results: 22.8% of the patients are in the 25-34 year age group, 34.7% are in the 35-44 year age group, and 25.7% are in the 45-54 year age group; 76% are male. Preliminary treatment outcome results are as follows (Table 9).

**Table 9: Primary Treatment Outcome Results of the First Cohort of 101 MDRTB Patients**

<table>
<thead>
<tr>
<th>Completed Treatment</th>
<th>Died</th>
<th>Defaulted</th>
<th>On Treatment</th>
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<tr>
<td>N</td>
<td>80</td>
<td>6</td>
<td>11</td>
<td>101</td>
</tr>
<tr>
<td>%</td>
<td>79.2</td>
<td>5.9</td>
<td>10.9</td>
<td>100</td>
</tr>
</tbody>
</table>

Since this initial cohort, an additional 357 patients have been diagnosed with MDRTB up through August 31, 2011. The age distribution is similar to the original cohort, with 73% being between 25 – 54 years of age. Of the 357 patients, 31% are not being treated: 28% due to lack of in-patient beds at PNT Hospital to initiate treatment, 21% refusing treatment, 19% lost, 7% died, 7% being treated in the private sector and 18% for other undisclosed reasons. Case finding in PMDT project at PNT:

MDRTB cases diagnosed by Hain were as follows (Table 10).
Case finding outside PMDT:
The laboratory at PNT had the following workload in 2010
Of 2,181 *M. tuberculosis* isolates subjected to first- & second-line DST in 2010, 1,195 (54.8%) were multidrug-resistant (MDR); 45 were extensively drug-resistant (XDR) (from Lumb/Bastian SRL mission report August 2011). It is not known how many of these confirmed MDR-TB patients are on treatment. Can Tho began implementation of PMDT in December 2010. There are approximately 200 MDR-TB suspects per year. Of the 134 MDR suspects evaluated by the Hain since Dec 2010, 42 were confirmed to have MDRTB. The Can Tho Provincial Lung Hospital has currently 49 MDR-TB patients under treatment, with 5 confirmed additional patients to be on the waiting list. There are 3 non GLC patients from outside the province (with once a month follow-up and on the same regimen as the GLC-sponsored patients, with drugs from national sources and paid by the patient. However, they have not yet been reported to the NTP.
Nation-wide and in currently six sites, by 30.10.2011, a total of 696 MDRTB patients have been cumulatively enrolled for treatment under PMDT. Based on the burden of disease and geographical distribution, it is planned to reach 10 PMDT sites by 2012 and 13 sites by 2015 to cover the whole country. Hospitalization time of MDRTB patients has been reduced from 2 months to 2 weeks, and there is the desire to have MDRTB treatment be completely ambulatory.

### 5.5.2 Challenges

- Further expansion of MDRTB activities will need to consider additional costs associated with diagnosis and follow-up of MDRTB patients from adjacent provinces, as has been seen in Can Tho. For example, this will include ensuring the availability of treatment including side effect management as the cohort grows, how to transport patients and specimens, and how to manage data management between provinces.
- A substantial number of confirmed MDRTB patients are not treated under programmatic conditions.
- There is no protocol for treatment of XDR patients
- Patients with MDRTB are also treated in the private sector, outside of the framework of PMDT, which may lead to inappropriate treatment, lack of comprehensive monitoring, recording and reporting of all cases, and continued spread of MDRTB if infection control measures are not in place in these settings.
• There is a waiting list of confirmed MDRTB patients, which is said to be because of limited bed capacity, but from other interviews it is also linked to the lack of second-line drugs for all patients who need them. Part of this lack is due to the lengthy procurement cycle (approximately 8 months) for second-line drugs.

• Both clinical and drug data management is increasingly complex due to the growing number of MDRTB patients. This affects both having real-time patient information, accurate SLD forecasting and quantification to ultimately have enough second-line medications for those in need.

• At the Thai Binh TB and Lung Hospital, it appeared that MDRTB planning was being done outside of the national MDRTB expansion plan. The consultants observed that a new building was being constructed, which was to host a new TB laboratory (with a newly procured liquid culture (MGIT) machine) and MDR-TB ward. This expansion was supported by a MOH scheme for health facility development at provincial and district levels.

5.5.3 Recommendations

• Although the MDRTB activities have been successful to date, there is an urgent need to review the plan and budget needed for expansion. This includes coordinating and aligning other sources of government planning and funding that currently allow for MDRTB infrastructure development outside of the national expansion plan.

• There is an urgent need to include non-PMDT/GLC treated patients into the recording and reporting and evaluation system

• Develop a strategy for treatment and care of XDR patients.

• Since the number of cases will continue to increase, the plan to use a computerized patient data and drug management system, such as e-TB manager should be implemented as quickly as possible.

• The Government of Vietnam (GoV) needs to improve the parts of the procurement cycle it controls and work with key stakeholders (such as GFATM, the regional Green Light Committee (GLC) in WPRO, and the TB Global Drug Facility (GDF)) to shorten as much as possible the time between ordering of medications, their receipt and distribution.

• Consideration should be given to the introduction of a completely ambulatory model of MDRTB care for those who do not need to be hospitalized.
5.6 Objective 6: Increased access to TB diagnosis and treatment for people in penitentiary and re-education institutions (05-06 centers) in 16 provinces

5.6.1 Background

Prisons
The prison system of Viet Nam is under the jurisdiction of the Department of Prison Management, Ministry of Police (also translated as Ministry of Public Security). According to a publicly available source (International Center for Prison Studies, 2011), the 2010-mid-year prison population of Viet Nam was 108,557 (excluding pre-trial detainees), of which 11.6% were women. The corresponding prison population rate was calculated as 122 per 100,000 population. It is important to note that the trend of the prison population rate has been increasing, from 58.9 in 1996 up to more than 100 per 100,000 population in the last several years.

According to the data from the active case finding sessions in 2007, the TB prevalence among the prisoners was 1.5% for smear-positive and 2.5% for culture-positive TB, which can be translated to an approximately 7 to 10-fold higher prevalence compared with the general population. The collaboration between the prison system and the NTP for TB control is long-standing. Apparently some provincial TB hospitals also have a historical collaboration with prisons at the local level. In 1998, a collaborative agreement (MOU) was established and the National Guidelines on TB control in prisons were published by the NTP in 2007. For TB case notification, prisons usually report directly to the provincial TB program as an independent reporting unit.

05-06 Centers
The Ministry of Labor, Invalids and Social Welfare (MOLISA) manages more than 120 05-06 centers across the country. These facilities are correctional (rehabilitation) facilities for sex workers and people with drug addiction. Approximately 70 centers are for the treatment of drug users and the total number of clients is around 65,000. The vast majority of drug users are injecting drug users (IDUs), with a high HIV prevalence (around 20%) relative to the general population. TB prevalence among clients of 05-06 centers was somewhat lower than prisoners according to the active case finding (ACF) activities in 2007. Smear-positive prevalence was 0.4% and culture-positive prevalence was 1.2%. These figures were about 2 to 4 times higher than the prevalence among the general population. As expected, HIV prevalence among TB patients was as high as 40%. There have been various good collaborations between MOLISA and MOH, particularly with VAAC (HIV program) and the NTP providing services for HIV and TB patients.

With regard to TB case notification, the majority of 05-06 centers are reporting to district health centers in the area they are located.
5.6.2 Observations and Achievements

Prisons
The number of TB units in prisons expanded from 24 in 2007 to 35 in 2011. Training on TB management for prison health staff has been conducted and health education activities for inmates are regularly conducted. Some diagnostic equipment, including X-ray machines, was installed and upgraded with support from the NTP and other Ministry of Health resources. The functions of the TB units in prisons are comparable to TB services in district health centers, including microscopic diagnosis, registration and provision of drugs. All other prison units have similar functions as commune health stations, such as suspect identification, sputum collection and referral (to the nearest district health center) and treatment under DOT. Periodic ACF is the strongest component of the TB control activity in prisons in Viet Nam. At policy level, bi-annual ACF has been recommended for all prison inmates using X-ray screening. Some facilities also use TB culture. The operational cost and supplies are supported by the NTP (through the Global Fund) and also by local resources, especially from the provincial government. According to the data available at the NTP, 13,332 prisoners were screened in 2007-08 (which yielded 2.5% TB cases as mentioned above) but the latest information was not available specifically for ACF. The TB notification from the prison system is around 1,300 annually which account for approximately 1.5% of the national notification (Table 11).

Table 11: TB Notification from Prisons and 05-06 Centers

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011 (3Qs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National TB notification (all forms)</td>
<td>95,036</td>
<td>94,867</td>
<td>98,338</td>
</tr>
<tr>
<td>TB cases from prisons (all forms)</td>
<td>1,389</td>
<td>1,300</td>
<td>884</td>
</tr>
<tr>
<td>Contribution (%)</td>
<td>1.5%</td>
<td>1.4%</td>
<td>1.2%</td>
</tr>
<tr>
<td>TB cases from 05-06 centers (all forms)</td>
<td>282</td>
<td>942</td>
<td>451</td>
</tr>
<tr>
<td>Contribution (%)</td>
<td>0.3%</td>
<td>1.0%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

(Data Source: NTP, 2011)

05-06 Centers
In collaboration with the NTP, 26 TB units were established at the centers: 22 in South and 4 in the North. These TB units are equivalent to the provincial/district TB services in the NTP and the rest of the 05-06 centers function as commune health stations (similar to the prison system). Through financial and technical supports from the NTP, Global Fund, PEPFAR and other technical partners, staff of the centers were trained on TB and HIV, health education and counseling skills. Also training was provided to clients for peer education activities. ARVs and HIV tests are provided by the VAAC (mostly PEPFAR and Global Fund for ARVs and MOH funds for test kits).

Similar to the prison system, twice yearly ACF sessions have been included in the policy. In fact, it was said that the majority of cases from 05-06 centers
were detected through ACF sessions. The total number of TB cases reported from the centers has been around 200 to 1,000 annually.

5.6.3 Challenges

- In general, TB case detection in closed facilities should be through (a) Entry screening, (b) Periodic ACF, and (c) Routine passive case finding within the facilities. Apparently, the majority of TB cases currently detected in the prison system / 05-06 centers in Viet Nam are from the periodic ACF sessions. There are entry medical examinations in both prisons and 05-06 centers. However, as they are not intended for TB case finding, neither an X-ray nor a TB screening questionnaire is used for evaluation. Therefore, the sensitivity of the process for TB case detection is obviously low. In addition, the TB diagnostic capacity seems still limited in routine health services within the facilities.
- Ensuring adherence to the TB treatment (especially in 05-06 centers) is a huge challenge because many cases might be released during the treatment and are difficult to trace.
- While the availability of TB case notification data from both prisons and 05-06 centers is a great achievement, some critical information is still missing to assess TB situation in the facilities. It includes inmate population, a number of new entry and release, the date of incarceration, etc.

Figure 13: TB Case Notification Rates from Prisons, Compared to National Case Notification, 2009-2010

(Data source: NTP Report 2011 and prison population from International Center for Prison Studies, 2011)

- Related to the above point, it is not clear yet whether the increased commitment to, and the effort of TB control, are actually contributing to the reduction of TB burden in the facilities. For example, Figure 13 shows TB case notification rates calculated from the NTP data and prison population from elsewhere (International Center for Prison Studies, 2011). The notification rate from prisons was up to 12 times
higher than the national notification rate. Despite massive ACF sessions being conducted with X-ray, the proportion of cases with smear-positive disease is still high. This may imply ongoing transmission within the facilities. As the NTP cannot obtain accurate prison population data disaggregated by facility, it is difficult to assess what the epidemiological and programmatic situation is in each facility. Obtaining these critical pieces of information will greatly help improve TB control in the prison system.

5.6.4 Recommendations

• To improve the performance and evaluate the impact of TB control activities in prisons, the TB reporting system should be strengthened by:
  o Determining TB cases by several case detection methods: entry screening, periodic ACF, and through the routine health system
  o Obtaining denominators for: inmate population, number of entries and release during the reporting period
  o Obtaining data from ACF sessions: number targeted, number screened with X-ray, number with abnormal radiography findings, number tested for microscopy and culture, prevalence of TB by type

• Strengthen facility entry screening (through the use of TB screening questionnaire, CXR where feasible)

• Strengthen routine TB case detection within facilities

• Assess infection control and advocate for improving living conditions accordingly

• Establish an effective follow-up mechanism for TB patients after release from the prison or 05-06 facilities
5.7 Objective 7: To assess the political commit for, staffing, funding and management of the NTP

A. NTP management

5.7.1 Observations and Achievements

This introduction is from the mid-term evaluation report, which is copied here in italics, as no changes were found for this evaluation.

Figure 14: Organigram of NTP Management of Viet Nam

(Figure 14 modified from NTP opening presentation to consultants, November 21, 2011)

At the national level the NTP Management Board resorts under the “Objective Program of National Public Health for Dangerous Epidemic Diseases and HIV/AIDS Prevention and Control” and the Secretariat Board under the NTP Management Board. Under the Secretariat Board there are five technical groups: M&E/HMIS, ACSM, Supply & Distribution, Network Development and Training & Research and a Financial Group. In addition, there are the following technical ad hoc groups: PMDT, TB/HIV, PAL and TB in children.

The management Board meets quarterly and the Secretariat Board monthly. Every six months the NTP has a meeting with the provincial coordinators.
End-term evaluation of the Viet Nam Development Plan 2007-2011

Staffing of the national groups:
- M&E/HMIS: 9 staff
- ACSM: 3 staff
- Supply and Distribution: 4 staff
- Network Development: 3 staff (1 for prisons and 05-06 centers, 1 for PPM and 1 for remote areas)
- Training and Research: 2 staff
- MDR-TB: 9 staff
- TB/HIV: 7 staff
- PAL: 6 staff
- TB in children: 7 staff

For all groups the functions and the job descriptions of the staff have been formulated in 2008. Part of the staff is member of more than one group. Based on their knowledge of the technical and operational requirements for planning and implementation of the components of the Stop TB strategy and their experience in several high burden TB countries, the consultants considered the staffing of the NTP adequate.

Salaries paid by the government are low – e.g., the head of a technical group in the NTP who is a physician with an MPH earns USD 200 / month. There is impressive disparity when compared with positions outside the NTP: a young professional with a university degree and employed full-time under the Global Fund receives USD 1,000/month, a part-time technical advisor will receive 500 USD/month. Low government salaries are topped up by incentives for high risk working areas such as TB and HIV services. The team was informed that the current 35 % top-up has been raised recently to reach up to 70 % of the salary (approved by the National Assembly).

5.7.1.1 Provincial and district level

Staffing at provincial and district level shows regional disparities. Table 12 below shows the staffing situation by staff category in the South. It should be noted that many have responsibilities other than TB, and according to the NTP, there is a high rate of staff turnover, which affects TB control activities. Staff shortages seem to be more of a concern in the Central and Northern parts of the country. A health official from Da Nang was quoted as saying: “we have not been able to recruit any TB doctor in the past 10 years”.

In addition, collaboration mechanisms among the three facilities at district levels (DGH, DPMC/DHC and DHB) of the district health system are not optimal, which weakens TB control.
Table 12: Staffing at Provincial and District Levels, Southern Viet Nam, 2011

Personnel

<table>
<thead>
<tr>
<th>Province</th>
<th>Doctors</th>
<th>Ass. Doctors</th>
<th>Pharm</th>
<th>Nurses</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>182</td>
<td>354</td>
<td>62</td>
<td>45</td>
<td>160</td>
<td>803</td>
</tr>
<tr>
<td>2008</td>
<td>185</td>
<td>391</td>
<td>69</td>
<td>65</td>
<td>189</td>
<td>899</td>
</tr>
<tr>
<td>2009</td>
<td>187</td>
<td>417</td>
<td>74</td>
<td>69</td>
<td>201</td>
<td>948</td>
</tr>
<tr>
<td>2010</td>
<td>183</td>
<td>418</td>
<td>82</td>
<td>69</td>
<td>202</td>
<td>954</td>
</tr>
<tr>
<td>2011</td>
<td>207</td>
<td>481</td>
<td>94</td>
<td>67</td>
<td>158</td>
<td>1007</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Province</th>
<th>Doctors</th>
<th>Ass. Doctors</th>
<th>Pharm</th>
<th>Nurses</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>105</td>
<td>532</td>
<td>137</td>
<td>130</td>
<td>69</td>
<td>973</td>
</tr>
<tr>
<td>2008</td>
<td>112</td>
<td>506</td>
<td>146</td>
<td>141</td>
<td>57</td>
<td>962</td>
</tr>
<tr>
<td>2009</td>
<td>113</td>
<td>534</td>
<td>147</td>
<td>110</td>
<td>77</td>
<td>981</td>
</tr>
<tr>
<td>2010</td>
<td>118</td>
<td>529</td>
<td>137</td>
<td>103</td>
<td>31</td>
<td>918</td>
</tr>
<tr>
<td>2011</td>
<td>129</td>
<td>578</td>
<td>131</td>
<td>109</td>
<td>42</td>
<td>989</td>
</tr>
</tbody>
</table>

(data from “Tuberculosis Control Activities in South Provinces, 2007-2011, Dr. Dang Minh Sang, Pham Ngoc Thach Hospital, November 22, 2011)

5.7.1.2 Capacity building

During 2010/2011, an impressive number of training courses was organized by national level, both under the initiative of the training department and under the various technical areas. Funding for trainings organized by the training department came from the government allocation, the Netherlands grant, and the Global Fund. A list is provided in Annex 4, under the section on NTP Training and Research. Central level staff are involved as trainers. Topics covered included: TB planning, TB control, NTP management, procurement, laboratory services, smear microscopy, EQA for smear microscopy, information, education and communication (IEC), Health Education, Monitoring and Evaluation (M and E), PMDT and clinical management, second line drug management, Infection Control, and Practical Approach to Lung Health (PAL). Some of the trainings are standardized, including pre- and post-tests to assess progress. Almost all trainings use photocopied power point presentations as training material. They are not targeted to specific staff categories (managers, clinicians, nurses) or by level.

5.7.1.3 Operational research (OR)

OR priorities are determined by the NTP management board. Call for proposals are published (NTP website). So far, only NTP central level implements research projects, provinces or academic institutions have not been involved. The list of OR planned and undertaken in 2010 and 2011 can be found in Annex 4, under the section on NTP Training and Research. Some OR questions were studied in collaboration with KNCV (technical assistance) and manuscripts were jointly published.
5.7.2 Challenges

- The implementation of TB control activities in Viet Nam, particularly at provincial and district levels, is hampered by human resource constraints, including sheer lack of staff, staff who are able to devote only a portion of their time to TB, and staff turnover.
- Staff are obliged to increase low salaries by incentives - e.g. working in projects, doing research, facilitating trainings. Some of the clinicians among them work in the private sector after normal working hours. This can make staff less able to concentrate on routine and managerial tasks.
- Planning and implementation of training in some areas does not follow a systematic task-based curriculum development taking into consideration adult learning needs and is still concentrated at the national level, rather than being decentralized.

5.7.3 Recommendations

- GoV needs to revise the staff remuneration scale to provide a living wage to eliminate the prevailing culture of incentives to perform work
- In addition to an adequate salary, use of non-monetary incentives can be considered that includes, where appropriate, a mechanism to “pay back” through additional years of service. These include upgrading of technical skills, opportunities to obtain an advanced degree, being recognized as an expert in a particular aspect of TB control, making presentations at national and international meetings, being recommended for national and international advisory bodies, etc
- There should be improved mechanisms for collaboration among the district health facilities (DH, DPMC/DHC and DB) so that the implementation and performance of TB activities is maximized
- Perform and publish OR beyond the national NTP level so that provinces and academic institutions can contribute to the country’s knowledge base
- “decentralize” training capacity to provincial level
- The training department should be involved in trainings of the technical and ad-hoc units and apply curriculum development standards based on task analysis (as outlined in the following document: Task analysis: The basis for development of training in management of tuberculosis WHO/HTM/TB/2005.354)

B. Commitment and funding

5.7.4 Observations and Achievements

Tuberculosis remains a GoV priority health program that receives high political attention (leadership) and additional funding. A significant event was the establishment of the Viet Nam STOP TB Partnership (VSTP) in 2010. The partnership aims to collaborate with other partners to implement activities of the national TB plan more effectively. The VSTP’s secretariat is working on increasing visibility of efforts by partners, establishing a partners’ directory, creating opportunities to network, identifying more resources, both in-kind (human, technical) and financial. By 2011, the VSTP had members coming from the Government of Viet Nam (Ministry of Health, Ministry of Public Security, Ministry of Labour and Social Affairs Central Party Committee),
Women's Union, Youth Union, Farmers' Union, Viet Nam TB Control Association, Private Medical Association, Red Cross, Center for Community Health Development) and international partners (US-CDC, USAID, WHO, Family Health International, PATH, Woolcock Research Institute University of Sydney) and private businesses.

The NTP was successful in mobilizing almost all needed resources to implement the 2007-2011 development plan (planned: USD 54.000.000, received: USD 51.000.000). In the period under evaluation, the annual Government contribution amounted to approximately one third of the budget. Government funding is used for first line drugs, (see Figure 15 below), training, supervision and staff incentives. Global Fund addresses MDR-TB, TB/HIV, TB in prisons, ACSM, PAL.

**Figure 15: NTP Funding by Source in USD, 2007 - 2011**

<table>
<thead>
<tr>
<th>Source</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>2,426,201</td>
<td>2,423,825</td>
<td>4,308,242</td>
<td>2,706,769</td>
<td>3,566,132</td>
</tr>
<tr>
<td>Royal Netherlands Embassy</td>
<td>0</td>
<td>5,021,103</td>
<td>4,175,280</td>
<td>1,271,897</td>
<td>85,003</td>
</tr>
<tr>
<td>Global Fund (Rounds 1,6,9)</td>
<td>2,421,188</td>
<td>2,312,615</td>
<td>3,332,387</td>
<td>4,018,737</td>
<td>10,699,735</td>
</tr>
<tr>
<td>others</td>
<td>357,559</td>
<td>408,061</td>
<td>552,686</td>
<td>488,075</td>
<td>544,229</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>5,204,948</td>
<td>10,165,604</td>
<td>12,368,595</td>
<td>8,485,478</td>
<td>14,895,099</td>
</tr>
</tbody>
</table>

In addition to central government funding, the provinces contribute to TB control. The Table 13 shows data from Can Tho.
Table 13: Resources for TB control in 1,000 VND and USD, Can Tho, 2008-2011

<table>
<thead>
<tr>
<th>Source</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>406,000</td>
<td>111,000</td>
<td>601,000</td>
<td>621,000</td>
</tr>
<tr>
<td>Province</td>
<td></td>
<td></td>
<td>1,400,000</td>
<td>1,400,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>287,341</td>
<td>694,719</td>
<td>55,050</td>
<td>132,950</td>
</tr>
<tr>
<td>Global Fund</td>
<td>129,050</td>
<td>181,710</td>
<td>314,080</td>
<td>1,229,400</td>
</tr>
<tr>
<td>Grand TOTAL (VND)</td>
<td>822,391</td>
<td>987,429</td>
<td>2,370,130</td>
<td>3,383,350</td>
</tr>
<tr>
<td>Grand Total (USD)</td>
<td>39,160</td>
<td>47,000</td>
<td>113,000</td>
<td>161,111</td>
</tr>
</tbody>
</table>

All STOP TB components – PMDT, TB/HIV, PPM, ACSM, TB in high risk populations completely depend on external funding with a high degree of uncertainty in terms of sustainability.

5.7.5 Challenges

- Viet Nam is now a low middle income country, which will lead to decreasing donor interest and contributions
- GFATM (rounds 6 and 9), which contributes 72% of the NTP central budget in 2011, is in a difficult financial crisis: GFATM will decrease, then stop, staff incentives and will urge countries to re-program any unspent funding AND demand savings
- The Netherlands government support will cease at the end of 2011
- USAID and CDC budgets have been cut by 25-30% with CDC to stop service support (incentives) and move to a technical assistance model
- Allocated funds are not used on time due to bureaucratic inefficiencies

**EMERGENCY**

Danger of Stockout for First-Line Drugs (FLD) in 2012

- The annual MoH allocation for anti-TB drugs only covers 8 months of need
- There is no MoH allocation for buffer stock; 2011 saw a stockout of (RH)
- The buffer stock that was purchased with Netherland funds in 2009 is continuously depleted in the absence of increased MoH allocation
- The buffer stock will be used up in 2012
- Danger of stock out for first-line drugs in 2012

Addendum January 2012: see the end of this chapter

5.7.6 Recommendations

- GoV needs to continue to mobilize funding from national and provincial sources
- Given that international donors have already and will decrease financial support, as well as changing their model of providing it, the GoV needs to
revise the staff remuneration scale to provide a living wage to eliminate the prevailing culture of incentives to perform work

- GoV needs to urgently increase in 2012 the MoH allocation for first line drugs
- GoV should consider to apply for a grant from international sources such as the GDF (Global Drug Facility);
  - the country could benefit from the availability of child-friendly formulations and
  - be assured of quality

Addendum January 2012:
The evaluation team presented the finding related to the first-line drug emergency in the preliminary discussion with NTP and official debriefing in December 2011.
While preparing the grant application to the Global Drug Facility (GDF) for an emergency supply of FLD, the NTP did a thorough analysis of available stock and planned procurement for 2012 and concluded that projected stock on hand by the end of 2012 will be for up to 14 months, from Jan 2013-April 2014. Based on this finding, the team does not recommend applying for an emergency supply (see Annex 9 for projected stock on hand).
5.8 **Objective 8: To make recommendations on the role and value of Technical Assistance (TA)**

5.8.1 **Observations and Achievements**

In order to achieve the targets for TB control during the period covered by the 2007-2011 development plan, the NTP identified the following areas that need to be strengthened by TA missions:

- DOTS
- MDRTB
- TB/HIV
- PPM/PAL
- Infection Control
- Laboratory
- Strategy development
- Training of staff on methodology, technical issues, etc
- TB expansion
- Research (support for research activities (2007), data analysis on TB prevalence survey, care survey)
- Monitoring and Evaluation

From January 2007 to November 2011, an estimated 85 consultants or teams came to Viet Nam to provide technical support for NTP. However, the exact number of teams cannot be provided as there is no monitoring system that accurately tracks the visits.

**Figure 16: Documented Technical Assistance to the Viet Nam NTP, by Quarter, 2007-2011Q3**

Taking advantage of available financial sources, Vietnamese partners had the opportunity to improve the quality of human resources from the higher levels to the local levels. Thus these TA supports met most of the needs of the NTP.
in terms of training, research, management, monitoring and evaluation of capacity building.
Support from TA teams included a variety of topics, particularly for expertise lacking in Vietnam, such as strategy development, evaluation of the NTP research, training and especially support for upgrading of laboratory techniques.
Support from TA helped the NTP to move forward by filling in knowledge and updating skills of managers, and by upgrading infrastructure and equipment. Recommendations from the evaluation have been used as the base for creating NTP strategic plans. The recommendations helped the NTP obtain evidence for the development of the plans, by improving the ability of managers at national levels to make their decisions, by using research results and the findings of the evaluation reports.
Working with international experts has been an opportunity for national experts to learn. This has been a very effective method of technology transfer and an opportunity for the experts to share experience.

5.8.2 Challenges
The NTP has had to host, organize and coordinate an excess of visits from TA teams. For example, in 2011 alone, there have already been 24 teams, not including training courses, which has affected the implementation and coordination of the NTP activities.
Although TA team support is very essential for NTP activities, a lack of planning and precise objectives from the requirements at the beginning has impeded satisfactory support.
The NTP is not playing its key role as the ‘driver’ (leader) of technical support it needs from projects, which include plans and strategies for technical areas.
Proposals for TA support usually originate from the sponsors, not the operational units of the NTP. The support doesn’t always meet the practical needs of implementers at different levels of the TB control system, and in addition, there is some overlap of objectives between different TA missions.
Aside from technical support activities, national experts are available to provide advanced support to improve management skills, in addition to support for training and research. However, the number of national experts is very limited.
For most evaluations, since the NTP did not have a definite objective for TA missions, it has been very difficult to assess their success.
TA includes many aspects, but there is no NTP unit for its monitoring and assessment, especially as regards the cataloguing and carrying out of mission recommendations.

5.8.3 Recommendations
• TA will still be needed in the future. Starting immediately, the NTP should assume its role as the driver of such assistance, and develop and implement a plan that outlines its objectives and priority needs, such as quality of TB care training or intervention research for evidence-based decision making.
• TA support suggestions should be sent from NTP executive units or persons, such as laboratories needing long-term technical experts, which has not been done to date.
• Once developed, technical partners should be invited to discuss the plan to ensure that all parties understand their role.
  • The NTP should continue and promote the use of WHO’s web-based TBTEAM mechanism to communicate TA needs and plans with national and international partners.
  • The NTP should ensure that the TA addresses the practical needs of the different levels of the NTP.
  • When recruiting experts, the NTP should consider national, in addition to international talent. Since financial support from international donors will be reduced in the future, recruitment of particularly national experts is encouraged, as overall costs will be less.
  • The NTP should develop an internal mechanism to track the quantity and quality of the TA it receives. This mechanism should include how to determine if recommendations were implemented, and if so, their impact.
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Annex 1. Mission Members

**International Consultants**
Dr. Paula Fujiwara (Team Leader; The Union)
Dr. Cornelia Hennig (WHO/Vietnam)
Dr. Dong Mei Hu (WHO/WPRO)
Dr. Nobuyuki Nishikiori (WHO/WPRO)

**National Consultants**
Dr. Bui Thi Tu Quyen (Hanoi School of Public Health)
Mr. Dao Hoang Bach (Hanoi School of Public Health)
Dr. Le Thi Kim Thoa (Hanoi Medical University)
Dr. Pham Huyen Khanh (WHO/Vietnam)

**Viet Nam National Tuberculosis Program Experts**
Dr. Nguyen Viet Nhung
Dr. Nguyen Duc Chinh
Dr. Nguyen Binh Hoa

With support from the following members of the Vietnam National Tuberculosis Program (NTP)
Dr. Bui Ngoc Diep
Dr. Chu Manh Dung
Dr. Hoang Thanh Thuy
Ms. Luong Anh Binh
Ms. Nguyen Tra My
Dr. Nguyen Van Cu
Dr. Tran Van Thieu
Dr. Truong Thanh Huyen
Dr. Vu Thi Loan
## Annex 2: Evaluation Schedule

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<tr>
<td>Grp 1 Hanoi (Hennig)</td>
<td>Review data, reports, action plans, discuss with technical groups Venue: National Lung Hospital (NLH)</td>
<td>Netherland Embassy Global Fund</td>
<td>Ministry of Finance</td>
<td>KPMG</td>
<td>Working with procurement, supply and distribution group</td>
<td>Women's Union</td>
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<td>Grp 3 HCMC (Fujiwara) week 1, Can Tho (Hennig) week 2</td>
<td>Travel to HCMC</td>
<td>Visit to District 6 Preventive Health Center for TB/HIV</td>
<td>Visit to District 8 for PPM Activities</td>
<td>Visit to Nhan Ai Hospital for HIV+ patients from Hanoi 05-06 Centers</td>
<td>Visit to Cho Ray Hospital (WHO/CIDA Public/Public Mix)</td>
<td>Debriefing for PNT TB team</td>
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### Table:
- **Annexes**: Evaluation Schedule details for various activities and locations.
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<tr>
<th>Mon 28 Nov</th>
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<th>Tues 29 Nov</th>
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<th>Wed 30 Nov</th>
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<th>Thurs 1 Dec</th>
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<td>Grp 1 (Fujinari)</td>
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<td>VAAC</td>
<td>USAID</td>
<td>Hanoi Health service; Visit Hanoi TB and Lung diseases Hosp</td>
<td>Visit Long Bien District Health Center</td>
<td>NTP Meetings: Administrative and International Group National TB Reference Laboratory ACSM</td>
<td>Meeting with CDC</td>
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<td>CCHD (Community Center for Health Development)</td>
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<td>WHO</td>
<td>MOLISA</td>
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<td>Grp 2 (Nishikiori)</td>
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<td>Arrive Thanh Hoa Sunday Nov 27 Work with Thanh Hoa Health Service</td>
<td>Visit TB control activities in prisons</td>
<td>Visit TB control activities in 1 districts</td>
<td>Debriefing and back to Hanoi</td>
<td>Ministry of Police</td>
<td>Report Writing with Evaluation Team</td>
<td>Report writing (cont’d) and prepare debriefing presentation Venue: NLH</td>
<td>Presentation of preliminary report to VSTP (Viet Nam STOP TB Partnership) workshop Venue: NLH</td>
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<td></td>
<td></td>
<td>Work with Thanh Hoa TB and Respiratory Diseases Hosp</td>
<td>Presentation on TB control in prison review data on TB control in prison</td>
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<tr>
<td>Grp 3 Can Tho (Hennig)</td>
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<td>Arrive Can Tho on Sunday, Nov 27 Visit district implementing &quot;Basic Health-care Expansion and TB control&quot; Project</td>
<td>Visit district implementing &quot;Basic Health-care Expansion and TB control&quot; Project</td>
<td>PMDT on district level in Can Tho</td>
<td>Work and assess PMDT activities in Can Tho (TB hospital)</td>
<td>Return to Hanoi</td>
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Annex 3. List of Persons Met

Team 1

Ha Noi

**Ministry of Health**
- Dr. Nguyen Hoang Long - Vice Director - Department of Planning and Finance
- Mrs Cao Kim Thoa - HIV/AIDS Coordinator - VAAC

**Embassy of Kingdom of the Netherlands in Vietnam**
- Mrs. Nguyen Nu Hoai Van - Senior Policy Officer Health

**Ministry of Education and Training**
- Mrs. Ha Thi Dung - Vice Director of Department of Student's Affairs
- Dr. Le thi Kim Dung - National Expert of Department of Student’s Affairs
- Mrs Pham Thi Phuong - National Expert of Department of Student’s Affairs
- Mr. Le Anh Tuan - National Expert of Department of Student’s Affairs

**PATH, Vietnam**
- Mrs Mona Byrkit - Country Representative
- Dr. Le Thi Nga - Coordinator of TB project

**Ministry of Finance**
- Mr. Nguyen Hoang Lam - Director of Bilateral I Division, Dept of Debt Management & External Finance.

**Ministry of Labor, Invalids and Social Affairs (MOLISA)**
- Mrs Do Thi Ninh Xuan
- Mr Le Van Khanh
- Mrs Vu Thi Hai Hoa
- Mrs Phan Quynh Oanh

**NTP - National Lung Hospital**
- Prof. Dinh Ngoc Sy - Director of National Lung Hospital / NTP Manager
- Dr. Nguyen Viet Nhung - Deputy Director of National Lung Hospital / Deputy NTP Manager
- Dr. Nguyen Duc Chinh – Member of NTP management Board / Head NTP Secretariat
- Dr. Nguyen Binh Hoa - NTP Secretariat Board – Head of Planning and Financing Group
- Mrs. Dinh Thanh Nga - Supply & Distribution Group
- Dr. Nguyen Cong Chi - Supervision Group
- Ms. Luong Anh Binh – NTP Secretariat Board & GFP
- Dr. Hoang Thanh Thuy - NTP Secretariat & Head of PMDT group
- Dr. Truong Thanh Huyen - NTP Secretariat
- Dr. Nguyen Van Cu – Network Development Group
- Dr. Chu Manh Dung - Network Development Group
- Dr. Bui Ngoc Diep - Training and Research Group
- Dr. Tran Van Thieu – PMDT Group
Annexes

Dr. Nguyen Van Hung – Head of National TB Reference Laboratory
Dr. Pham Quang Tue – Head of ACSM Group
Ms. Nguyen Thi Ngoc Minh – NTP Secretariat Board - Head of Administrative and International Cooperation Group
Ms. Vu Quynh Hoa – NTP Secretariat - Internal and External Collaboration, Administrative and International Cooperation Group
Nguyen Thi Tra My - Internal and External Collaboration, Administrative and International Cooperation Group

PwC (Price Waterhouse Cooper)
Mr. Nguyen Viet Thinh - Associate Director of Advisory Service

Ministry of Planning and Investment
Mr. Dao Xuan Quang - Principal Official Foreign Economic Relations
Department of International Organisations and INGOs Division of MoPI

Viet Nam Farmers’ Union (VNFU)
Mr. Tran Ngoc Thanh - Director of Center for Population, Family & Children
Mrs. Pham Huong Giang - Officer of Center for Population, Family & Children
Mrs. Vu Thi Thanh Hoa - TB project Coordinator Center for Population, Family & Children

Viet Nam Women’s Union (VNFU)
Mrs. Pham Hanh Sam - Director of Communication Board
Mrs. Truong Kim Loan - Senior Expert of Communication Board
Mrs. Phan Thi Phuong - Expert of Communication Board

Ministry of Health of Vietnam
Dr. Cao Kim Thoa - HIV/AIDS Coordinator of VAAC
Dr. Pham Tuong Giang - Officer of VAAC

WHO Viet Nam
Mrs. Nguyen Thi Kim Phuong – National Professional Officer, Health Financing
Mrs. Socorro Escalante – Technical Officer for Pharmaceuticals

KPMG
Mrs. Nguyen Ngoc Minh - Manager, Audit
Mrs. Doan Xuan Lam - Partner, Audit

CDC
Dr Bruce Baird Struminger - Country Director

USAID
Dr. Jonathan Ross - Director, Office of Health
Dr. Pham Huy Minh - HIV care & Treatment for HIV-TB, Office of Health

Ha Noi TB - Lung Hospital
Dr. Pham Huu Thuong - Vice Director
Dr. Vu Cao Cuong - Head of Entry Clinic
Dr. Nguyen Phuong Hoang - Head of Biology Department
Dr. Nguyen Dinh Tuyen - Head of Pharmacy Department
Dr. Le Minh Hoa - Director of Internal Department
Mrs. Dinh Thi Thuy - Officer, Administration

Long Bien District Health Center
Dr. Pham Nhu Dung - Vice Director
Dr. Vu Thi Kim Oanh - Head of Public Health Department
Dr. Nguyen Thanh Giang
Dr. Nguyen Thi Thu - MD Assistant

Team 2
Quang Ninh TB and Lung Hospital
Dr. Vu Duc Phan - Director of Quang Ninh TB & Lung Hospital
Dr. Linh – Head of Planning Department
Dr. Pham Van Nhan – Head of the Technical Guidance Department
Mrs. Thanh – Staff of the Technical Guidance Department
Dr. Le Thi Nam – Head of the Laboratory Department
Dr. Dao Trong Vien – Staff of the Technical Guidance Department

Cam Pha District Health Centre, Quang Ninh
Dr. Dinh Minh Son – Vice Director of Cam Pha District Health Centre
Mrs. Cam – Leader of TB team

Cam Dong Health Post, Cam Pha, Quang Ninh
Mrs. Huong – TB team

Hoanh Bo District Health Centre, Quang Ninh
Mrs. Thuy – Director of Hoanh Bo District Health Centre
Mr. Khanh – Assistant of TB Team’s Leader

Son Duong Health Post, Hoanh Bo District, Quang Ninh
Mrs. Nguyen Thi Ha – Head of the Son Duong Health Post

Thai Binh TB and Lung Hospital
Dr. Do Ninh Giang – Vice Director of the Thai Binh Health Department
Dr. Nguyen Xuan Binh – Vice Director of the Thai Binh HIV Prevention Center
Dr. Nguyen Ngoc Sinh – Director of the Thai Binh TB and Lung Hospital
Dr. Vu Trung Hai – Vice Director of the Thai Binh TB and Lung Hospital
Dr. Dang Phi Hung – Head of the Technical Guidance Department

Lam Hoa Private General Hospital, Thai Binh
Dr. Thinh – Technical Director of the Lam Hoa Private General Hospital
Dr. Thom – Head of the Technical and Planning Department

Hoang An Private General Hospital, Thai Binh
Dr. Nguyen Hong Khanh – Head of the Technical and Planning Department
Tien Hai Preventive Health Centre, Thai Binh  
Dr. Vu Quang Vinh – Vice Director of the Tien Hai Preventive Health Centre  
Dr. Ho Hong Thanh – Staff of the Technical Guidance Department  
Mrs. Pham Thi Huong – Secretary of the TB program

Tien Hai General Hospital, Thai Binh  
Dr. Nguyen Thi Thuy – Head of the Communicable Diseases Department  
Dr. Le Ngoc Phong – Head of the Laboratory

Phuong Cong Health Post, Tien Hai, Thai Binh  
Mrs. Le Thi Toan – Head of the Health Post  
Dr. Nguyen Van Bich – TB team leader  
Mrs. Luong Thi Minh – TB team

Thanh Hoa TB and Lung Hospital  
Dr. Trinh Huu Hung – Director  
Dr. Trinh Thanh Hai – Vice director

Trieu Son Preventive Health Centre, Thanh Hoa  
Dr. Khong The Cong - Head of Disease Control  
Dr. Le Dinh Tu – TB staff

Tho Son Health Post, Trieu Son, Thanh Hoa  
Mrs. Pham Thi Van – Head of the Health Post

Department VIII – Minister of Police, Hanoi  
Mr. Nguyen Xuan Phong – Vice Director of the # Department – Minister of Police  
Mr. Nguyen Van Loc – Vice Director of the Health Department – Minister of Police  
Mrs. Dao Thi Vinh – Staff of Department VIII – Minister of Police  
Mr. Nguyen Sy Thanh – Staff of Department VIII – Minister of Police  
Mr. Le Duc Quang – Staff of Department VIII – Minister of Police  
Ms. Pham Thi Hong – Staff of Department VIII – Minister of Police

Team 3

Pham Ngoc Thach Hospital- HCMC  
Dr. Nguyen Huy Dung - Vice Director of Hospital  
Dr. Tran Ngoc Bui – TB team  
Dr. Nguyen Ngoc Lan – in charge PMDT  
Dr. Phan Thu Hang - Lab technical staff  
Dr. Cao Manh Cuong – TB team  
Dr. Truong Luong Ngoc Vuong  
Dr. Dang Minh Duong – in charge PPM  
Dr. Lai Quang Tan - TB team  
Dr. Dang Minh Sang – TB team  
Dr. Phan Thuong Dat – Head of MDR ward  
Dr. Nguyen Thi Thanh Van - Staff of MDR ward
District 6 Preventive Health Center- HCMC
Dr. Nguyen Van Hoi - in charge TB program
Mr. Nguyen Khanh Hai - Lab technical staff

District 6 VTC/HIV Outpatient Center (OPC)
Dr. Nguyen Quoc Hung - Head of VTC
Mr. Phan Thanh Phong - Counselor of VTC
Ms. Huynh Thi Thanh Dieu - Pharmacist of VTC

District 8 Preventive Health Center- HCMC
Dr. Nguyen Van Thom – Head of TB team
Dr. Huynh Van Quoi – TB team

Nhan Ai Hospital - HCMC
Dr. Tran Kim Anh – Vice Director of Hospital
Dr. Tran Xuan Chanh – Head of TB Department
Dr. Phung Xuan Thinh – Vice Head of Planning Department
Mr. Le Van Hang - Staff of Planning Department
Dr. Dang Thi Kim Uyen – Staff of TB Department
Dr. Vu Trong Thanh – Staff of TB Department

Cho Ray Hospital- HCMC
Prof. Tran Van Ngoc – Head of Respiratory Department
Dr. Nguyen Thanh Xuan – Vice Head of Planning Department
Dr. Huynh Van Khoa – Vice Head of Respiratory Department
Dr. Truong Van Luyen - Vice Head of Respiratory Department
Mr. Tran Van Trinh – Vice Head of Pharmacy Department
Dr. Ho Tan Phat – Vice Head of Medicine Department
Dr. Le Trung Nhan - Vice Head of Neurology Department
Dr. Chau Thi Kim Lien - Vice Head of Renal Department
Ms. Tran Hong Diem – Head of Nursing Department

Vinh Thanh District, Can Tho Province
Dr. Tran Dinh Nam - Deputy Head of District Preventive Health Center
Dr. Nguyen Thi Mai Huong - Head of Infection Disease Control Department
Ms. Ngo Thi Ngoc Thuan - Pharmacist
Ms. Le Thi Ngoc Mai - Lab technical staff
Ms. Phan Thanh Bay - Assistant Physician in Thanh An Community Health sector

Ninh Kieu District Preventive Health Center – Can Tho Province
Dr. Nguyen Thi Hong- Deputy Head of Ninh Kieu District Preventive Health Center
Dr. Tran Viet Thang - Head of TB Department
Dr. Truong Van Chao - Staff of TB Department - in charge of ARV Unit
Dr. Nguyen Thanh Hung - Staff of TB Department - in charge of MDR Unit

Can Tho Provincial Lung Hospital - Can Tho Province
Dr. Nguyen Thi Thanh Nhan - Director of Hospital
Dr. Huynh Anh Tuan - Head of Intensive Care Department
Annexes

Mr. Nguyen Van Tiep - Head of Planning Department
Dr. Nguyen Thanh Thuy - Deputy Head of Laboratory Department
Dr. Thach Van Sang - Doctor, staff of hospital
Ms. Pham Cam Tu - Assistant Physician
ANNEX 4. REPORTS OF THE VISITS

November 21, 2011, Monday, Opening Meeting NTP
Dr Nhung presented an introduction to the Viet Nam NTP (summarized from the powerpoint presentation Annex 10):
- NTP received technical assistance from KNCV, WHO, CDC etc and financial support from the Vietnamese government, The Netherlands government (Medical Council Netherlands Viet Nam (MCNV), Royal Netherlands Embassy (RNE)), World Bank, GFATM, PEPFAR (CDC, USAID) etc.
- TB epidemiology in Viet Nam still high: Viet Nam ranks 12th among 22 TB high burden countries and 14th among 27 countries with high burden of MDR-TB but a significant number of tuberculosis cases remains undiagnosed or unreported
- There are 2 goals and 6 objectives for Viet Nam NTP in 2007-2011 (see below)
- Total budget for NTP in 2007-2011 was $54,899,467
- allocated among the 6 objectives
- NTP also set up new targets in strategy:
  o Early diagnosis of ALLTB cases by :
    ▪ Detecting as much as possible PTB AFB (+) cases in community;
    ▪ High quality diagnosis of pulmonary TB (PTB) AFB(-), extrapulmonary TB (EPTB), TB/HIV; TB in children; MDR-TB
  o To remain with a high cure rate for all TB cases diagnosed
- **Strengths and Achievements**
  o High Political commitment – since setup of NTP in 1995
  o TB network exists nation-wide, integrated into general health system and collaboration with private sector
  o Well functioning TB laboratory network with quality assurance according to WHO criteria (quality control from supranational lab, national reference lab, with regional, provincial, district labs)
  o Supply, management system for TB drugs, materials for diagnosis and treatment.
  o Established Viet Nam Stop TB Partnership (VSTP), with the support of the Global Stop TB Partnership, MoH, MoP, MOLISA, VAAC , MCNV, CCHD, PATH, VMA, WHO, KNCV, CDC, UCSF, University of Sydney, OCRU, the Union, Ministry of Education, Medical University, Women’s Union, Farmers’ Union, Red Cross, sponsors (GFATM, RNE, USAID, CIDA)...
  o Long standing co-operation with international partners: Netherlands Gov., GFATM, WHO, KNCV, CDC, Universities, etc.
  o Standardized technical guidelines, issued by MOH
National and regional reference laboratories have tried and applied 13 of 19 new techniques certified by WHO and ready for application of new techniques, if any.

Nation-wide TB recording and reporting system. Implementing the Viet Nam TB information management electronic system VITIMES

Good implementation of the new components of the Stop TB Strategy, such as TB/HIV collaboration, MDR-TB, PAL, TB in children, PPM, engagement of hospitals, but needs to be scaled up

DOTS coverage 100% (including remote, mountainous areas, prisons, etc.)

Maintained high cure rate (>90%)

**Challenges**

- Lack of budget and human resources (Low incentive, MOH budget investment for NTP covered about 30% the total budget)
  - with universal access orientation, there will be lack of a large amount of funds
- Policies and laws for TB not strong enough (TB drugs available in the free market, health insurance system not yet involved)
- Health system at the grassroots level needs improvement
- Rapidly developing private sector
- TB / HIV epidemic, MDR-TB
- Involvement of the social organizations
  - Many social organizations have been involved in TB activities; however, effective operational mechanisms need to be set up ASAP

**National Tuberculosis Control Strategic Plan for the Period 2011 – 2015 with vision of TB Elimination in Viet Nam**

**Goals**

1. By 2015, to halve TB prevalence in Viet Nam compared to that in 2000, measured by: Case detection 2015 / TB prevalence survey 2014
2. Control the MDR TB situation in 2015 so that it is not higher than in 2010, measured by Drug Resistance Survey: (MDR TB among newly detected TB cases <3%)

**By:**

1. Early diagnosis of all TB cases
2. Maintaining the high cure rate

**With 6 objectives:**

1) Obj1. Ensure access to and provision of equitable, high quality basic DOTS services at all levels of health service delivery, in accordance with NTP guidelines.
2) Obj2. Address TB/HIV, MDR-TB, TB control in prisons, TECs
3) Obj3. Contribute to health system strengthening (PAL, etc)
4) Obj4. Engage all care providers (PPM)
5) Obj5. Engage people with TB and affected communities. (ACSM)
6) Obj6. Surveillance and research to monitor and evaluate performance and impact

Group 1 (Week 1: Cornelia Hennig, Le Thi Kim Thoa, Pham Huyen Khanh, Luong Anh Binh, Nguyen Tra My, Vu Thi Loan)

Ministry of Health, Department of Planning and Finance, 
Vice-Director Dr Nguyen Hoang Long

A. Strengths
1. some increase in allocation for TB in the health budget
2. TB remains national target program in the next five years (one of priorities of MOH). This means:
   • additional contribution from government budget is maintained
   • central and local government agencies will pay more attention to TB (in terms of resources, manpower, governance, leadership)
   • the possibility to further raise international support
   • NTP works more independently (more decentralization)
3. responding to leadership weakness in the past:
   • establishment of steering committee for target programs led by Vice-Minister Mrs Xuyen (Chair woman); members are department heads, 6 monthly meetings and ad hoc. Helps to address cross-cutting issues
   • communication through Global Fund’s country coordinating mechanism (CCM)

B. Health Systems Issues
1. Verticality of the TB program:
   TB is a vertical program, which in the past has contributed to its success. Now, more integration is needed, especially at commune and district level.
2. Human Resources (HR)
   HR are critical, and the TB staff are disadvantaged in more than one respect: low salaries, low motivation/incentives, risk of infection, low status.
   Recently, there has been the decision to increase allowances for TB and HIV (and other staff) from 30% up to 70% of basic salary. Although this will not dramatically change a lot, it is a sign of recognition of the problem. In addition, alternative means of reward should be identified by NTP: trainings, social awards, certificates, associations.
   In recognition of the skewed distribution of medical staff (urban over rural) an expansion of decree 1816 will be moved forward: graduates to work in remote areas for 1-2 years.
   In a more integrated service, HR will be used horizontally and gaps will be less.

3. Accessibility of Services
NTP to evaluate which parts of the service package are covered by government/donor funds and which parts must be included in insurance schemes.
Ethnic minorities in difficult communities (decree No 30 of Prime Minister) and children <6 years of age, recognized other poor have the insurance card for free.
Decree 171/172 (2004)
Under these decrees, the district TB Unit located in District Preventive Health Center (DPH).

Circular 03 (2008) clarified the model: district health facilities can be either a district health center (providing both curative and preventive care – model 1) or DGH/DPC are separated (model 2). It is a provincial decision.

The NTP can do a quick assessment of which among the above options is suitable to improve TB services at district level and submit it to Ministry of Health for approval. Then the Ministry of Health can provide the guidance for Provincial Health Bureaus to implement.

4. Geographical Access:
Communication in the local language is needed.
Need to consider sputum examination sites below district level in inaccessible areas.
People in remote areas cannot access TB information, because they do not have mass media as TV (for example: many TB cases in one village).

C. Impact:
- increasing case finding
- follow up 5 - 6 patients per commune
- improve the quality of primary health care services at commune and district levels

Visit to Embassy of the Kingdom of the Netherlands
Nguyen Nu Hoai Van, Senior Policy Officer Health
Support from the Netherlands for health between 2006-2012 (30 million Euro) comprised:
- Capacity building for 8 medical universities (14 million Euro)
- MoH/MCH (Mother and Child Care) for Safe Motherhood (6 million Euro)
- Pathfinder
- TB:
  2001 – 2005 through KNCV/MCNV
  2006 – 2012 directly to NTP (10 million Euro)

The Netherlands Government provided support for TB under Objectives 1, 2, 5 of the 2007-2011 Development Plan
Good cooperation with international partners
Challenges/ concerns that were raised by the representative of the embassy:
- Strategic planning and allocation of funds perceived to be weak
  o request for procurement of first line drugs (2009) 3 million Euro = 1/3 of support, and procurement took two years
  o request for payment of staff incentives on lower level 1.2 million Euro (Dec 2008)
- Advocacy with government for commitment and sustainability should be a priority
- Private sector inclusion / integration – vertical vs horizontal: opportunity for more cost-effective and efficient interventions in an integrated system
• Ensure quality of interventions
• The Senior Policy Officer Health queried about potential overlap for remote area support? Global Fund (Rounds 1 and 6; Netherlands, others?) primary network development project (NB: clarification from NTP that there is no overlap)
• Technical assistance; identify, justify, mobilize the right TA
• Absorption capacity is of concern: 0.9 million Euro unspent.

Ministry of Education

The 2010 list from the previous report is maintained below.
The collaboration with NTP is based on project-based activities geared to increase awareness of TB. The support is provided to central level.

In 2011, a TB communication festival was organized at central level (VND 388,000,000 = USD 18,476)
In 2009, the ministry of Education became member of the Viet Nam STOP TB partnership.
On average, annual contributions from NTP from 2006 onwards were VND 150,000,000 = USD 7,143.
Regular meetings are held quarterly to discuss progress and challenges. It was mentioned that no follow-up is registered following these meetings.

The department would like to see
- more input for activities on provincial level and below and
- support integrated into routine Monitoring and Evaluation (M & E) activities.

Needs:
Revision of training material for students (according to the activities listed for 2008 in the 2010 report, training material was developed at that time)
Support for evaluation of activities

From 2010 report:
In 2006, a Memorandum of Understanding was signed between the Ministry of Education (MoE), NTP and teachers on increasing awareness about TB among student and teachers.
NTP works directly with the Department of Student Affairs of the MoE.
Activities:
2006
- Health education campaigns among students of schools of 11 districts of Ha Noi
- TB training of staff responsible for student affairs in the provinces
- TB training of MoE staff
- TB training of teachers of 64 colleges and four universities for teachers
- Participation of students and teachers in World TB Day
2007
- participation in World TB day
- broadcasting about TB
2008
- participation in World TB day
- CD with TB information, activities during World TB day prepared and distributed country-wide
- workshops with representatives of students and parents of students on how to deliver messages
- TB health education at 800 colleges and universities given by students and parents
- development of TB curriculum for primary, and secondary schools and colleges prepared in collaboration with NTP
- revision of textbooks
- posters, pamphlets for parents
- pilot of comprehensive health education, including TB, HIV/AIDS, dengue in one province at all schools
- festival on TB for students and teachers

Funding was obtained through NTP. After the pilot during 2008, expansion was planned from 2009. However, due to shortage of funds this could not be implemented. During 2009, World TB Day was commemorated only in one province. TB is included in the curriculum and training courses for teachers.

Impact:
To increase the knowledge of education leaders at central level, the MOE produced guidelines for schools, such as Disease prevention including TB prevention (this project is going on).

PATH
Since 2008, PATH has been involved in TB activities with support from PEPFAR (USAID). Hai Phong province was the first province to implement PPM activities involving private practitioners, pharmacies, private clinics and district general hospitals. The preferred PPM model is Model 1 (referral of suspects) except 2 sites have used Model 2 (diagnose and refer). Data collection is through districts, feedback of successful referral is provided through supervision.

PEPFAR-supported activities were extended to 3 additional provinces in 2011. Support will end in 2012. PEPFAR Provinces: Haiphong, Can Tho, HCMC, Nghe An.

Under GF Round 9, PATH is a sub-recipient SR for a PPM component based on above model in 3 provinces in phase 1 and 4 additional provinces in phase 2 (end 2015).
GF provinces:
Phase 1: Ha Noi, Binh Dinh, Vung Tau.

PATH is tasked to update PPM guidelines and policy based on their experiences. Recommendation: to organize workshop to share experience with PATH PPM model and WHO CiDA project, including policy recommendations for quick scale-up.
Under Round 9 of the GF, PATH is sub-recipient (SR) for the ACSM component with the following sub/sub-recipients: Women Association, Red Cross. The project was launched in June 2011. Planned activities are Knowledge, Attitude and Practice (KAP) surveys, needs assessments, in the same provinces as PPM above.

Comments on NTP as a partner:
Active, dynamic, dedicated.
Due to high workload, there are limitations in regard to supervision. Prolonged negotiation process to get project finally approved (from GF R9 proposal in 2008 to launch in June 2011). Workplan pressure can compromise quality. Difficult to make modifications.

Information, Education and Communication (IEC) material should be adopted and adapted province by province.

Issues:
- Charges for sputum examination for diagnosis as income generating activity: 1000-20,000 VND depending on province.
- PATH advocates with provincial people’s committees to abolish this practice.
- Practice more noted in northern provinces than in HCMC.
- Acceptance of out of province suspects and patients: in HCMC no limitation for internal migrants.

Ministry of Planning and Investment (MPI)
MPI aware of current funding and implementation challenges, both TB related and beyond. National target programs receive additional funding for limited time to boost performance and reach targets (no infrastructure or salary support). However, recognition of relative unattractiveness of TB for all parties involved (international donors, ministries, health staff). Weakness of MoH in setting priorities (e.g. WHO regular budget USD 4 Million used for many small projects instead of priority interventions).

Proposed solutions:
- Continue to mobilize international support
- Increase effective use of available resources
- Increase domestic funding, promote national drug production
- Further integration of health services, intersectorial collaboration, PPM
- WHO to engage more in policy dialogue as opposed to project-related TA.

Ministry of Finance
The official provided information on the financial planning cycle. He was not aware of recent discussions about TB being in danger of losing “national target program” status. No other information was provided.

Women’s Union
The Women’s Union has collaborated with the NTP since 1997.
Health education and communication is one of the priorities of this Union. However, funding for health related activities e.g. TB comes exclusively from projects, not the regular budget.

The Union has 14 million members and branches at provincial, district and communal levels. It has a wide network of health education and communication initiators in the communities.

The Women's Union was involved in Global Fund Round 6 and is involved in Round 9, with the following activities: training courses in the communities, delivers mass media messages, distributes magazines, works through women clubs, organizes festivals and contests, and shows a movie on TB, involves ex-TB patients for messages on TB. Activities (Round 6) in 33 northern provinces; for Round 9, Women's Union is a sub-sub recipient under SR PATH (3 provinces). Women’s Union has become a member of the STOP TB partnership.

Farmers’ Union
The Farmers’ Union has collaborated with the NTP since 1997. It has a network all over the country with 10 million members. Various activities, among others, micro credit programs.

Health-related activities focus on prevention of HIV, drug addiction, reproductive health, TB. Information is as much as possible integrated into regular health information during monthly meetings on commune level.

Under GF Round 9, there are efforts for early detection of suspects and treatment support (health clubs, friends’ groups). Currently work on 30 communes. Total budget for Phase 1: > 700,000 USD.

Farmer’s Union is a Viet Nam STOP TB partner.

Center for Community Health Development (CCHD)
Established in 2005, involved with TB since 2008 (mid-term evaluation).

Under GF Round 9, it is a SR to implement PAL in the following provinces (3 northern: Thanh Hoa, Thai Nguyen, Yen Bai; Lam Dong (mountainous), Dong Nai (industry).

Selection criteria:
Average population, presence of industry (Dong Nai), low notification.

In 1st phase (2011-2012) implementation in 2 provinces, 4 districts, 20 communes.

Phase 2: 6 provinces, 12 districts, 60 communes.

Building on Netherlands PAL project in 8 provinces; ending 2011, no final evaluation yet.

Activities:
Baseline survey, production of PAL related information material targeting community health worker and families, as well as training.

It is stressed that commune health staff should receive feedback from referral; this would motivate them more.

KPMG
Annual auditor for the Netherlands contribution (2008-2010).
Good collaboration.
Initial slow disbursements, due to weaknesses linked to strategic planning, heavy administrative procedures (MoH).
Overall, disbursement has been 90%. This is seen as a good average (compared to other projects, especially United Nations (UN ones)).

**Price Waterhouse Cooper (PwC)**
Local Fund Agent for GF Round 6 and Round 9 since 2008.
In contrast to HIV and Malaria, institutional set-up is integrated – Principal Recipient (PR) is part and parcel of program. NTP management is much engaged (Vice-Director, Head of Secretariat). 3 permanent PMU staff, 30 + central staff also have GF-related tasks and receiving incentives.
Slow initiation GF R6 and R9, due to approval procedures, including new SR’s (PATH, CCHD).
Integration poses challenges in terms of reporting - especially financial reports from provincial level.

R 6 (USD 13.5 Million) ends by 2011. USD 500.000 is awaiting approval for reprogramming. reprogram 30% of total budget for Training and Education Centers TEC; (aka 05-06 Center) in 2011 of Round 6.

R 9 (USD 50 Million, phase 1: 15 million)
reprogram 55% of total TEC budget in phase 1 of Round 9.

Major bottlenecks:
- SLD procurement quantification, approval procedures,
- Lab upgrade NRL delays (1 million USD).
NTP Technical Units

NTP Unit Training and Research
2 permanent staff; approximately 25% of time, does work for other units. List of 2010/2011 trainings (government, Netherlands and GF supported)

### Trainings 2010

<table>
<thead>
<tr>
<th>Activity</th>
<th>State budget (VND 1,000)</th>
<th>Netherland (EUR)</th>
<th>Global Fund (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course on TB management for TB staff at provincial level</td>
<td>162,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course on TB management for teachers at medical colleges</td>
<td>50,000</td>
<td></td>
<td></td>
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<tr>
<td>Course on TB management for teachers at primary medical colleges</td>
<td>100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training course on TB management and TB program for TB staff at provincial level</td>
<td>22,600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training course on direct sputum smear</td>
<td>14,300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training for international course</td>
<td>2,400</td>
<td></td>
<td></td>
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<tr>
<td>Training on management and planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management and planning at national level (3 courses)</td>
<td>20,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management and planning for provincial staff (8 courses)</td>
<td>24,400</td>
<td></td>
<td></td>
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<tr>
<td>District level</td>
<td>58,000</td>
<td></td>
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<tr>
<td>Training on management and planning for staff at commune level. 402 courses</td>
<td>271,250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training on TB diagnosis and treatment for staff of general hospitals (16 courses)</td>
<td>31,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International workshops</td>
<td>30,000</td>
<td></td>
<td></td>
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<tr>
<td>Research capacity building for NTP staff</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To build training program</td>
<td>5,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training on Module A (4 courses)</td>
<td>44,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training on Module B (2 courses)</td>
<td>25,700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module C: Training for Masters of public health</td>
<td>15,000</td>
<td>18,750</td>
<td></td>
</tr>
<tr>
<td>International training</td>
<td></td>
<td></td>
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<tr>
<td>International training courses on TB</td>
<td>28,125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study tours</td>
<td>40,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global conferences</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Global conferences of the Association</td>
<td>25,000</td>
<td></td>
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<tr>
<td>Regional conferences of the Association</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV global conferences</td>
<td>10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSRU meetings</td>
<td>10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHO meetings/workshops</td>
<td>14,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>312,000</strong></td>
<td><strong>84,300</strong></td>
<td><strong>625,625</strong></td>
</tr>
</tbody>
</table>
### Trainings 2011

<table>
<thead>
<tr>
<th>Activity</th>
<th>Funding source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course on TB management for TB staff at provincial level</td>
<td>State budget (VND 1,000) 715,000</td>
</tr>
<tr>
<td>Course on TB management for TB staff at district level (transferring money to locals)</td>
<td>4,036,000</td>
</tr>
<tr>
<td>Course on TB management coordination in general hospitals</td>
<td>715,000</td>
</tr>
<tr>
<td>Update training materials</td>
<td>50,000</td>
</tr>
<tr>
<td>Building tools after training and pilot evaluation in 3 provinces</td>
<td>200,000</td>
</tr>
<tr>
<td>2 courses on TB management</td>
<td>22,600</td>
</tr>
<tr>
<td>4 courses on technique of direct sputum smear for TB bacteria</td>
<td>15,300</td>
</tr>
<tr>
<td>A course on technique of culture for TB bacteria</td>
<td>1,075</td>
</tr>
<tr>
<td>16 courses on TB diagnoses and treatment for doctors of provincial hospitals of TB and pulmonary diseases</td>
<td>46,800</td>
</tr>
<tr>
<td>Courses on TB program implementation at commune level (transferring money to locals)</td>
<td>271,250</td>
</tr>
<tr>
<td>Courses on diagnoses and treatment for doctors of general hospitals</td>
<td>31,200</td>
</tr>
<tr>
<td>4 courses on basic epidemiology</td>
<td>44,200</td>
</tr>
<tr>
<td>2 courses on advanced epidemiology</td>
<td>25,700</td>
</tr>
<tr>
<td>Total</td>
<td>5,716,000</td>
</tr>
</tbody>
</table>

Trainers are from central level.
Some trainings could be done on provincial level (e.g. AFB for new staff).
Participants per training: 25.
Evaluation of trainings (pre/posttest) is done, but not routinely.
No systematic approach to training course development.

The unit is not involved in trainings of other technical units, which organizes trainings separately: MDR-TB, infection control, PPM, E-TB manager etc.

### Research:

OR priorities are determined by NTP management board. Call for proposals (NTP website). So far, only NTP central level implements, no provinces, no academic institutions.
<table>
<thead>
<tr>
<th>OR 2011</th>
<th><strong>Activity</strong></th>
<th><strong>Funding source</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>State budget (VND 1,000)</strong></td>
<td><strong>Netherland (EUR)</strong></td>
<td><strong>Global Fund (USD)</strong></td>
</tr>
<tr>
<td>Support to scientific committee and medical ethics of NHL during approval and research process of the year 2011</td>
<td></td>
<td>5,200</td>
<td></td>
</tr>
<tr>
<td>Research *Barrier for access to TB services in northeast region and central highlands</td>
<td>300,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HR assessment of TB staff at all levels</td>
<td></td>
<td>14,000</td>
<td></td>
</tr>
<tr>
<td>Laboratory evaluation at provincial level under NTP</td>
<td></td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Evaluation of failure and drug resistant cases for 6-month-patient lots in Ha Nam, Nam Dinh and Hai Duong</td>
<td></td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td>Supervision and monitoring of patient lot with 6-month treatment formula in 3 provinces: Hai Duong, Nam Dinh and Ha Nam</td>
<td>150,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation of service accessibility of diagnosis and TB treatment management for HIV patients (children and adults); and evaluation of service access models for HIV patients</td>
<td></td>
<td>12,000</td>
<td></td>
</tr>
<tr>
<td>Social psychological and economic impact research of TB/HIV patients</td>
<td></td>
<td>12,000</td>
<td></td>
</tr>
<tr>
<td>The fourth drug resistance research in Viet Nam</td>
<td></td>
<td>105,000</td>
<td></td>
</tr>
<tr>
<td>Study on treatment adherence of AFB(-) and E/P patients; and assessment of failure, defaulted cases and ADRs in treatment</td>
<td></td>
<td>12,000</td>
<td></td>
</tr>
<tr>
<td>Evaluation of TB in prisons</td>
<td></td>
<td>19,500</td>
<td></td>
</tr>
<tr>
<td>Data management, data entry and analysis, writing report on TB prevalence survey in Dien Bien Province</td>
<td></td>
<td>7,000</td>
<td></td>
</tr>
<tr>
<td>Improvement of epidemiological documentation</td>
<td></td>
<td>5,300</td>
<td></td>
</tr>
<tr>
<td>Scientific summation conference 2011</td>
<td>450,000</td>
<td>212,000</td>
<td></td>
</tr>
</tbody>
</table>

**Annexes**
OR 2010

<table>
<thead>
<tr>
<th>Activity</th>
<th>State budget (VND 1,000)</th>
<th>Netherland (EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment of successful treatment for new TB pulmonary cases (AFB+) in the south</td>
<td>130,000</td>
<td></td>
</tr>
<tr>
<td>Preliminary study about general doctors’ knowledge and practice on TB in the north</td>
<td>70,000</td>
<td></td>
</tr>
<tr>
<td><strong>To set up committee for supporting and coordinating research activities</strong></td>
<td><strong>5,200</strong></td>
<td></td>
</tr>
<tr>
<td>To set up the committee</td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td>To support the research “Z resistance”</td>
<td>4,000</td>
<td></td>
</tr>
<tr>
<td><strong>Research on newly arisen issues</strong></td>
<td><strong>15,000</strong></td>
<td></td>
</tr>
<tr>
<td>Survey on HR and professional skill of TB staff at lower levels</td>
<td>11,300</td>
<td></td>
</tr>
<tr>
<td>Evaluation of TB drug management under NTP at all levels</td>
<td>3,700</td>
<td></td>
</tr>
<tr>
<td><strong>Epidemiological research</strong></td>
<td><strong>49,400</strong></td>
<td></td>
</tr>
<tr>
<td>The fourth study on drug resistance (topic 4)</td>
<td>34,400</td>
<td></td>
</tr>
<tr>
<td>Other epidemiological researchs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation of TB diagnosis and treatment by private doctors in 12 provinces with PPM</td>
<td>15,000</td>
<td></td>
</tr>
<tr>
<td><strong>Technical support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To enhance capacity on research survey</td>
<td>40,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>200,000</strong></td>
<td><strong>109,600</strong></td>
</tr>
</tbody>
</table>

**Procurement and distribution**
2 staff, 2 overlap
Planning by supply and distribution group, based on notification, + buffer, - stock on hand.
First line drugs
2009: 60.000.000 + 3 million Euro from NL for 12 mo buffer
2010: 40.000.000
2011: 60.000.000
Supplies; no culture material
Drug stock out (Since the MoH approves 8 mo only, the NL buffer is being used up. There will be no buffer any more in 2012).

**Childhood TB**
3.5 permanent staff
2008 (NL funds) training for provincial general hospitals in northern area
2006 WHO children guidelines
Update 2009 VTN specific GL including detailed diagnostic pathway.
TB Care:
2011 needs assessment, training of trainers (ToT) 4 provinces to prepare pilot intervention for diagnosis of TB at district level.
Contact tracing is not routine.

Constraints: follow-up is 24 months, no IPT, no child-specific drugs.
Reasons for low detection:
- Diagnostic capacity
- Low notification
- Private sector
- Difficult diagnosis
- If culture is underway – patients default.

Supervision unit (Dr. Nguyen Cong Chi)

2008: Training courses were conducted for health care providers at 6 provinces for almost TB medical doctors at provincial, region and district hospitals, general clinics in
- Two cities: Da Nang, Hai Phong
- Two rural provinces: Hai Duong, Nam Dinh
- Two mountainous provinces: Tuyen Quang, Thai Nguyen

(NB: For Week 2, Paula Fujiwara joined Group 1, replacing Cornelia Hennig, who joined Group 3 in Can Tho)

November 28, 2011, Monday morning, VAAC
The consultants met with a representative of VAAC to discuss the collaboration between it and the NTP, but the person assigned to meet with the consultants was more of a coordinator and did not have much information regarding policy level issues.
VAAC started in 2005, although some preventive activities had started before its establishment. The HIV epidemic is concentrated, of which 60% is among injecting drug users (NB: these questions were also posed by email after the meeting, where the following information was given to the question: What are the HIV high-risk groups: “drug users (17.25%)” (which contradicts what was said during the meeting); sexual workers 4.55%, man-man sexual relationship (4.63%). The biggest opportunistic infections were said to be diarrhea, pneumonia, hepatitis A, B and C; TB accounts for 10% of the OIs.

The NTP and VAAC communicate through focal meetings every 6 months and as needed. Guidelines are developed jointly. It was noted that at the district level, collaboration was “not close”.

For intensified case finding, VAAC is in the process of developing guidelines so the VAAC representative could not give details, other than to say it was based on WHO guidelines.

She said there were no stockouts of ARVs (although this was contradicted in a later meeting with USAID).
Funding is mostly from PEPFAR (66%), GFATM 15-20% from Rounds 6 and 8 or 9. For IPT, a pilot started before 2010, which was expanded after 2010. IPT is the responsibility of VAAC, and the INH is bought by them.

Infection control follows the government circular issued in 2010. HIV preventive activities include free needle exchange, condoms (distributed through peer-to-peer groups and also in participating hotels, methadone maintenance (a pilot
project being done in 10 provinces – by 2015, it is planned that 80,000 of the
150,000 injecting drug users will receive methadone).

Achievement: the number of HIV infections detected has increased (in 2009 –
1,117; in 2010, 2,039).
Challenge: the targets that the two programs set for themselves are too ambitious.
For example, by 2015, 80% of TBHIV patients will be given treatment and prevention
activities by motivating injecting drug users to use cleaned syringes, providing
condoms for peer groups (sex workers) and hotels, and Implementing IEC activities
before developing a policy or guideline.
The VAAC representative felt that the ARV targets for TBHIV patients were too high;
currently, 40% of TBHIV patients get ARVs and the target by 2015 is that 80% of
them will.

After the meeting, the consultants followed up by asking for clarification on issues for
which the interviewee could not give answers.

Funding resources for HIV? Percent for TB/HIV? No answer.
Relationship between VAAC and 05-06 centers and prisons? “Implementing care-
treat on-site in some 05-06 centers TT05-06” (sources: Global Fund but without
specific data and 18 prisons).
VAAC’s policies regarding the 3I’s: IPT, ICF and IC. “VAAC implements but low
coverage. ICF is implemented with 100% at the HIV treatment sites, IPT is
implemented at the treatment sites funded by PEPFAR and GF. IC has been
implemented with low effectiveness at the treatment sites”.

November 28, 2011, Monday morning, WHO
The consultants met with two WHO Viet Nam staff who represented the health
financing section of WHO; one of them, Ms. Escalante, was also responsible for
pharmaceutical issues. Dr. Cornelia Hennig, the TB focal point and part of the
evaluation team, was on a site visit to Can Tho, and the HIV focal point was not
present, despite having confirmed that he would be present. Thus, the consultants
were not able to obtain much information about the TBHIV activities and interaction
at WHO.
Issues regarding the NTP and drug management include:
1. The procurement cycle is long because of the competitive bidding process
and also because payment to suppliers is delayed, causing delay of
subsequent deliveries of medications under the tender.
2. The government should prequalify suppliers, based on technical capacity and
supplier on-time performance from past experiences.
3. The NTP needs to institute a system of batch testing for deliveries subsequent
to the first batch, and also institute a system of testing the stability of the
drugs (broken and crumbling pills).
Regarding ARVs and test kits, almost all funded by donors, including PEPFAR, GF
and Gates Foundation, all of which use their own parallel procurement systems.
PEPFAR drugs go directly to supported sites, bypassing the government system
(NB: in a subsequent discussion with USAID, it was noted that the quantification of
procurement is now being coordinated, although deliveries may be separate).

Health systems strengthening was discussed.
1. WHO provides technical assistance on essential medications, not just anti-TB meds, including quality assurance and supply issues. WHO is trying to encourage the adoption of good manufacturing practice, with pre-qualification, drug safety, pharmacosurveillance (adverse drug reactions, medication errors, etc), drug quality.

2. WHO will provide a study of the current availability of anti-TB medications in the private sector, to document the extent of distribution. This information will provide the evidence base for the Ministry of Health to restrict anti-TB medications in the marketplace. In the best case scenario, it will take approximately 2-3 years before any change in government regulations.

3. There was a brief discussion on health insurance mechanisms to protect patients from increased costs. It was noted that the health insurance system in Viet Nam was still in its infancy, functioning as a reimburser of fees, rather than taking an active role in controlling access to services and developing practice guidelines that must be met.

November 28, 2011, Monday afternoon, Ministry of Labor, Invalids and Social Affairs (MOLISA)

The consultants met with staff of MOLISA to discuss their activities vis-à-vis TB and TBHIV, given that the 05/06 centers house persons who are injecting drug users, have a high rate of TB, and are in a crowded setting. The country has 70 05/06 centers, of which 20 are TB units, and an additional 10 more have the capacity to perform AFB smears. These function as if they are “central or “provincial level” units; the others are at the "district" level. District 05/06 centers report directly to the provincial NTP; while the others report to MOLISA directly. In collaboration with the NTP, MOLISA trains its staff on TB. It also supplies clients IEC materials using its own funds. Diagnosis of TB is performed in the 20 05/06 centers with TB units that have AFB smear capacity and CXR availability. If the center does not have these services, it collaborates with the local health centers or the provincial level to have these services. Fifty of the centers have the ability to isolate TB patients, and the centers follow MOH policy regarding infection control “in theory” (larger centers, which can hold up to 2,000 clients, can adhere to policy, while smaller ones, which house approximately 100-120 people, cannot. For TB treatment and care, TB patients receive treatment for free. TB information is reported to the NTP directly, starting at the local level and moving up to the district or provincial level. MOLISA only asks for reports on an ad hoc basis. The information is shared between the NTP and MOLISA at their review meetings.

The NTP pays for the anti-TB medications. Funding for ARVs is mostly through PEPFAR, which pays for the ARVs that are then provided free to the patient. Other funders include GFATM and the government of Viet Nam, through its national target program (TB is included as a priority disease). The HIV test kits are paid for by the national target program, although in some centers, such as Ha Noi, the clients pay the cost.

Key points discussed included:

1. In 2007, MOLISA cared for 951 TB patients. To date, through September 2011, 698 have been identified, of whom 300 (43%) are HIV positive.

2. Persons entering 05/06 centers have a medical evaluation, but this does NOT include routine screening for TB. In the Ha Noi and HCMC 05/06 centers, active TB screening is performed twice a year using sputum and CXR. After a long discussion, where the consultants pointed out the danger of having an
undiagnosed TB patient who then spreads TB throughout the facility, the MOLISA staff present said that they would consider modifying their protocol.

3. TB patients are not routinely tested for HIV; VCT rather than PITC is the norm, especially in smaller centers that may not have the staff and equipment to perform PITC. Staff said that the centers provide a lot of IEC and peer-to-peer counseling, and based on this, 90% of the clients accept testing. The consultants pointed out that IDUs, who are at high risk of HIV, is a key group that should be provided PITC. MOLISA staff said that according to Vietnamese law, IDUs in 05/06 centers are not obligated to be tested for HIV. HIV testing is only for “health care or legal purposes, or for staff who work in defense or public security”. The consultants pointed out the HIV test for the IDU IS for health care purposes. Regarding payment for HIV testing, while some 05/06 centers provide it for free, others do not; this depends on the policy of the local government.

4. MOLISA staff did not know the budget for TBHIV activities, as “local authorities” pay for these services through a “separate system”.

5. IPT is not part of the routine care of PLH who have been screened and found not to have TB.

November 28, 2011, Monday afternoon, USAID Viet Nam mission
The consultants met with Dr. Minh and Mr. Jonathan Ross of Viet Nam mission to discuss USAID’s TB activities. Attached is the brief provided by the mission regarding their TB-related activities, with additions (in italics) based on discussion:

**USAID TB Portfolio Update**

<table>
<thead>
<tr>
<th>Partner</th>
<th>Activities</th>
</tr>
</thead>
</table>
| KNCV (coordinating partner of TB CARE I) | - Universal and Early Access: strengthen the integrated HIV/TB control services in prisons; Introduce a new approach towards TB control in Children;  
- Laboratory strengthening: support development of the laboratory network for early diagnosis of drug resistant TB and adequate follow-up of treatment in 12 designated MDR laboratories (ensure adequate biosafety standards; develop SOPs for the relevant lab procedures and laboratory safety, including indicators for performance monitoring; ensure adequate training levels of staff; ensure the availability of appropriate equipment, consumables and techniques; introduce and evaluate the implementation of new diagnostic techniques (LED FM, LPA, Xpert MTB/RIF); develop new diagnostic algorithms, guidelines and training materials).  
- Infection prevention: provide training for key persons in infection control (IC coordinators and IC engineers), and support the development of infection control plans for each involved locality (5 planned MDR wards), implementation of infection control measures and training; provide training on TB infection control for HIV staff; technical assistance; strategic (medium term) planning for TB infection control nationwide  
- MDR-TB prevention and management: support regular meetings on progress of PMDT implementation for staff of the MRD treatment centers to harmonize MDR treatment among |
<p>| Budget $2M/year | |</p>
<table>
<thead>
<tr>
<th>Annexes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment sites; collaborate with MSH on e-TB manager implementation, second line TB drugs, Xpert MTB/RIF test kids supply-chain, and TB sample referral system implementation</td>
</tr>
<tr>
<td><strong>WHO – STOP TB</strong></td>
</tr>
<tr>
<td>- Support the implementation of the 2011-2015 National TB Control Plan in Viet Nam and provide technical assistance in the development and implementation of Global Fund proposals</td>
</tr>
<tr>
<td>- Support the National TB program (NTP) to strengthen the quality of TB control and MDR-TB management overall, including improving the collaboration between general hospitals and NTP in providing high-quality TB / MDR-TB management</td>
</tr>
<tr>
<td>- Provide technical assistance for identifying and addressing bottlenecks for improved case finding, including developing tools, guidelines and plans specific for Viet Nam in the implementation of TB control plans related to PPM, MDR-TB management and TB/HIV</td>
</tr>
<tr>
<td>- Work with all partners to accelerate the implementation of TB-HIV collaborative activities</td>
</tr>
<tr>
<td>- Strengthen monitoring and evaluation, including ensuring availability of strategic information, to be used in guiding the implementation of programmatic management of MDR-TB and TB-HIV collaborative activities</td>
</tr>
<tr>
<td>- Added: Supports International WHO officer position (Cornelia Hennig, who is in charge of coordinating all TB activities in the country)</td>
</tr>
<tr>
<td><em><em>PATH (see additional discussion below</em>)</em>*</td>
</tr>
<tr>
<td>- Strengthen the referral model from pharmacies and private clinics to public-sector TB facilities. Strengthen the collaboration between private clinics and the Provincial Health Department (PHD) and Provincial TB and Lung Disease Hospital (TB hospital) for the prompt diagnosis of TB and referral for treatment to public TB facilities.</td>
</tr>
<tr>
<td>- Conduct advocacy, communication, and social mobilization (ACSM) activities to improve patient access to free TB diagnosis and treatment.</td>
</tr>
<tr>
<td>- Create a pharmacy and clinic Public-Private mix (PPM) toolkit in order to facilitate expansion of PPM by the NTP and other stakeholders</td>
</tr>
</tbody>
</table>

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*Note: Path has additional discussion available for further details.*
| MSH (SCMS—Supply Chain Management System); to be replaced by SIAPS in a new USAID mechanism, and will continue to be managed by MSH | • Support the NTP on e-TB manager implementation and developing a supply-chain system for second line TB drugs.  
Last training in October 2011; now translating tools and software for Vietnamese use.  
Vietnamese government’s concern of having server in Brazil now resolved – server based in Viet Nam.  
i. NB: some of the E-TB manager activities are supported by core funds from SCMS through MSH.  
Currently, there is little human resource capacity to address E-TB manager, with the few NTP staff serving as focal points having to perform many other duties.  
SCMS will provide TA to put the system in place, but there are no funds for maintenance or follow-up.  
• Support the NTP and WHO, KNCV to develop a management and distribution system for Xpert MTB/RIF test kits |
| MSH (SPS—Strengthening Pharmaceutical Systems) | • Increase capacity of in-country stakeholders to strengthen laboratory systems by developing a national policy, guidelines, capacity building and system for practical implementation of a referral, reporting and transport system for TB and TB/HIV laboratory specimens |
| The Union (TREAT TB) | • Pham Ngoc Thach Hospital in Ho Chi Minh City was selected as a study site for STREAM study |

*Discussed PPM activity that USAID has with PATH. PF queried about the focus on Model 1 where TB suspects are referred to the NTP for diagnosis and treatment.  
The focus is on pharmacies and small clinics. PF asked about incentive for a private clinic to refer to the NTP when it could treat the patient itself and gain revenue.  
Asked if it might be possible to shift funding to focus on big private hospitals where currently TB cases are not being reported to the NTP. USAID, PATH and NTP have spoken about this possibility, but there is a suspicion that the NTP is refusing because by formally taking on the private sector to increase reporting, it will be responsible for treatment outcome results, which it fears will decrease.  
In addition, it will be difficult for the private sector to refer patients to the NTP as the private doctor will lose diagnostic and treatment visit fees, as well as the profit from selling the patient anti-TB medications.  
One potential solution would be to work at the policy level using administrative controls.  
This would include sanctioning doctors who do not adhere to MOH regulations, not allowing anti-TB medications to be sold in the private sector.  

Although TB CARE activities have just entered their second year and it is too early to determine impact, the mission feels that it has made a start by supporting the coordination of all groups in the country addressing TB, including the Viet Nam Stop TB Partnership.  
Also important has been the development of the new TB Strategic Plan.  

The challenges include: sustainability of activities, given the current donor climate.  
Viet Nam is now a low middle income country, which makes it less attractive to donors.  
A concern is that government funding is now stagnant, and will probably not increase in the coming years, so advocacy at very high levels is needed.  
In fact,
only after lobbying did TB remain as a priority disease. It is felt that there will not be additional funds for the management of MDRTB. A final concern was the quality and number of human resources in the program, especially as concerns the quality of nursing skills.

Recommendations include the need for government to realize that it must take over the financing of activities currently funded by donors. There is a need to increase government funding in terms of HR quality and quantity and to address the low pay of staff.

**November 29, 2011 Tuesday morning, Visit to Ha Noi Lung Hospital**

The consultants met with some of the staff to discuss TB control activities between this hospital and the NTP. The National Tuberculosis and Lung Diseases Hospital is Ha Noi’s provincial hospital linked to the NTP and reporting to it. The following presentation was made:

**Ha Noi Lung - TB Hospital**

1. **General information:**
   - Population: 6,448,837
   - Area: 3,324.92 km²
   - Total number of districts: 29
     - Inner city area: 10 districts
     - Outer city area: 19 districts
   - Total number of communes: 577
     - Inner city area: 145 communes
     - Outer city area: 432 communes

2. **TB prevention network manpower**
   - **Provincial level:**
     - Ha Noi TB - Lung Hospital
     - Ha Dong TB Prevention Center (NB: Ha Dong, previously a separate province, is now part of Na Hoi Province)
   - **District level:** At least 4 officers per commune
     - 1 doctor for management of TB clinic
     - 1 statistical reporter and management of lower level
     - 1 analytical technician for microscopic screening of TB (Lab)
     - 1 pharmaceutical officer for management, supervision and distribution of TB drugs
   - **Commune level:** one DOTS officer for TB patients

3. **IEC activities and social mobilization**
   3.1 **IEC activities**
   - Mass media: Newspapers, etc.
   - Meetings
   - Campaigns for TB prevention in the community, distribution of handouts
   - Broadcasts on communal radio stations
   3.2 **Social mobilization**
   - Implementing both TB prevention programs at national and local level:
     - Financial support in activities: IEC, training, supervision and support.
     - Investment in equipment and infrastructure:
• City level: Hospital and Ha Dong center
• Provincial: Equipment and substructure for TB clinics
• Apply national standards for communal clinics
  - Maintenance of manpower at district and communal level for TB prevention activities

4. Other activities:
  - PPM: Piloting in 3 districts: Tu Liem, Gia Lam, Thanh Xuan - expansion to 10 districts in 2011 (supported by NTP and PATH).
  - Participation of TB case detection screening at 05/06 and detention centers: 70-75 patients/year, with 60% found AFB(+).
  - TB/HIV: in-patient clinic at hospitals and counseling seats in general clinics at districts.
  - MDR, XDR: November 2011: collected 28 drug-resistant TB patients.

5. Detection and admittance results
  - Nearly 0.8% of the general population screened for TB yearly
  - Development of TB prevention network: NTPs, poor immigrants, detention centers... especially PPM.
  - The TB patient per 100.000 people ratio fluctuate between 68-76, in which the ratio of AFB(+) TB per 100.000 people gradually drops from 44 to 33.
  - The number of AFB(+) TB admitted drops every year. The AFB(-) and relapse of AFB ratio rises compared to the same period last year shows the complicated situation in TB screening.
  - The AFB(+) ratio distributed among ages have little difference, however it is alarming that the ratio still concentrates in the worker age groups: 25-34 and 35-44 years.

6. Treatment management results
  - DOTS strategy performed correctly with high quality in both provincial and communal levels.
  - All admitted patients are managed and treated according to the NTP guideline; the success rate ranges from 91.5% to 93.7%.
  - Over 50% of fatalities are patients with TB and HIV co-infection.
  - Patients abandoning treatment every year is lower than the NTP’s standards?
Ha Noi Reporting Model

Ha Noi TB Program Reporting Model

HA NOI PREVENTIVE HEALTH CENTER
(Provincial Level)

National Lung (NL) HOSPITAL

District Health Center

Ha noi Provincial Lung Hospital
HA DONG TB Prevention and Lung Disease Center
(formerly in Ha Tay province, now part of Ha Noi)

Commune Health Center
DOTS TREATMENT
-Regimen
-Follow-up

DISTRICT TB UNITS

TB Cases in Ha Noi, 2006-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Total TB Cases</th>
<th>AFB Smear + Cases (%)</th>
<th>Cure Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>4,492</td>
<td>53</td>
<td>91.5</td>
</tr>
<tr>
<td>2007</td>
<td>4,472</td>
<td>50.4</td>
<td>92.1</td>
</tr>
<tr>
<td>2008</td>
<td>4,454</td>
<td>48.1</td>
<td>91.8</td>
</tr>
<tr>
<td>2009</td>
<td>4,363</td>
<td>42.4</td>
<td>91.6</td>
</tr>
<tr>
<td>2010</td>
<td>4,571</td>
<td>45.7</td>
<td>91.9</td>
</tr>
</tbody>
</table>

TBHIV Cases in Old Ha Noi, 2006-2010 (NB: does not include Ha Dong data)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total TB Cases</th>
<th>HIVTB Cases</th>
<th>% TBHIV Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>2,551</td>
<td>313</td>
<td>12.3</td>
</tr>
<tr>
<td>2007</td>
<td>2,522</td>
<td>202</td>
<td>8.0</td>
</tr>
<tr>
<td>2008</td>
<td>2,509</td>
<td>236</td>
<td>9.4</td>
</tr>
<tr>
<td>2009</td>
<td>2,607</td>
<td>305</td>
<td>11.7</td>
</tr>
<tr>
<td>2010</td>
<td>2,690</td>
<td>272</td>
<td>10.1</td>
</tr>
</tbody>
</table>

TBHIV: All TB cases are routinely provided PITC through Life Gap, and acceptance of HIV testing is nearly 100%. The rapid test is done in the hospital and results are available within 30-60 minutes, with negative results available the same day. If the rapid test is positive, the specimen is sent to the confirmation unit at VAAC and results are available in one week. HIV testing is done for inpatient TB patients by the inpatient physician. Persons suspected of TB have their counseling done by the
person who does the TB clinical evaluation. Those who are HIV+ start free ARVs during TB treatment, without the need for a CD4 count. All persons with HIV are routinely screened for TB. The dually infected patient is hospitalized for two weeks as s/he starts the intensive phase of TB treatment, and then receives both TB and HIV care in the HIV outpatient clinic.

MDRTB: Persons with MDRTB are taken care on a separate floor of the hospital away from TB/HIV patients. From February to November 2011, 28 patients have been enrolled. The hospital has been given medications for 18 of them. Since the full course of treatment is provided for an individual patient, the remaining 10 patients have also been started on treatment using the medications of the other 18, pending the arrival of additional medications.

PPM: PPM is done in three districts, to be expanded to 10 districts by the end of 2011. This will include 12 private hospitals, 150 private clinics and 538 pharmacies, using the model of referring persons suspected of TB to the hospital (Model 1). It was reported that an additional 10-12% of cases has been reported, although no exact data were available. When asked what would maintain the participation of these facilities, the answer by the staff was that it would be difficult to determine as participation was voluntary. However, it was felt that at least some private MDs don’t want to have TB patients in their facilities because of the possibility of spread and their lack of adequate infection control and because treatment takes a long time.

Using funds from the provincial people’s committee, the hospital also does active TB screening in 10 05-06 centers and 2 temporary detention centers quarterly. This generates 70-75 patients per year, 60% of whom are AFB+.

ACSM: ACSM is done regularly, through newspaper articles, videos, meetings, collaboration with the Women’s Union and other community organizations and celebration of World TB Day. In terms of impact, it was felt there was better knowledge and decreased stigmas. One evidence that activities had an impact was the fact that if a patient defaults, the clinic staff where the patient was being seen works with the community to bring the patient back.

Pharmacy: Ordering of anti-TB medications is done quarterly, following the NTP system, and drugs are free to the patient. ARV and HIV test kit ordering is based on the number of HIV patients being treated in the HIV OPC, reported to Life Gap, which sends medications directly to the hospital. There have been no stockouts recently. In 2007 there was no TB buffer stock, but now the hospital has a 9 month reserve.

November 29, 2011 Tuesday afternoon, Visit to Long Bien District Health Center, Ha Noi

The consultants met with the staff of the center to better understand its role in the context of provincial TB control in Ha Noi. The clinic attends to approximately 250-350 patients/day, 200 of which are methadone maintenance patients. The staff care for approximately 200 persons with HIV, of which 6 are coinfected with TB, and about 150 TB patients per year.
Human Resources: The clinic has approximately 100 health staff, of which 30 are physicians (15 of whom are clinicians, the rest being managers). They are responsible not only for clinical duties, but also supervision, ACSM and teaching outside the clinic. There are four TB clinic staff: 1 MD, 2 physician’s assistants and 1 nurse. The ARV clinic consists of part-time staff: 2 MDs, 2 nurses and 1 pharmacist.

TB infection control: TB suspects and patients enter the clinic through a separate door at the side of the clinic, which is near the TB diagnostic and treatment room. The sputum collection is done just outside the clinic and the samples are deposited by the patient in a glass box outside of the clinic, where they are collected by laboratory staff for processing. The TB diagnostic room is divided by a glass wall going 2/3 of the way from the floor, with a semicircular hole similar to a bank teller’s window. Staff sit on one side of the glass wall, and the waiting TB patients sit on the other side. There is no privacy during the consultation, as the waiting patients sit directly in back of the patient being seen within earshot. If the patient needs to be examined, the doctor walks around the partition to examine the patient in front of the other waiting patients.

Large windows line one side of the room with the doorway opposite opening onto an open corridor. Patients are required to wear a mask. The nurses interviewed said they felt protected by having the glass wall between them and the patient. The consultants explained that the environmental setup of the room did not protect them from exposure to airborne particles, using the analogy of cigarette smoke in a room – whose smell permeates all corners of a room.

TB diagnosis and treatment: The clinic diagnoses approximately 150 TB patients per year via sputum smear microscopy, using a spot-morning-spot collection strategy. Sputum tests are free for those patients referred through the NTP; otherwise patients pay 1800 VD for 3 sputa. Results are available the same day the second and third specimens are submitted. All TB suspects also receive a CXR, which costs 18,000 VD (income generating?).

The 8 month treatment regimen is utilized. The patient is seen at the district health center daily during the first two weeks to monitor the response to treatment, then referred to the commune medical services preferably nearest their home. Given that streptomycin, rather than ethambutol, is utilized during the intensive phase, DOT is given at the commune clinic 6 days a week. The patient returns to the district health center for evaluation monthly. Treatment is free.

TBHIV: Every person with TB is tested for HIV on the same day, using a VCT model. Nearly 100% of TB patients accept to be tested for HIV, which staff feel is because of IEC efforts. Persons with HIV are screened for TB. TBHIV activities have been supported by Life Gap. Of the 200 HIV+ patients cared for by this clinic, 6 have TB.

TB recording and reporting: The clinic has a meticulously kept TB lab register, which is kept by specimen, rather than by patient, as is usually done in other countries. Every TB suspect gives 3 sputum specimens. At the end of each quarter, data on number of AFB smears, number of TB patients diagnosed and number of HIV tests
performed are tallied and verified by a supervisor from the provincial hospital. A
similar analysis is performed using the TB register re: the number of patients
registered and treatment outcome. The clinic keeps a separate book on each TB
patient’s HIV results, even though this same information is collected in the TB
register; this being a requirement of Life Gap.

Medications: There have been no stockouts of either anti-TB medications or ARVs.
The staff pick up anti-TB drugs from Ha Noi Provincial Hospital, while ARVs are
picked up from the provincial VAAC.

Financial issues: Although the staff could not provide a figure for the yearly budget,
sources of revenue include patient fees; health insurance reimbursement; the
government of Viet Nam, based on the number of health staff; and GFATM for
antiretrovirals and test kits.

Staff working on HIV-related activities are provided an incentive of 500,000 VD per
month per person; persons working in TB do not receive any and staff do not rotate
clinic duties, but are permanently assigned to a specific unit. Life Gap provided
incentives until 2010; currently GFATM serves as the source.

ACSM: Advocacy is directed both at officials at district and commune level, civil
society and organizations such as the Farmers’ and Women’s Unions. IEC materials
are provided to patients and the community, highlighting the need to seek early
detection at the local health facility if certain signs and symptoms of TB are
discovered.

PPM: no activities

November 30, 2011 Wednesday morning, meeting with different units of the
NTP

Paula Fujiwara met with different NTP units during the first part of the morning.

Administration and International Cooperation Unit
This unit provides the administrative support for the NTP, vis-à-vis handling of visas,
coordinating training and technical support visits. They were asked to provide the
consultants a table of visits coordinated from 2007-2011. Currently, there is no
central repository of all the technical support visit reports and their
recommendations.

National Reference Laboratory
Paula Fujiwara met with Dr. Nguyen Van Hung, head of the National TB Reference
Laboratory (NRL). The NRL has the ability to perform smear, culture, drug
susceptibility testing of first and second-line anti-TB medications, Hain test, MGIT
and automated BACTEC. Xpert MTB/RIF is not yet available, although 17 machines
will be acquired under TB Care and 5 under TB REACH.

Dr. Hung confirmed that the cost for processing 3 sputum specimens is 18,000 VD,
and is free to the patient who “uses the health system correctly”. When asked about
the yield of the 3rd sputum for the diagnosis of TB, he indicated an additional 5%,
which he considered “precious” given that the most recent prevalence survey indicated that the case detection rate has been decreasing. The country will be evaluating the issues relating to moving to obtaining two sputum specimens for TB diagnosis.

When asked about Viet Nam’s good success in getting sputum samples for testing at the end of treatment, he indicated that in some cases, even when the sputum samples are “bad” (for example, are saliva), the technician tests them and the results recorded.

Viet Nam has an EQA system for TB labs. The NRL works with the two regional reference labs in HCMC (located at Pham Ngoc Thach (PNT) Hospital) and Da Nang; 63 provincial labs and 800 TB microscopy units at the district level, the latter two levels using a lot quality assurance system. There is no quality assurance at the commune level, as there are no microscopes at this level). The NRL is also providing EQA for the 3 hospitals in the WHO/CIDA Public-Public Mix Project; when the project is finished, the EQA for these labs will be taken over doing the EQA.

ACSM
Paula Fujiwara met with Dr. Pham Quang Tue, leader of the NTP’s ACSM group. One of the goals of ACSM of the NTP is to maintain the political commitment of government; this was successful this year as tuberculosis has been maintained as a national priority disease. A second goal is to try to improve patient awareness and services regarding TB, through KAP surveys. It has been ascertained that 80% of persons surveyed understand the symptoms of TB. A third goal is to improve the relationship with the private sector, especially as regards reporting of cases to the NTP.

Viet Nam has a national Stop TB Partnership, which provides a strong voice to the government and the National Assembly. For example, it met with the latter’s committee for social affairs to inform about TB. It is chaired by Dr. Nguyen Dinh Huong, a former NTP director. It comprises large mass action groups, such as the Women and Farmers’ Union, Veterans’ Association, as well as pharmaceutical companies and the private sector. Funding is mainly by the government and the Global Fund, although USAID and CDC also contribute.

**November 30, 2011, Wednesday morning, meeting with CDC Viet Nam**

The consultants met with Dr. Bruce Struminger, Director of the CDC office in Viet Nam, and also vice-chair of the Viet Nam Stop TB Partnership.

He mentioned CDC’s Division of Global Migration and Quarantine: Tuberculosis Technical Instructions Implementation activity, which performs medical screening, TB diagnosis (including culture, and first and second line drug susceptibility testing (the latter since October 1, 2011) and treatment, including DOT, for applicants applying for immigration to the US. Screening is performed in HCMC at Cho Ray Hospital and the International Organization for Migration. In 2010, 39,464 applicants were screened, of which 328 were culture-positive (rate of 831/100,000) and 17 (5.2% of culture-positive applicants) had MDRTB. As of the 3rd quarter of 2011, the cases are reported to the NTP, through which the patients receive free medication.
Since funding is through PEPFAR, the TB activities are linked to HIV. The programmatic focus of CDC is to support laboratory, clinical and epidemiological capacity-building activities in line with the NTP’s strategy for 2011-2015. It provides technical/financial support for implementation of evidence-based TB/HIV interventions: PITC, the 3I’s, national guideline revisions. It supports the improvement of the national TB lab network’s quality systems, capacity for management, new diagnostics and strategic planning; does program evaluations and operational research, participates in national technical and guidelines working groups, mentors the clinical training of TB and HIV care providers, and runs the immigrant screening program described above.

In the future, CDC will transition its support from routine program delivery assistance (which currently includes incentives for approximately 4000 staff) to a technical assistance model. CDC also has developed two cooperative agreements directly with the NTP (research and non-research activities, including secretariat support for the Viet Nam Stop TB Partnership). A TB Advisor will be hired to work with the NTP. CDC supports a TB Trials Consortium award to UCSF and the Ha Noi Lung Hospital (2010-2020).

The challenges of working with the Viet Nam NTP include the fact that the government’s financial contribution to the program is inadequate, with more funding devolving to the provincial level. Also, the increasing role of the private sector in TB case management (without reporting to the NTP) is of concern. Finally, there needs to be better coordination of CDC with USAID activities regarding TB, for example, with the latter’s TB CARE mechanism coordinated by KNCV.
Quang Ninh Province

Quang Ninh TB and Lung Hospital (Ha Long city)

Quang Ninh is a province on the northernmost coast of Viet Nam, bordering Guang Xi province of China. It has a population of 1.145 million in a territory of 6099 Km², administratively divided into 14 Districts (3 cities, 1 urban and 10 rural districts) and 186 communes. It has developed coal mines and the tourism industry for Ha Long Bay.

The hospital with a 250 bed capacity serves as the provincial TB hospital as well as the provincial TB control center. It provides comprehensive TB services in diagnosis, treatment, and HIV counseling and testing for TB patients. It also plans, implements and monitors TB projects and program for the entire province.

TB case detection is increasing in terms of numbers but the TB case notification rate is relatively stable. The proportion of smear-negative TB is increasing yearly. High cure and treatment success rates have been maintained over the past 10 years.

### TB detection

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>SS+ New</th>
<th>SS+ relapse</th>
<th>SS-</th>
<th>EP</th>
<th>Other SS-</th>
<th>TB-HIV co-infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1047</td>
<td>583</td>
<td>45</td>
<td>154</td>
<td>265</td>
<td>261</td>
<td>(24.9%)</td>
</tr>
<tr>
<td>2008</td>
<td>1062</td>
<td>528</td>
<td>74</td>
<td>197</td>
<td>263</td>
<td>162</td>
<td>(15.3%)</td>
</tr>
<tr>
<td>2009</td>
<td>1240</td>
<td>563</td>
<td>107</td>
<td>232</td>
<td>325</td>
<td>183</td>
<td>(14.8%)</td>
</tr>
<tr>
<td>2010</td>
<td>1352</td>
<td>520</td>
<td>88</td>
<td>381</td>
<td>341</td>
<td>165</td>
<td>(12.2%)</td>
</tr>
<tr>
<td>2011 (3Q)</td>
<td>1328</td>
<td>466</td>
<td>90</td>
<td>504</td>
<td>249</td>
<td>154</td>
<td>(11.6%)</td>
</tr>
</tbody>
</table>

### TB treatment Outcome for New Cases with SS+

<table>
<thead>
<tr>
<th>Year</th>
<th>Cured</th>
<th>Completed</th>
<th>Died</th>
<th>Failed</th>
<th>Default</th>
<th>Transfer</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>571</td>
<td>8</td>
<td>36</td>
<td>1</td>
<td>14</td>
<td>14</td>
<td>0</td>
<td>644</td>
</tr>
<tr>
<td></td>
<td>88.7%</td>
<td>1.2%</td>
<td>5.6%</td>
<td>0.2%</td>
<td>2.2%</td>
<td>2.2%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>510</td>
<td>13</td>
<td>32</td>
<td>2</td>
<td>11</td>
<td>14</td>
<td>0</td>
<td>582</td>
</tr>
<tr>
<td></td>
<td>87.6%</td>
<td>2.2%</td>
<td>5.5%</td>
<td>0.3%</td>
<td>1.9%</td>
<td>2.4%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>460</td>
<td>11</td>
<td>35</td>
<td>3</td>
<td>14</td>
<td>5</td>
<td>0</td>
<td>528</td>
</tr>
<tr>
<td></td>
<td>87.1%</td>
<td>2.1%</td>
<td>6.6%</td>
<td>0.6%</td>
<td>2.7%</td>
<td>0.9%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>495</td>
<td>9</td>
<td>28</td>
<td>4</td>
<td>13</td>
<td>12</td>
<td>2</td>
<td>563</td>
</tr>
<tr>
<td></td>
<td>87.9%</td>
<td>1.6%</td>
<td>5.0%</td>
<td>0.7%</td>
<td>2.3%</td>
<td>2.1%</td>
<td>0.4%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>369</td>
<td>6</td>
<td>11</td>
<td>1</td>
<td>9</td>
<td>6</td>
<td>0</td>
<td>402</td>
</tr>
<tr>
<td></td>
<td>91.8%</td>
<td>1.5%</td>
<td>2.7%</td>
<td>0.2%</td>
<td>2.2%</td>
<td>1.5%</td>
<td>0.0%</td>
<td></td>
</tr>
</tbody>
</table>

Quang Ninh province carries a high burden of HIV with the prevalence of HIV among TB patients ranging been between 25% and 11%. Quang Ninh has been supported by US CDC under the Life Gap project that includes TB-HIV activities such as Provider-Initiated Counseling and Testing, CPT, ARV in collaboration with HIV.
program, TB screening among PLHIV and laboratory support (HIV testing, liquid culture and CD4 count). The project initially covered 10 out of 14 districts but the scope was reduced to 2 areas (the provincial TB hospital and Cam Pha district) in 2010 where TB-HIV cases tend to concentrate. According to the report, HIV testing coverage for TB patients was nearly complete and CPT coverage was around 79.1%. PLHIV with CD4 count <200 are eligible for ARVs and around 56.6% of TB-HIV co-infected patients were on ARV. IPT had not been introduced in Quang Ninh.

### TB-HIV Related Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Quang Ninh 2010</th>
<th>Quang Ninh 2011 (3Qs)</th>
<th>National (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% TB patients with known HIV status (testing coverage):</td>
<td>97.5% (1311/1345)</td>
<td>96.7% (1369/1415)</td>
<td>43% (1311/3056)</td>
</tr>
<tr>
<td>% of TB patients HIV +ve:</td>
<td>16.9% (222/1311)</td>
<td>11.9% (163/1369)</td>
<td>8% (1311/163)</td>
</tr>
<tr>
<td>CPT coverage</td>
<td>79.1% (175/221)</td>
<td>45.4% (74/163)</td>
<td>62% (1311/295)</td>
</tr>
<tr>
<td>ART coverage</td>
<td>56.6% (125/221)</td>
<td>36.8% (60/163)</td>
<td>43% (1311/3056)</td>
</tr>
<tr>
<td>PLHIV screened for TB*</td>
<td>1154 referred to TB facility out of 13621 PLHIV</td>
<td>434 referred to TB facility out of 2116 PLHIV</td>
<td>NA</td>
</tr>
<tr>
<td>TB diagnosed among PLHIV</td>
<td>1.1% per year (151/13621)</td>
<td>4.7% in 3Qs (99/2116)</td>
<td></td>
</tr>
<tr>
<td>PLHIV provided with IPT</td>
<td>NA</td>
<td>NA</td>
<td>1317 (1311/992)</td>
</tr>
</tbody>
</table>

* Number of PLHIV may not be accurate for 2011.

### Laboratory

The laboratory was well equipped with microscopy, bio-safety cabinets, solid and liquid TB culture facilities. A total of 7 staff, including 5 laboratory technicians, were providing services for all hospital laboratory work and EQA of sputum microscopy for the entire province. Around 2,000 to 2,500 slides per quarter were examined for AFB for diagnosis and follow up. Much of the advanced equipment including a bio-safety cabinet and a liquid culture machine were provided by the Life Gap project.

### ACF for the provincial prison and 05-06 centers

Active case finding (ACF) activities in prisons and 05-06 centers are conducted by the provincial TB control authorities in a periodic manner with support from the GF through the NTP. The 05-06 centers for Quang Ninh province are located in Hoanh Bo district and the ACF activities are coordinated with the district TB staff and health staff in the 05-06 centers.

In May 2011, out of a total of 804 inmates and 69 staff in the 05-06 centers who were screened through X-ray and microscopy, 46 TB cases (10 smear-positive and 36 smear-negative) were diagnosed. This translated into 1.1% smear-positive and 5.3% overall TB prevalence among the screened subjects. Culture results were not available.

Active case finding in the provincial prison was conducted in a similar manner but the result was not available at the time of visit.

### TB among other high risk populations

Coal mines represent a major industry in Quang Ninh province. Some districts, such as Cam Pha district, have developed historically as a mining community with the majority of workers employed in the mining industry. It has been well recognized...
that miners are affected by a high rate of injecting drug use and a high HIV
prevalence; thus they are the priority TB-HIV risk population in the province.
Provincial TB Control authorities recognize the importance of this population. With
support from the Provincial Health Department and a mining company, a mobile X-
ray car was procured for intensified TB case finding in 2009. It has been used for
health screening among miners in coordination with mining companies.
According to the available records, such screening activity was conducted in
September 2011 among 1,128 miners. A total 15 subjects (1.3%) were identified
with X-ray abnormality consistent with TB and referred for further testing. Although
the prevalence of X-ray abnormality is very low (much lower than the prevalence
survey finding, i.e. 4.2%), ACF among miners might provide a good opportunity for
intensified case finding among TB high risk populations.

Cam Pha District Health Center (TTYT Cam Pha), Quang Ninh
Cam Pha District Health Center manages public health programs for the district.
There were seven staff working in the center and three staff involved in TB work.
A total of 264 TB patients were registered in 2010, of which 42 (16%) were HIV co-
infected. HIV testing among TB patients was nearly complete and TB suspects
among PLHIV were referred from the HIV clinic in the same compound for
microscopy and other testing. X-ray is available in the district hospital and the X-ray
cost for PLHIV will be covered by the Life Gap project.

<table>
<thead>
<tr>
<th>TB-HIV Related Indicators</th>
<th>2010</th>
<th>Cam Pha district 2011-3Qs</th>
<th>National (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% TB patients with known HIV status (testing coverage):</td>
<td>97.1% (169/174)</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>% of TB patients HIV +ve:</td>
<td>16.0% (27/169)</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>CPT coverage</td>
<td>29.6% (8/27)</td>
<td>62%</td>
<td></td>
</tr>
<tr>
<td>ART coverage</td>
<td>70.4% (19/27)</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>PLHIV screened for TB</td>
<td>41 referred to TB facility out of 804 PLHIV (only Q1)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>TB diagnosed among PLHIV</td>
<td>0.7% per quarter (6/804)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLHIV provided with IPT</td>
<td>NA</td>
<td>1317</td>
<td></td>
</tr>
</tbody>
</table>

Cam Donh Health Post, Cam Pha, Quang Ninh
With its five full-time staff, Cam Donh Health Post provides basic primary care
services to a population of 10,660 made up of 3,000 households in the urban area of
Cam Pha district. Currently, five TB patients are on treatment with one TB-HIV co-
infected patient. The post only treats TB patients in continuation phase as it does
not have a doctor to manage streptomycin injection.
Treatment for the continuation phase is not DOT and the drugs are given to patients
monthly. However, treatment support through community health workers can be
arranged for some patients on a case-by-case basis.
TB drugs from the NTP are collected from the District Health Center on a monthly basis only for the required amount calculated by the District Health Center staff. They are kept in a locked cabinet with other medicines in a well organized manner.

**Hoanh Bo District Health Center (TTYT Hoanh Bo), Quang Ninh**
The 844 Km² district is located west of the Ha Long city and has a population of 48,000 in 13 communes. It also accepts referrals from the 05-06 centers for TB diagnosis and treatment. The center does not have its own building, therefore it is hosted in the district general hospital (100 bed-capacity with 75 staff). A total of 32 staff work in the health center, of which 4 staff (a doctor, an assistant doctor, a pharmacist and a laboratory technician) are involved in TB work. TB case notification is increasing in the district, partly due to the increasing population but primarily due to the increase in the number of cases from the 05-06 centers.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>SS+ New</th>
<th>05-06 center</th>
<th>TB-HIV co-infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>34</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>52</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>51</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>70</td>
<td>28</td>
<td>11 (15.7%)</td>
<td>14* (20%)</td>
</tr>
<tr>
<td>2011 (3Q)</td>
<td>117</td>
<td>43</td>
<td>51 (43.6%)</td>
<td></td>
</tr>
</tbody>
</table>

* The number is for Q4/2009 to Q3/2010 (reporting year for Life Gap)

**Primary Health Care Expansion project**
The district is part of the project sites of the Primary Health Care Expansion project. The activities planned by the health center consisted of (a) workshop with all stakeholders (peoples’ committee, education sector, women’s association, farmers’ union, veterans’ association, mass-media, etc), (b) health education among PLHIV, and (c) training for village health volunteers.

**Son Duong Health Post, Hoanh Bo District, Quang Ninh**
The health post serves 4,686 people made up of 1,081 households spread across an 18 km² mountainous rural area. The number of TB patients in 2011 is 7 with the majority in the elderly population (four patients >70 years). The center takes care of patients in the continuation phase through the monthly dispensing of drugs. TB suspects are referred to the district health center. Patient home visits are conducted from time to time but transportation is an issue, including due to the fuel cost for the motorbike.

TB treatment cards, drug stock records and the OPD register were well organized and updated properly.

**Thai Binh Province**

**Thai Binh TB and Lung Hospital (Thai Binh city)**
Thai Binh is a highly dense province with a population of 1.88 million within its territory of 1,550 Km². It is made of 8 administrative units (1 city and 7 rural districts) and 286 communes.
The hospital with 120 bed capacity serves as a provincial TB hospital as well as a provincial TB control center. It provides comprehensive TB services in diagnosis, treatment, and HIV counseling and testing for TB patients. It also plans, implements and monitors the TB program for the entire province. Compared to the population density, medical facilities are numerous and relatively well established. The province has a provincial general hospital with 600 beds and 12 district general hospitals. It also has more than 1,000 registered private facilities. TB case detection has been relatively stable between 2007 and 2009 with a case notification rate just below 100 per 100,000. There was a temporal decline in 2010 but the rate is likely to be back at the 2009 level in 2011.

### TB detection

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>SS+ New</th>
<th>Retreatment</th>
<th>SS-</th>
<th>EP</th>
<th>Others</th>
<th>TB-HIV co-inf</th>
<th>CNR /100000</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1774</td>
<td>883</td>
<td>89</td>
<td>490</td>
<td>312</td>
<td>0</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>1805</td>
<td>834</td>
<td>75</td>
<td>551</td>
<td>345</td>
<td>0</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>1756</td>
<td>779</td>
<td>101</td>
<td>520</td>
<td>349</td>
<td>7</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>1473</td>
<td>653</td>
<td>83</td>
<td>464</td>
<td>266</td>
<td>7</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>2011 (3Q)</td>
<td>1260</td>
<td>543</td>
<td>83</td>
<td>370</td>
<td>255</td>
<td>9</td>
<td>154 (11.6%)</td>
<td>88 (annualized)</td>
</tr>
</tbody>
</table>

### TB treatment outcome for new smear-positive cases

<table>
<thead>
<tr>
<th>Year</th>
<th>Cured</th>
<th>Completed</th>
<th>Died</th>
<th>Failed</th>
<th>Default</th>
<th>Transfer</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>916</td>
<td>11</td>
<td>34</td>
<td>0</td>
<td>5</td>
<td>7</td>
<td>0</td>
<td>973</td>
</tr>
<tr>
<td></td>
<td>94.1%</td>
<td>1.1%</td>
<td>3.5%</td>
<td>0.0%</td>
<td>0.5%</td>
<td>0.7%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td>2007</td>
<td>786</td>
<td>39</td>
<td>41</td>
<td>1</td>
<td>12</td>
<td>4</td>
<td>0</td>
<td>883</td>
</tr>
<tr>
<td></td>
<td>89.0%</td>
<td>4.4%</td>
<td>4.6%</td>
<td>0.1%</td>
<td>1.4%</td>
<td>0.5%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td>2008</td>
<td>735</td>
<td>33</td>
<td>41</td>
<td>2</td>
<td>16</td>
<td>7</td>
<td>0</td>
<td>834</td>
</tr>
<tr>
<td></td>
<td>88.1%</td>
<td>4.0%</td>
<td>4.9%</td>
<td>0.2%</td>
<td>1.9%</td>
<td>0.8%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td>2009</td>
<td>713</td>
<td>21</td>
<td>28</td>
<td>1</td>
<td>10</td>
<td>6</td>
<td>0</td>
<td>779</td>
</tr>
<tr>
<td></td>
<td>91.5%</td>
<td>2.7%</td>
<td>3.6%</td>
<td>0.1%</td>
<td>1.3%</td>
<td>0.8%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td>2010</td>
<td>454</td>
<td>26</td>
<td>10</td>
<td>2</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>503</td>
</tr>
<tr>
<td></td>
<td>90.3%</td>
<td>5.2%</td>
<td>2.0%</td>
<td>0.4%</td>
<td>1.8%</td>
<td>0.4%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Laboratory

The laboratory is located in the first and second floors of the hospital with microscopy and solid culture facilities. Smearing, staining and examination space seemed adequate for the microscopy (on the ground floor) but the room for TB culture (2nd floor) was small and without air flow control. The construction of a new building was ongoing just behind the current building. It was explained that the building will host the TB laboratory and MDR-TB ward with a newly procured liquid culture (MGIT) machine. This expansion was supported by a MOH scheme for health facility development at provincial and district levels. According to the NTP, these laboratory upgrading and MDR-TB ward were not part of the national MDR-TB expansion plan.
The number of sputum smear examinations fluctuated between 2007 and 2011 with population screening rates between 0.51% and 0.82%. It is important to note that the lowest screening rate of 0.51% coincided with the drop in case notification rate at 78 per 100,000 in 2010.

PPM
PPM activity started in 2008, engaging 2 hospitals (1 private and 1 medical university) and 8 private clinics. As of 2011, the participating providers are the same but one of the private clinics was upgraded to a hospital. All facilities have adopted the PPM model 1 (referral only) function. The below table provides a summary of PPM since 2008. Overall, the number of referrals appeared to be small but the yield of TB cases is relatively large especially for all forms of TB. The proportion of smear positive TB among referred suspects ranges between 4.4% and 5.3% which is similar to the routine suspect examination. However, the proportion of all forms of TB among all referrals reaching 30% suggests selective referrals, i.e. subjects who are highly suspected with TB (or even diagnosed with TB) are referred. In a sense, these can be regarded as effective referrals but it also suggests more potential for increasing suspect referrals.

### Contribution of PPM in Thai Binh

<table>
<thead>
<tr>
<th>Year (Qs)</th>
<th>Referrals from PPM</th>
<th>Referrals resulted in TB diagnosis (Sm+)</th>
<th>Referrals resulted in TB diagnosis (all)</th>
<th>Provincial TB case notification (Sm+)</th>
<th>Provincial TB case notification (all forms)</th>
<th>PPM contribution (all forms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>177</td>
<td>4.4% 18/412</td>
<td>28.2% 116/412</td>
<td>880</td>
<td>1756</td>
<td>6.6%</td>
</tr>
<tr>
<td>2009</td>
<td>412</td>
<td>4.4% 16/362</td>
<td>24.3% 88/362</td>
<td>687</td>
<td>1472</td>
<td>6.0%</td>
</tr>
<tr>
<td>2010</td>
<td>362</td>
<td>5.3% 8/151</td>
<td>30.5% 46/151</td>
<td>406</td>
<td>790</td>
<td>5.8%</td>
</tr>
<tr>
<td>2011 (2Q)</td>
<td>151</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Annexes
TB-HIV

According to sentinel surveillance data in 2007, Thai Binh province has a moderate to high HIV burden: HIV prevalence was 0.8% among ANC attendees, 10.9% among IDUs, 1.1% among female sex workers, and 3.0% among TB patients.

<table>
<thead>
<tr>
<th>TB-HIV related indicators</th>
<th>2011 (3Qs)</th>
<th>National (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% TB patients with known HIV status (testing coverage):</td>
<td>71.8% (483/673)</td>
<td>43%</td>
</tr>
<tr>
<td>% of TB patients HIV +ve:</td>
<td>10.6% (51/483)</td>
<td>8%</td>
</tr>
<tr>
<td>CPT coverage</td>
<td>0% (0/51)</td>
<td>62%</td>
</tr>
<tr>
<td>ART coverage</td>
<td>0% (0/51)</td>
<td>43%</td>
</tr>
<tr>
<td>PLHIV screened for TB</td>
<td>50 referred to TB facility</td>
<td>NA</td>
</tr>
<tr>
<td>TB diagnosed among PLHIV</td>
<td>37 in 3Qs</td>
<td></td>
</tr>
</tbody>
</table>

A TB-HIV collaborative project started in 2007 with support from University Research Corporation (URC) in the United States. The project provided training for PICT and TB screening among PLHIV. Unfortunately, the project lasted only for 18 months. In April 2011, the Life Gap project (supported by US CDC) started in Thai Binh city and two districts. According to the quarterly reports, HIV testing coverage was 71.8% and the prevalence of HIV among TB patients was 10.6% (much more than indicated by the sentinel surveillance in 2007 probably due to the focused geographical scope of the Life Gap project). CPT and ARV implementation was nil according to the reports. There were 50 referrals from HIV facilities to TB centers and 37 PLHIV were diagnosed for TB. IPT has not been implemented.

Lam Hoa General Hospital (private hospital)

Lam Hoa General Hospital is the first private hospital in Thai Binh with 100 beds operated by 178 staff, including 50 full-time doctors. It is equipped with two X-ray machines, one CT scan and one ultra-sonography scan. The OPD is attended by 500 patients per day. The laboratory is capable of performing AFB smear and actually conducts sputum smear examination of up to 40-100 slides per month. Nevertheless, the hospital is currently under the PPM Model 1 and refers all TB suspects or patients to the Provincial TB hospital. With the capacity of the hospital and the volume of the clients, there is a great potential for increasing the case detection by engaging the hospital as a PPM Model 2 provider (referring and diagnosing facility).

Hoang An General Hospital (private hospital)

This facility participated in PPM in 2008 and it was upgraded to a hospital with 60 beds in 2010. It employs a total of 72 staff including 21 doctors. The OPD is attended by 130-140 patients per day. In October 2010, the provincial TB program supplied this hospital with a microscope for sputum microscopy. However, sputum microscopy has not been conducted frequently leaving microscopy (supported by the GF) totally under-utilized.
A serious issue was raised during the discussion with regard to health insurance. It was explained that the hospital registered 30,000 health insurance cards (members) as their primary care facility. There seems to be an expenditure ceiling for each health insurance participant and any expenditure beyond this ceiling will create a financial deficit to the hospital. This financial mechanism works as a very strong disincentive for the hospital to refer TB suspects/patients as the expenditure in the TB hospital will potentially create a financial deficit to the referring facility. This issue should be further investigated and clarified as it will pose a significant threat to the PPM activities in the whole country.

**Tien Hai District Health Center (TTYT Tien Hai), Thai Binh**

Tien Hai is a well populated district with a 222,845 population in a 232 km² area, consisting administratively of 34 communes and 1 town. It has 2 district general hospitals. Tien Hai District Health Center manages public health programs and four staff are involved in TB work.

### TB detection

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>SS+ New</th>
<th>SS+ relapse</th>
<th>SS-</th>
<th>EP</th>
<th>TB-HIV co-inf</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>211</td>
<td>124</td>
<td>7</td>
<td>45</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>217</td>
<td>127</td>
<td>10</td>
<td>51</td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>209</td>
<td>115</td>
<td>5</td>
<td>49</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>179</td>
<td>99</td>
<td>9</td>
<td>50</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>2011 (3Q)</td>
<td>168</td>
<td>84</td>
<td>9</td>
<td>47</td>
<td>28</td>
<td>0</td>
</tr>
</tbody>
</table>

### TB treatment outcome for new cases with SS+

<table>
<thead>
<tr>
<th>Year</th>
<th>Cured</th>
<th>Completed</th>
<th>Died</th>
<th>Failed</th>
<th>Default</th>
<th>Transfer</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>110</td>
<td>95.7%</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>115</td>
</tr>
<tr>
<td>2007</td>
<td>114</td>
<td>91.9%</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>124</td>
</tr>
<tr>
<td>2008</td>
<td>115</td>
<td>90.6%</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>127</td>
</tr>
<tr>
<td>2009</td>
<td>106</td>
<td>92.2%</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>115</td>
</tr>
<tr>
<td>2010</td>
<td>72</td>
<td>90.0%</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>80</td>
</tr>
</tbody>
</table>

Practical Approach to Lung Health (PAL) is conducted in this district. The District Health Center summarizes the quarterly report of PAL and submits it to the provincial TB hospital. From 2007 to 2010, Tien Hai focused on TB/HIV activities under the URC project. Since the end of the project, the district hospital has taken over the purchase of supplies for HIV tests and TB patients willing to be tested for HIV have to pay for the test (50,000VND/ patient). The District Health Center refers TB/HIV co-infection patients to the provincial TB hospital for treatment and management.
The infectious disease department of the district hospital is in charge of TB diagnosis and treatment. There are 1 doctor and 6 nurses in this department. The TB laboratory was equipped with microscopy and bio-safety cabinets and 1 laboratory technician provides services. The department has three wards and a TB ward (10 beds) is available to TB patients for the intensive phase of treatment.

Service charge for sputum microscopy is 18,000VND /slide and 20,000VND for X-ray. TB suspects have to pay 5% or 20% of these fees depending on their health insurance scheme. Follow-up microscopy and in-patient care (8,000VND/bed/day) is free of charge for TB patients.

**Phuong Cong Health Post, Tien Hai District, Thai Binh**
The health post serves 6,368 people making up 1,832 households located in 5 villages and 11 sub villages. Each village has one health collaborator for TB patient management. The post only treats TB patients in the continuation phase as it does not have a doctor to manage streptomycin injection. Treatment for the continuation phase is not DOT and the drugs are given to patients monthly. TB suspects are referred to the district health center. Patient home visits are conducted monthly by health post staff. However, the supervision register shows that most patients came to the health post every 10 days to pick up TB drugs.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>SS+ New</th>
<th>SS+ relapse</th>
<th>SS-</th>
<th>EP</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>7</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2011 (3Q)</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Village health collaborators conduct symptom screening for family members and relatives of new smear positive cases. People with symptom are referred to the district health center for diagnosis. The health post keeps record of all suspects referred to the district health center (suspect referral register–apparently developed in Thai Binh Province). Three TB patients were diagnosed out of 58 suspects referred to the district health center in 2011.
Thanh Hoa Province

Thanh Hoa Provincial TB Control
Thanh Hoa is a populated province with 3.42 million people in its 11,116 km² area. More than 3,000 TB cases are reported from 29 reporting units including two prisons.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>SS+ New</th>
<th>Retreatment</th>
<th>SS-</th>
<th>EP</th>
<th>Others</th>
<th>Cases reported from prisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>3896</td>
<td>2208</td>
<td>169</td>
<td>1141</td>
<td>378</td>
<td>268</td>
<td>268</td>
</tr>
<tr>
<td>2008</td>
<td>3761</td>
<td>2078</td>
<td>208</td>
<td>1135</td>
<td>340</td>
<td>301</td>
<td>301</td>
</tr>
<tr>
<td>2009</td>
<td>3729</td>
<td>1958</td>
<td>258</td>
<td>870</td>
<td>344</td>
<td>299</td>
<td>317</td>
</tr>
<tr>
<td>2010</td>
<td>3390</td>
<td>1928</td>
<td>235</td>
<td>786</td>
<td>351</td>
<td>90</td>
<td>233</td>
</tr>
<tr>
<td>2011 (3Qs)</td>
<td>2765</td>
<td>1474</td>
<td>176</td>
<td>862</td>
<td>244</td>
<td>9</td>
<td>155</td>
</tr>
</tbody>
</table>

TB control in prisons
There are four national prisons in the province. The provincial TB hospital has been providing various support in TB control activities in prisons in the past 20 years. Main activities include accepting referrals, providing training for prison health staff and active case finding among inmates in the two largest prisons (Trai V and Trai Thanh Phong).
Periodic ACF sessions have been provided once or twice a year depending on resource availability (e.g. the numbers tested were about half in 2007 and 2009 in the below table). Since 2009, the current policy is to provide ACF twice a year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>SS+ New</th>
<th>Retreatment</th>
<th>SS-</th>
<th>EP</th>
<th>Others</th>
<th>Number of smear microscopy (person)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>188</td>
<td>172</td>
<td>0</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>268</td>
<td>142</td>
<td>0</td>
<td>111</td>
<td>15</td>
<td>0</td>
<td>3,214</td>
</tr>
<tr>
<td>2008</td>
<td>301</td>
<td>95</td>
<td>53</td>
<td>151</td>
<td>2</td>
<td>0</td>
<td>6,334</td>
</tr>
<tr>
<td>2009</td>
<td>317</td>
<td>68</td>
<td>70</td>
<td>35</td>
<td>7</td>
<td>137</td>
<td>2,359</td>
</tr>
<tr>
<td>2010</td>
<td>233</td>
<td>96</td>
<td>49</td>
<td>79</td>
<td>5</td>
<td>4</td>
<td>4,759</td>
</tr>
<tr>
<td>2011 (2Qs)</td>
<td>125</td>
<td>35</td>
<td>15</td>
<td>70</td>
<td>5</td>
<td>0</td>
<td>1,291</td>
</tr>
</tbody>
</table>
TB treatment outcome for new smear-positive cases in prisons

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Cured</th>
<th>Completed</th>
<th>Died</th>
<th>Failed</th>
<th>Default</th>
<th>Transfer</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>153</td>
<td>6</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>172</td>
</tr>
<tr>
<td></td>
<td>89.0%</td>
<td>3.5%</td>
<td>0.0%</td>
<td>7.6%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td>2007</td>
<td>124</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>142</td>
</tr>
<tr>
<td></td>
<td>87.3%</td>
<td>12.7%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td>2008</td>
<td>85</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>89.5%</td>
<td>10.5%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td>2009</td>
<td>31</td>
<td>8</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>70.5%</td>
<td>18.2%</td>
<td>0.0%</td>
<td>11.4%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Trieu Son District Health Center (TTYT Trieu Son), Thanh Hoa

Trieu Son District Health Center manages public health programs for the district of 196,000 population in 36 communes. The center does not have its own building, therefore it is hosted in the district general hospital.

The TB laboratory in the district health center conducts sputum microscopy for diagnosis and follow up. TB suspects first go to the commune health post for symptom screening, those with symptom are referred to the district health center, and a few suspects go to the district health center directly. 3 sputum samples are collected for microscopy. If the result is positive, the patient will be registered and start treatment; if the result is negative, the suspect will undergo a chest X-ray test in the district general hospital and be referred to the provincial TB hospital for diagnosis. Most TB patients get treatment at the commune health post, as 70% of commune health posts have doctors to manage streptomycin injection.

HIV testing among TB patients has been conducted in the district health center for 5-6 years; no TB/HIV co-infection patient was found. TB screening among PLHIV is the responsibility of the HIV service, which is not located in this health center.

Consultation at commune and district level and sputum smear microscopy are free of charge; chest X-rays (20,000VND/person) have to be paid by suspects/patients, who if they have health insurance end up paying 20% or 5% of the fee. Injection supply is not covered by NTP and is paid by TB patients in the intensive phase (30,000 VND or 1.5USD /month). In order to avoid side-effects of TB drugs, Vitamin B complex is prescribed for almost all TB patients for the whole treatment duration (250,000 VND or USD 12.50 for 8 months), which is also paid by the patient.

Tho Tan Health Post, Trieu Son, Thanh Hoa

With five health staff, Tho Tan Health Post provides basic primary care services. The health post collects sputum specimens from TB suspects for diagnosis and follow up, and sends them to the district health center. The number of TB patients in 2011 is five; currently three TB patients are on treatment with the majority in the elderly population (80 years, 64 years and 44 years) and with one relapse case that developed TB and got treatment five years ago. The post treats TB patients in the intensive and continuation phases. Treatment for the continuation phase is not DOT and the drugs are given to patients monthly. Patients come back to the commune health post for sputum follow up. Eight village health workers in 8 villages visit patients every five days.
TB treatment cards and the drug distribution register were well organized and updated properly.

**Patient story**
One of the patients on treatment was interviewed by the evaluation team. He is 44 years old, works as a carpenter with 4 workers. He lives with his wife and a 14-year-old son. The early symptoms were chest pain, cough and dyspnea, which lasted 6-7 months before he came to the commune health post. At the beginning he bought drugs for flu from the local pharmacy and got asthma treatment. His wife advised him to go to the commune health post many times before he made the final decision. He was diagnosed as a new smear-positive TB case and started treatment on May 31, 2011. He felt better at the time of the visit. Because of this disease, he could not work for 3-4 months, and was even not completely fit at the time of our visit. His monthly income decreased to 3 million VND from about 4-5 million before he got ill. In response to our question on direct expenditure related to TB treatment, he answered 1.3 million VND/month in the intensive phase and 1 million VND/month in the continuation phase including infection supplies, vitamin tablets, etc.

**Ministry of Police (MoP)**
The Ministry of Police manages prisons in the country. It has a collaborative agreement (MOU) with the NTP/MOH since 1998. The NTP established the national guidelines on TB control in prisons in 2007. The number of TB units in prisons expanded from 24 in 2007 to 35 in 2011. Training on TB management for prison health staff has been conducted and health education activities for inmates are regularly conducted. Some diagnostic equipment including X-ray machines were installed and upgraded with support from the NTP and other Ministry of Health resources.

**TB Cases Reported from the Prison System**

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011 (3Qs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB cases reported from prisons</td>
<td>1,389</td>
<td>1,300</td>
<td>884</td>
</tr>
<tr>
<td>National TB notification</td>
<td>95,036</td>
<td>94,867</td>
<td>98,338</td>
</tr>
<tr>
<td>Contribution to the national notification</td>
<td>1.5%</td>
<td>1.4%</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

The functions of TB units in prisons are comparable with TB services in district health centers including microscopic diagnosis, registering and drug dispensing. All other prison units have similar functions as commune health posts such as suspect identification, sputum collection, specimen referral (to the nearest district health center) and treatment under DOT.

Periodic Active Case Finding is a strong component of the TB control activity in prisons in Viet Nam. At policy level, bi-annual (twice a year) ACF has been recommended for all prison inmates using X-ray screening for all. Some facilities also apply TB culture. Operational costs and supplies are supported by the NTP (Global Fund) and also by local resources especially from the provincial government. According to the data available at the NTP, 13,332 prisoners were screened 2007-08 and yielded 1.6% smear-positive and 2.5% culture positive TB. The latest information was not available specifically for ACF.

In general, TB case detection in prisons is through (a) entry screening, (b) periodic ACF, and (c) routine passive case finding. It is estimated that the majority of TB...
cases detected in the prison system in Viet Nam are from periodic ACF. The contribution from the entry screening seems limited.
Group 3 (Paula Fujiwara, Bui Thi Tu Quyen, Tran Van Thieu, Truong Thanh Huyen)

November 22, 2011, Tuesday morning, Meeting with NTP, Southern Region, HCMC

The NTP in HCMC is at PNT Hospital, and is responsible for 22 provinces, comprising 229 districts, covering a population of 33 million people. Activities cover the range of TB control.

TBHIV activities are supported by Life Gap in half of the provinces and by the national budget in the rest. Each of the 22 provinces has a coordinating board. TBHIV data (counseled and tested for HIV, the number who are HIV+, who is taking CPT and ARV) are incorporated into the TB reporting forms. Since the beginning of Life Gap support in the second quarter of 2009, the percentage of TB patients in provinces supported by it has risen dramatically, from just 30% to 70%; while HIV testing for provinces without Life Gap support ranges from <10% in Tra Vinh and Dong Thap to 60% in Binh Phuoc and Lam Dong, with the rest <45%. For PLH, 47% are screened for TB using a questionnaire.

PPM is being piloted in 4 provinces, with 511 private facilities and 36 public hospitals enrolled. In HCMC, PPM contributed 17-45% of the total sputum specimens examined and 10% of the registered patients.

MDRTB activities are being piloted in HCMC and in Can Tho, with 527 patients in HCMC and 43 in Can Tho by the end of October 2011.

The number of trainings is quite significant with 451 courses and 10,421 participants between 2007 and 2010, with content ranging from NTP performance, PPM-DOTS, asthma, TBHIV collaboration, Research, MDRTB and ACM. Of note is that in 2007, 272 courses were held on ACSM with nearly 5000 persons trained. Many ACSM activities were performed in collaboration with other departments such as the Farmers’ and Womens’ Unions, the Provincial Center for Information and Health Education and the Provincial Training-Education Bureau. Activities included meetings, broadcasts, radio; paper based information (leaflets, manuals for TB patients, manual for “propagators” (those who educate the community/patients on TB; can be village health workers or health staff), peer education, education of immigrants and the poor. However, it was acknowledged that impact was difficult to measure.

Drug supply: There have been enough first-line drugs, with no stock outs.

Southern Region Data

<table>
<thead>
<tr>
<th>Smear Examination Pop. and SS+ Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>Smear exam/ pop. (%)</td>
</tr>
<tr>
<td>New ss (+) proportion (%)</td>
</tr>
</tbody>
</table>
### Case Notification (All Cases)/100,000 population

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Area</td>
<td>154</td>
<td>154</td>
<td>153</td>
<td>151</td>
</tr>
<tr>
<td>East Area</td>
<td>181</td>
<td>180</td>
<td>177</td>
<td>168</td>
</tr>
<tr>
<td>Mekong Delta</td>
<td>142</td>
<td>143</td>
<td>142</td>
<td>146</td>
</tr>
</tbody>
</table>

### Case notification of new TB ss (+)/100,000 population

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>South</td>
<td>89</td>
<td>89</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>East</td>
<td>102</td>
<td>100</td>
<td>95</td>
<td>89</td>
</tr>
<tr>
<td>Mekong</td>
<td>90</td>
<td>91</td>
<td>88</td>
<td>92</td>
</tr>
</tbody>
</table>

### Individuals with Sputum Smear Examination in HCMC

<table>
<thead>
<tr>
<th></th>
<th>Self Referred</th>
<th>Transferred by Private Facility</th>
<th>Transferred by Public Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3-2009</td>
<td>11,258</td>
<td>40</td>
<td>2,235</td>
</tr>
<tr>
<td>Q4-2009</td>
<td>9,139</td>
<td>35</td>
<td>3,292</td>
</tr>
<tr>
<td>Q1-2010</td>
<td>8,610</td>
<td>99</td>
<td>3,392</td>
</tr>
<tr>
<td>Q2-2010</td>
<td>8,435</td>
<td>66</td>
<td>3,239</td>
</tr>
<tr>
<td>Q3-2010</td>
<td>10,813</td>
<td>2,590</td>
<td>4,106</td>
</tr>
<tr>
<td>Q4-2010</td>
<td>8,285</td>
<td>2,525</td>
<td>3,021</td>
</tr>
<tr>
<td>Q1-2011</td>
<td>10,492</td>
<td>2,647</td>
<td>4,065</td>
</tr>
<tr>
<td>Q2-2011</td>
<td>9,652</td>
<td>2,553</td>
<td>4,706</td>
</tr>
<tr>
<td>Q3-2011</td>
<td>9,435</td>
<td>2,687</td>
<td>5,126</td>
</tr>
</tbody>
</table>
Treatment Outcome for South

<table>
<thead>
<tr>
<th></th>
<th>Cured</th>
<th>Died</th>
<th>Failure</th>
<th>Default</th>
<th>Transf.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>90.2%</td>
<td>4.0%</td>
<td>1.6%</td>
<td>2.1%</td>
<td>2.1%</td>
</tr>
<tr>
<td>2008</td>
<td>91.2%</td>
<td>3.7%</td>
<td>1.6%</td>
<td>1.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>2009</td>
<td>91.5%</td>
<td>3.5%</td>
<td>1.6%</td>
<td>1.7%</td>
<td>1.7%</td>
</tr>
<tr>
<td>2010</td>
<td>91.3%</td>
<td>3.5%</td>
<td>1.8%</td>
<td>1.6%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

**November 22, 2011, Tuesday morning, Visit to MDRTB Ward, PNT Hospital**

The consultants visited the MDRTB ward of PNT hospital. The ward was well-ventilated, had high ceilings, with fans strategically placed to foster airflow to the outside. Within the bathrooms of the ward we toured (there were two), an exhaust system also helped to pull air to the outside. There was a separate elevator just for patients with MDRTB. One peculiarity of the examination room (here and in other settings) is the use of a glass partition to separate the health care worker from the patient. However, the partition is not airtight, so air circulates over and around it, allowing zero protection from *Mycobacterium tuberculosis*.

There are 20 staff working there (3 doctors, 12 nurses, 2 orderlies and 3 counselors). The MDRTB steering committee has 5 members. The Central Treatment Council is located in PNT hospital with 11 members: PNT doctors, Laboratory doctors, Head nurse, Counselor, Head of B2 NTP, Pharmacist and Psycho –social counselor.

**November 22, 2011, Tuesday afternoon, Meeting with Dr. Lan regarding PMDT**

The consultants heard a presentation from Dr. Lan, ex-TB laboratory Director and Coordinator for PMDT in the South, on PMDT activities in HCMC. PMDT implementation started in HCMC in 2007 and was operational by Autumn 2009. The NTP prepared guidelines, standard operating procedures for all relevant aspects. There is an infection control committee that meets quarterly, and a MDRTB treatment management committee.

A PNT Hospital ward was renovated to receive MDRTB patients and the TB lab upgraded. The lab provides smears, cultures, drug susceptibility testing, RFLP, spoligotyping, Hain test, and is a FIND-affiliated laboratory.

Patients are admitted for the first two weeks of MDRTB treatment and then treated on an ambulatory basis. DOT is provided 6 days a week and each patient has a clinic appointment every month. Food support is provided by World Vision and the Red Cross.

Training of staff caring for MDRTB treatment has been developed and is done when beginning work and then again 4 weeks later to review and reinforce the initial training. Particulate respirators are available for staff; however, there is no fit testing program. Drugs are in an air-conditioned store. The hospital receives second line drugs from the NTP. PNT hospital gives second line drugs to the TB diagnostic and treatment unit where the patient receives care.

Results:
- Total Enrollment: 458 pts.
  - Died: 13
  - Defaulted: 16
  - Under NTP control: 429 pts.
November 23, 2011, Wednesday morning, Visit to District 6 Preventive Health Center

TB control activities, formerly at the level of the district hospital, are now with the District Preventive Health Centers (as are HIV, social diseases, vaccinations), a level created in 2006 and placed between the hospital and health bureau levels. Although the head of the Provincial Department of Health assigned TB staff to these new District Preventive Health Centers, some were able to negotiate their staying at the hospital level, causing a loss of “talent” for TB control at the level where activities were now based.

The TB control program at the District 6 Preventive TB Center is comprised of 2 physicians, 1 nurse, 2 lab technicians and 2 pharmacists. An additional 14 TB staff are located in the commune level health centers.

TBHIV collaborative activities started in 2006, with this district among the first to be chosen because it, along with districts 4 and 8, have the highest number of HIV patients. Almost 100% of the TB patients are tested for HIV; testing is not offered for persons suspected of having TB. In July 2007, the use of CPT began for TBHIV patients, with support from CDC. In 2008, TB screening for HIV+ individuals started, and in 2009, a pilot study on IPT was begun by CDC; this is said to be winding down, so IPT is no longer available. An attempt had been made to collocate the TB and HIV activities, but the consultants were told that this was not allowed by the Director of the Preventive Health Center. Despite this, collaboration between the two units was said to be good.

ART is started at the HIV OPC after the intensive phase of TB treatment has been completed. There is a transfer mechanism with referral and feedback forms, although the consultants did not ascertain if any co-infected TB patients were lost to the system when transferred to the HIV OPC.

Recording and reporting of information is done quarterly, with the standard indicators for TBHIV collaboration collected.

Regarding medications, ARVs and test kits were supported by funds from PEPFAR for 5 years, but this is now being funded by the Global Fund.

November 23, 2011, Wednesday morning, Visit to District 6 HIV Outpatient Center

At the consultants’ request, the consultants walked from the District 6 Preventive TB Center to the District 6 HIV Outpatient Center (OPC), a distance of approximately 500 meters, through poorly paved roads and a large busy traffic circle in hot weather (this is mentioned to indicate what the co-infected patients experience as they move between sites for their TB and HIV care).

Annexes
### TB Case Detection and Enrollment, District 6

<table>
<thead>
<tr>
<th>Year</th>
<th>District 6 Pop.</th>
<th>Sputum Test</th>
<th>Enrolled in Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sputum test</td>
<td>No of TB new ss + registered</td>
</tr>
<tr>
<td></td>
<td></td>
<td>n (%)*</td>
<td>% /pop</td>
</tr>
<tr>
<td>2007</td>
<td>247,212</td>
<td>1482 (99%)</td>
<td>0.6</td>
</tr>
<tr>
<td>2008</td>
<td>247,958</td>
<td>1493 (99.5%)</td>
<td>0.6</td>
</tr>
<tr>
<td>2009</td>
<td>255,205</td>
<td>1608 (97%)</td>
<td>0.6</td>
</tr>
<tr>
<td>2010</td>
<td>255,444</td>
<td>1642 (91%)</td>
<td>0.6</td>
</tr>
<tr>
<td>3Q/2011</td>
<td>263,802</td>
<td>1258 (69.5%)</td>
<td>0.5</td>
</tr>
</tbody>
</table>

*Reflects that the district performed 99% of those planned

**Even though 271 new AFB smear positive cases were diagnosed by microscopy, 312 near smear positive cases were enrolled in treatment, reflecting that some people were not diagnosed in District 6 but enrolled here for treatment. The same situation is reflected in the total of 418 smear positive cases that registered in District 6, but were diagnosed elsewhere.

### Treatment Outcome, District 6

<table>
<thead>
<tr>
<th>Year</th>
<th>Cured (%)</th>
<th>Died (%)</th>
<th>Failed (%)</th>
<th>Default (%)</th>
<th>Transfer (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>80.1</td>
<td>5.9</td>
<td>3.8</td>
<td>5.2</td>
<td>4.9</td>
</tr>
<tr>
<td>2008</td>
<td>79.8</td>
<td>6.4</td>
<td>4.8</td>
<td>6.4</td>
<td>2.6</td>
</tr>
<tr>
<td>2009</td>
<td>81.3</td>
<td>7.4</td>
<td>2.1</td>
<td>2.1</td>
<td>7.1</td>
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<tr>
<td>2010</td>
<td>90.7</td>
<td>3.7</td>
<td>2.2</td>
<td>1.6</td>
<td>1.9</td>
</tr>
<tr>
<td>3Q/2011</td>
<td>95</td>
<td>1</td>
<td>3.5</td>
<td>0</td>
<td>0.5</td>
</tr>
</tbody>
</table>

District 6’s OPC is housed in the district’s former TB Preventive Center. It houses both the HIV OPC and a methadone treatment program. The center provides HIV voluntary counseling and testing (VCT) on site by a trained counselor. However, the HIV rapid test is sent to the Provincial Preventive Health Center or the Pasteur Institute for processing, and if positive this is confirmed by ELISA. Results take one week. However, if the client pays for the service, s/he is sent to the District 6 Preventive Health Center and negative test results can be given within 15-20 minutes; a positive rapid test result is sent to the Provincial Preventive Health Center or Pasteur Institute for confirmation by ELISA.

PLHs are also screened for TB, but those who need a sputum smear must have the specimens sent to the District 6 Preventive TB Center for processing. The staff said there were no stockouts of ARVs or medications for opportunistic infections, the most common of which are TB and fungal meningitis. Ordering of ARVs is done once a month, with an additional 10% added to cover patients who will...
be diagnosed in the near future. This information goes to the HCMC HIV committee, and the order is in turn sent to SCMS.

**November 23, 2011, Wednesday afternoon, Visit to District 8 regarding PPM**

<table>
<thead>
<tr>
<th>Year</th>
<th>Pop</th>
<th>TB Suspects</th>
<th>TB New SS+</th>
<th>% TB New ss(+) new/TB suspects</th>
<th>% suspects/population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>361,325</td>
<td>2509</td>
<td>521</td>
<td>20.8</td>
<td>0.7</td>
</tr>
<tr>
<td>2008</td>
<td>361,325</td>
<td>2218</td>
<td>434</td>
<td>19.6</td>
<td>0.61</td>
</tr>
<tr>
<td>2009</td>
<td>380,000</td>
<td>2065</td>
<td>476</td>
<td>23.1</td>
<td>0.54</td>
</tr>
<tr>
<td>2010</td>
<td>380,000</td>
<td>1836</td>
<td>326</td>
<td>17.8</td>
<td>0.48</td>
</tr>
<tr>
<td>2011 (3Q)</td>
<td>408,219</td>
<td>2512</td>
<td>246</td>
<td>9.8</td>
<td>0.61</td>
</tr>
</tbody>
</table>

**TB Registration and Treatment**

<table>
<thead>
<tr>
<th>Year</th>
<th>TB New SS+</th>
<th>TB New S-ve cases</th>
<th>TB-HIV co-infection (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>548</td>
<td>1,059</td>
<td>162 (10.1)</td>
</tr>
<tr>
<td>2008</td>
<td>516</td>
<td>983</td>
<td>182 (12.1)</td>
</tr>
<tr>
<td>2009</td>
<td>530</td>
<td>1,011</td>
<td>179 (11.6)</td>
</tr>
<tr>
<td>2010</td>
<td>460</td>
<td>984</td>
<td>123 (8.5)</td>
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<tr>
<td>2011 (3Q)</td>
<td>439</td>
<td>787</td>
<td>102 (8.3)</td>
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</table>
### TB treatment outcome for new TB SS+ Cases

<table>
<thead>
<tr>
<th>Year</th>
<th>Cured (%)</th>
<th>Completed</th>
<th>Died</th>
<th>Failed</th>
<th>Default</th>
<th>Transferred</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>456 (77.4)</td>
<td>0</td>
<td>41</td>
<td>38</td>
<td>40</td>
<td>14</td>
<td></td>
<td>589</td>
</tr>
<tr>
<td>2008</td>
<td>407 (74.3)</td>
<td>0</td>
<td>43</td>
<td>25</td>
<td>55</td>
<td>18</td>
<td></td>
<td>548</td>
</tr>
<tr>
<td>2009</td>
<td>405 (78.5)</td>
<td>4</td>
<td>33</td>
<td>22</td>
<td>36</td>
<td>16</td>
<td></td>
<td>516</td>
</tr>
<tr>
<td>2010</td>
<td>417 (78.7)</td>
<td>3</td>
<td>29</td>
<td>31</td>
<td>28</td>
<td>22</td>
<td></td>
<td>530</td>
</tr>
<tr>
<td>2011 (3Q)</td>
<td>288 (81.6)</td>
<td>1</td>
<td>9</td>
<td>26</td>
<td>13</td>
<td>16</td>
<td></td>
<td>353</td>
</tr>
</tbody>
</table>

### PPM (2011)

<table>
<thead>
<tr>
<th>Activities</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of TB suspects transferred from OPC to District 8 TB Unit</td>
<td>223</td>
<td>176</td>
<td>162</td>
<td>138</td>
<td>164</td>
<td>863</td>
</tr>
<tr>
<td>ss (+)</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>No. of TB suspects transferred from district hospital to District 8 TB Unit</td>
<td>23</td>
<td>14</td>
<td>12</td>
<td>11</td>
<td>12</td>
<td>72</td>
</tr>
<tr>
<td>ss (+)</td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Public health sectors Community Health Station (CHS), district preventive health center</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>No. of TB suspects transferred from private sector</td>
<td>13</td>
<td>12</td>
<td>17</td>
<td>13</td>
<td>5</td>
<td>60</td>
</tr>
<tr>
<td>ss (+)</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>TBHIV</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**MDRTB**: 2009-2011: 59 cases; completed treatment: 26 cases; continued treatment: 33 cases.

**ACT2**: Total of TB patients: 26; Total of relatives who expose with TB patient: 35

* ATC2 stands for “Evaluation of effectiveness of active case detection method among those who had contacted with TB reservoir-ACT2” collaboration with University of Sydney, Australia
Sputum screening for PLHIV
- No of sputum test for PLHIV: 1,079
- No of TB-HIV cases: 41

November 24, 2011, Thursday, Visit to Nhan Ai Hospital
Nhan Ai hospital is a 300-bed unit located in Binh Phuoc province, about 190 km from HCMC. It serves HIV+ patients from HCMC’s 11 05-06 centers who are in need of hospitalization. It is administratively under MOLISA, with resources provided by the government, although antiretrovirals, CPT and medications to treat opportunistic infections (OIs) are provided through PEPFAR (NB: the US government refuses to support these centers because of concerns regarding human rights).

Of the 300 beds, 240 are currently occupied, and the average length of stay is 3 months. Although there are 11 referring facilities, the bulk of the patients come from only 5 of them. It was reported that a total of 800 beds are planned by 2015. The hospital has 10 departments.

TBHIV: The hospital serves as a TB diagnostic and treatment unit (DTU), with the ability to perform AFB smears, but not cultures; it performs about 5-10 smears/day. As a DTU, it reports quarterly to the NTP; HIV reporting is done monthly to the provincial committee. The TB department includes 16 rooms and 1 intensive room with 72 beds. It is staffed by 1 physician and 30 nurses, who rotate every 6 months. TBHIV collaboration started in 2007.

Infection control: there has been an approved IC plan since May 2010. IC procedures have been implemented in a stepwise fashion. Patients are screened for TB upon entry. Those suspected of having TB and whose sputum results are pending are placed in the TB ward; positive AFB smear are placed in a separate room.

If a person is HIV+, but without TB, IPT is not offered due to lack of funding. The HIV treatment regimen is standardized, and it a patient also has TB, efavirenz is substituted.

Human resources: There are 230 staff, including 8 physicians, 46 physician’s assistants, 72 nurses, 5 lab personnel, 10 social workers, 11 pharmacists, 4 X-ray techs and administrators and support staff. Staff from the HAVIEN project (part of Harvard University) do clinical rounds monthly. Staff turnover is said to be zero, because of a good income, incentives and training.

Although some patients arrive at the hospital already diagnosed with TB, patients suspected of TB are evaluated at entry and as needed with sputum tests and CXRs. MDRTB: MDRTB patients are not cared for at this facility. It was mentioned that the hospital would like to renovate a lab in order to diagnose MDRTB, and this was independently mentioned by Dr. Lam.

TB detection
Since 2007:
- Enrollment and treatment: 702 patients
  o Ss (+): 492 (new ss+ 265; relapse: 117; failed: 10; other: 100)
  o Ss (-): 24
  o EP: 186
- TB screening for HIV patients
  o Suspects: 2309 (1721 in-patients- 100% HIV patients in hospital)
o Ss(+) = 294 (12.7%)
- TB treatment outcome (2007-2011)
  o Cured: 85
  o Completed: 77
  o Died: 203
  o Failed: 10
  o Transfer: 234

November 25, 2011, Friday, Visit to Cho Ray Hospital for Public-Public Mix
The consultants visited Cho Ray Hospital, which is a general hospital under the auspices of the Viet Nam Ministry of Health, rather than the NTP. The hospital is one of three participating in the WHO CIDA Public-Public Mix project. The hospital now has a “DOTS corner”, run by the respiratory department, with the participation of 15 clinical departments and their staff, all of whom receive incentives for this work. As a result of this project, the hospital now reports quarterly its TB cases to the NTP, which it had not done before, despite the fact that TB is a reportable disease.

The lab processes 300 sputum smears/day (3 for persons suspected of TB and 1 for persons who are scheduled for surgery. Of the 20 laboratory technicians, 5-6 look at the smears using LED microscopy.

TB treatment is done in hospital for the most severely ill cases, who are then referred to other facilities. Those who are not severely ill are referred upon diagnosis to provincial and district health units. The ability to refer patients directly is a feature of this project; previously, the hospital was obliged to send a form to the NTP, who decided if it was a true TB case. The hospital does not maintain a TB register. Thus, there is no possibility of double registration of cases, although cases that do not arrive at the facility to which they were referred would be considered lost.

Clinicians from the respiratory, psychiatry, gastroenterology, rheumatology, renal, endocrinology and general medical clinic were asked individually about their perceptions regarding this project. All stated that the awareness regarding TB had been heightened, and all had diagnosed and referred cases for inclusion in the project. The doctor in charge of the project in the respiratory department felt that because of this project, their colleagues in other departments have come to see their department as a resource, with respiratory staff being asked for advice.

Through September 30, 2011, of 12,815 persons suspected of having TB, 864 AFB smear positive cases have been identified.

November 25, 2011, Friday afternoon, debriefing to NTP, HCMC
The consultants presented the findings and recommendations of their visit to HCMC NTP staff

1. PMDT Activities

Achievements
- PMDT preparation began 2007; implemented Autumn 2009 and is comprehensive
  o Guidelines, SOPs, Infection Control, SLD procurement
  o PNT Hospital: renovation of MDRTB ward, preparation for pt enrollment
- Good laboratory capacity
smear, culture, DST, Hain test for HR resistance, EQA for 1st & 2nd line drugs, linked to SNRL, site for STREAM study
- Trained lab staff in MDRTB and SOP
- Upgraded infrastructure
  - IC of MDRTB ward and outpatient clinic simple but effective
    o Administrative controls in place (eg, separate elevator; IC officer on ward; training courses for staff on hiring and after 1 mo)
    o Environmental control through placement of fans, exhaust to outside
  - MDRTB standardized tx and management; monitored by multidisciplinary steering committee
  - Drug procurement, health education materials, training all in place

Challenges
- Waiting list to enter MDRTB ward
  o Possible solution: decrease initial stay in hospital from 2 to 1 week
  o Additional site for MDRTB in-patient care? (Nhan Ai Hospital?)

Recording and Reporting
- As number of MDRTB cases increases (now 458), need for improved recording and reporting system: E-TB Manager?

2. TBHIV Collaboration
- TBHIV Collaboration began 2006
- Financial support from CDC Life Gap, Vietnamese government, PEPFAR (HIV medications and test kits)
- #TBHIV co-infected patients = 140 of 650 (22%) TB pts (District 6)

Achievements
- Major components of TBHIV activities addressed:
  o PITC, screening of HIV pts for TB, rapid start of CPT, IC, standardized recording and reporting of TBHIV indicators; transfer mechanism available for TBHIV pts needing ARVs
  - Collaboration said to be good between TB and HIV units and district hospital
  - High HIV PITC acceptance rate of 99%
  - No stockouts of ARVs

Challenges
- Functional aspects of TB and HIV programs inconvenient for patient: logistics, cost and time
  o Waiting time for HIV rapid test result: 1 week
    ✓ District preventive health center does HIV testing for non Life Gap pts and can do within 15 minutes IF they pay
    ✓ Life Gap pt samples sent to PNT hospital for HIV testing
  o PLHIV at HIV OPC with TB symptoms sent to preventive center for TB evaluation, rather than on-site evaluation because no lab capacity for AFB smear
    ✓ HIV test sent to DPC, which in turn sends it to PNT Hospital
  o Co-infected patient receives care for TB and HIV in two different clinics rather than in same place
- Life Gap has created culture of “incentives” for referral of pts, lab work, care – will activities be sustainable at project’s end?
- IPT for PLHIV, one of 3I’s, was 1 yr pilot project, now stopped; pts no longer enrolled to receive proven TB preventive treatment
- Last training for TBHIV in 2006; refresher trainings needed
- High staff turnover at commune level

3. **PPM-DOTS Background in District 8**
   - Goal: to increase TB case finding in private sector where it is thought pts are increasingly being treated
   - 29 private clinics, 71 pharmacies agreed to participate; denominator unknown
   - Started June 2011
   - Focus on Model 1: referral of TB suspects to NTP
   - Model 2: site does TB diagnosis
   - Model 3: site does TB treatment
   - Model 4: site does TB diagnosis and treatment

**PPM-DOTS Results and Achievements in District 8**
- Pharmacies and private clinics identified 272 TB suspects
  - 45 seen at TB clinic in District 8; 9 TB cases
- 20% yield of cases from examined suspects
- Patient confidence may be improved because of perception of better informed pharmacy or private practitioner linked to NTP

**PPM-DOTS Challenges**
- Tracking of TB suspects not complete
  - High % of suspects identified by private providers in District 8 do not arrive at District 8 DTU
    - Lost?
    - Went to another facility in another district? Provincial staff do not track
- PPM: sustainability
  - What is motivation for pharmacies and private clinics to keep participating in PPM?
    - Receipt of Training? Recognition/certification by NTP?
    - Should there be a $ Incentive for diagnosing and treating cases?

4. **Public-Public DOTS at Cho Ray Hospital**
- Large MOH general hospital part of WHO-CIDA project to increase TB case finding in large hospitals
- Before project, did not report TB to NTP even though notifiable disease
- DOTS group comprising 15 of hospital’s technical departments, led by Dept of Pulmonary Medicine

**Cho Ray Hospital Achievements**
- Q1-3 2011: 864 TB cases reported, which is evidence of Cho Ray’s contribution
- Increased awareness of TB as an issue in hospital and need to report
- Hospital visit fee of 50K Dong waived; sputum smears free, even for TB suspects
- No need for approval from NTP to refer patients to district or province
- Link to reporting of Diabetes for WHO

**Cho Ray Hospital Challenges**
- High # AFB smears/d; still doing 3 smears for dx
- Difficulty in receiving referral feedback from districts and provinces, although improving
  - Q1 2011: of 187 AFB+ cases referred, feedback from 14
  - Q2 2011: of 253 AFB+ cases referred, feedback from 48
  - Q3 2011: of 239 AFB+ cases referred, feedback from 111
- If incentives stop, will in-hospital reporting continue?
- Issues Arising and Future of PPM and Public-Public Mix
- How many cases before the project were lost after being referred from CRH?
- Initiating recording and reporting at private hospitals may yield additional cases
  - Encourage support for Model 4 (TB dx and tx)
- NTP to consider use of 2 smears for TB diagnosis

(NB: For Week 2, Cornelia Hennig joined Group 3, replacing Paula Fujiwara, who joined Group 1 in Ha Noi)

November 28-30, 2011 Can Tho (Cornelia Hennig, Bui Thi Tu Quyen, Pham Huyen Khanh, Truong Thanh Huyen, Tran Van Thieu)

Vinh Thanh District, Can Tho
Population: 124.903 (Kinh = Vietnamese 98%; other 2%); territory: 6099 Km²
11 communes, mainly farmers.
The preventive service is currently in the same compound as the district general hospital. The hospital is in a very precarious condition. Once a new hospital building is finalized, the preventive medicine center will move to its own premises (171/172) 2km from its current location in December 2011.
Most distant commune 20 km.
Staffing:
Total staff preventive center: 33, of which 7 are doctors. Among these, 4 are for TB (1 doctor, 1 assistant physician, 1 nurse, 1 lab tech)
Total staff in all 11 communes 69, with 5 doctors

### TB detection

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>SS+ New</th>
<th>SS+ Relapse</th>
<th>SS-</th>
<th>EP</th>
<th>Other SS-ve</th>
<th>TB-HIV co-inf</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>205</td>
<td>156</td>
<td>14</td>
<td>13</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>197</td>
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<td>2009</td>
<td>213</td>
<td>159</td>
<td>16</td>
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<td>80</td>
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</table>

### TB treatment Outcome for All New Cases

<table>
<thead>
<tr>
<th>Year</th>
<th>Cured</th>
<th>Completed</th>
<th>Died</th>
<th>Failed</th>
<th>Default</th>
<th>Transfer</th>
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<tr>
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<td>9</td>
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<td>205</td>
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<tr>
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<td>97.1</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2010</td>
<td>175</td>
<td>35</td>
<td>5</td>
<td>1</td>
<td>14</td>
<td>1</td>
<td></td>
<td>233</td>
</tr>
<tr>
<td></td>
<td>97.1</td>
<td></td>
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</tr>
</tbody>
</table>

Annexes
Number of suspects in 2011: 1,162; confirmed TB 120 / 80 new ss+

<table>
<thead>
<tr>
<th>Year</th>
<th>New ss+ Total</th>
<th>Cured n (%)</th>
<th>ss+ relapse Total</th>
<th>Cured n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>156</td>
<td>149 (95.5)</td>
<td>14</td>
<td>11 (78.57)</td>
</tr>
<tr>
<td>2008</td>
<td>134</td>
<td>130 (97.0)</td>
<td>13</td>
<td>11 (84.6)</td>
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<td>2009</td>
<td>159</td>
<td>157 (98.7)</td>
<td>14</td>
<td>14 (100.0)</td>
</tr>
<tr>
<td>2010</td>
<td>129</td>
<td>127 (98.4)</td>
<td>12</td>
<td>12 (100.0)</td>
</tr>
</tbody>
</table>

**TB/HIV**

Vice Director is in charge of both TB and HIV – good collaboration
All TB cases get HIV test (Life Gap), no ART service on site. Patients will be referred to neighbor province (Thot Not district- about 30 kms from Vinh Thanh district) if ART needed.
2 HIV/TB cases cured, now on CPT.

**HIV (+) with TB cases**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total TB cases tested</th>
<th>HIV +</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>214</td>
<td>7</td>
<td>2.9</td>
</tr>
<tr>
<td>2010</td>
<td>71</td>
<td>4</td>
<td>5.6</td>
</tr>
<tr>
<td>2011</td>
<td>129</td>
<td>1</td>
<td>0.8</td>
</tr>
</tbody>
</table>

PPM (general hospital) from July 2011: 178 referrals, 178 arrived, 17 ss+ enrolled, all counseled.

PHC project since 2009 (NL, R6 and R9). Case finding activity at commune started since early 2010. 4 communes per year, one year support per commune.
Support consists of advocacy through people’s committee (letters to direct lower level authority to collaborate with TB Unit), training for health staff at commune, health education through local loudspeaker and direct communication, 2011: ACF (one of PHC activity) in 4 remote areas. 8 days campaign, sputum collection from family members and HIV+. 480 suspects, 116 tested, 18 SS (+)

Results:
Increase in number of TB suspects examined (from < 1% population to >1)?
No increase in confirmed SS+ or TB cases.
Some increase in women diagnosed with TB.
Trainings in 2011: basic DOTS, PPM, MDR, PAL.
Drug store: no drug shortages, no stock outs.
Bad storing conditions (too small, too full, not in order).
Registers are neat and up to date. The In-charge has never had training on drug management and has other responsibilities (such as hospital cashier; head of hospital labor union etc), with no assistant staff for back up.
Treatment cards of 2 MDR-TB patients (managed on commune level); dosing adequate.
TB register and lab register: checking for registration of diagnosed TB: in 2011 all diagnosed ss+ TB from the lab register are registered for treatment - except 2: one lost to follow-up, one death.
Lab tech: monthly salary 1.5 Million VND + 10.000 for each ss+, 5.000 each ss- (incentives paid from government budget).
Supervision: once per month 1 day including 1 commune and 2 patients. Team of 2. Funding from provincial and central level. Quarterly, one team of 5 people from provincial lung hospital goes to 2 communes (at least) selected randomly for supervision and technical support (following NTP policy), including lab EQA.
Comments from staff:
- Need for additional microscopy center (at remote commune): Should set up in Thanh An commune because: 1) CHS is new one and good 2) People from 5 remote neighbor communes of Vinh Thanh can assess easily.
- Separation of district preventive center from general hospital is not patient friendly at least for TB patients (provincial level).
- Need an X-ray machine when move to new building.

Thanh An Commune Health Post
10 km from district center, new building (Aug 2011).
Pop. 13,517.

Assistant physician = vice-director in charge of TB, but not HIV.
Providing ANC, delivery, EPI, chronic disease care, preventive medicine, first aid.
2011
TB patients 15, 2 cured, 2 died, 11 on treatment. Never co-infection.
5 HIV + under ARV.
Confirmed TB patients sign a contract with 4 signatures, according to staff - this contributes to good adherence.
Patients
1. female, 26 y- N. T. N. X.- hairdresser
smear negative TB, continuation phase.
Accessed care through general hospital in another province, was referred to provincial level for confirmation. Total cost > 1 Million VND. Had no insurance
Is working (hairdresser). Household contacts were checked and none found to be infected.
2. male 54 y , retired- P. M. L.
new ss+, continuation phase, accessed through district hospital where he was registered with insurance.
3. treatment supporter (volunteer) of an ex-TB patient is used for Health education.
PPM
There are 5 private doctors and 4 pharmacies. All of private doctors participate in PPM (model 1). The private doctors all work in the preventive center.

Ninh Kieu District Preventive Health Center
Urban Center, newly built and used since Aug 2011. Construction financed by provincial level
219.000 population, 13 communes, 71 wards.
5 TB staff: 1 Dr, 1 nurse, 1 lab tech, 2 assistant doctors.
5 functional rooms for TB: Admin; MDR; ARV; TB examination and sputum lab..

TB / MDR (12’2010) / ACT (Sydney), PPM (6’2010)
Life Gap, GF (HIV)
21 MDR patients (15 in intensive, 6 continuation phase) all managed on district level. DOT every morning 6-6.30. Personal drug kits. 3 confirmed MDR on waiting list. Sample processing every 2 weeks (give appointment to MDR suspects). Turnaround time of 2-4 weeks (scanned report from PNT Hospital).

HIV: 190 HIV + receive ART, 455 are registered, not all come for follow-up. 2010 and 2011 under Life Gap ACF.

**HIV testing in TB patients**

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011 (until 10’2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB cases</td>
<td>515</td>
<td>531</td>
<td>406</td>
</tr>
<tr>
<td>PICT</td>
<td>183</td>
<td>338</td>
<td>275</td>
</tr>
<tr>
<td>Tested</td>
<td>154</td>
<td>293</td>
<td>249</td>
</tr>
<tr>
<td>HIV +</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>ARV</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

**TB testing in HIV+**

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011 (until 10’2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screened for TB</td>
<td>272</td>
<td>250</td>
<td>150</td>
</tr>
<tr>
<td>Confirmed</td>
<td>9</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Enrolled in treatment</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Reasons for loss to follow-up: migrating in patients / out of province Also 46 TB/HIV referred from provincial level

PPM (PATH) since June 2011
Private practitioners, pharmacies, public hospital (most suspects and confirmed cases)
Incentive for PPM
- District preventive health center: 15 USD/ month (# 1 supervision day)
- District health bureau: 60 USD/ month (# 4 supervision days)

Incentive for TB team
Life Gap
1 Counselor: 1.2 USD/hr x 100 hr/month
1 lab tech: 10,000 VND/slide
1 management: 700,000 VND/month

Gvt
SS (+): 20,000 VND/patient
SS(-): 5,000/ 3 slides
Treatment follow-up: 100,000 VND/patient (until complete treatment)
Can Tho Provincial Lung Hospital
1.2 million pop
72 bed hospital
2/9 districts have TB beds in general hospital
1 05/06 center starting TB activities
Life Gap since 4/2008 in the hospital and 6/9 districts
PPM public and private in 6’2010
PMDT 12’2010
Sentinel surveillance by VAAC up to 2009: 12.75 % TB/HIV
Now: routine surveillance: ca 7 % (Life Gap and GF)
Improving treatment outcomes for TB/HIV
OPC (in 2008 there were 5, now 7)
No data on total number of HIV+ and ART coverage (Table 3.4 but not consistent with 3.3)
Total MDR-TB = 49
5 confirmed on waiting list
3 non GLC patients from out of province (1 monthly follow-up, same regimen + not yet recorded and reported to NTP)
MDR suspects for Hain: 134 with 42 confirmed
Most frequent side effect: arthritis (pyrazinamide)
PPM:
Steering committee, training
Including 2 private hospitals, 12 public hospitals. 2 general hospitals use model 2, others use model 1
12 % of suspects are from PPM
106 TB cases
TB drug store:
Small location, Air condition, FLD and SLD in same room, but visibly divided, fridge for PASER. No stock outs.

### Case Finding

<table>
<thead>
<tr>
<th>Year</th>
<th>ss (+)</th>
<th>ss(-)</th>
<th>EP</th>
<th>MDR</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New</td>
<td>Relapse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>1,411</td>
<td>187</td>
<td>206</td>
<td>308</td>
<td>2,112</td>
</tr>
<tr>
<td>2007</td>
<td>1,325</td>
<td>191</td>
<td>205</td>
<td>325</td>
<td>2,046</td>
</tr>
<tr>
<td>2008</td>
<td>1,232</td>
<td>154</td>
<td>208</td>
<td>335</td>
<td>1,929</td>
</tr>
<tr>
<td>2009</td>
<td>1,296</td>
<td>154</td>
<td>209</td>
<td>351</td>
<td>2,010</td>
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<tr>
<td>2010</td>
<td>1,348</td>
<td>247</td>
<td>280</td>
<td>341</td>
<td>07</td>
</tr>
<tr>
<td>9T/2011</td>
<td>946</td>
<td>115</td>
<td>179</td>
<td>249</td>
<td>42</td>
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</table>
TB treatment Outcome for New Cases with SS+

Provincial funding situation: 1,000 VND

<table>
<thead>
<tr>
<th>Source</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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<tr>
<td>Central</td>
<td>406.000</td>
<td>111.000</td>
<td>601.000</td>
<td>621.000</td>
</tr>
<tr>
<td>Province</td>
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<td></td>
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<td>1,400.000</td>
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<tr>
<td>Subtotal</td>
<td>2,001.000</td>
<td>2,021.000</td>
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<td></td>
</tr>
<tr>
<td>USD</td>
<td>95.286</td>
<td>96.238</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherland</td>
<td>287.341</td>
<td>694.719</td>
<td>55.050</td>
<td>132.950</td>
</tr>
<tr>
<td>Global Fund</td>
<td>129.050</td>
<td>181.710</td>
<td>314.080</td>
<td>1,229.400</td>
</tr>
<tr>
<td>Subtotal</td>
<td>369.130</td>
<td>1,362.350</td>
<td></td>
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</tr>
<tr>
<td>USD</td>
<td>17.578</td>
<td>64.874</td>
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</tr>
</tbody>
</table>

Central funding budget lines are for
- training (0.21%)
- supervision (38%)
- HE (10%),
- procurement (27%),
- incentives for D+T (19%)
- other (6%)

NL disbursement: 75 %
GF disbursement: 72 % (delay mainly under MDR-TB).

Conclusions:
- Some suspects are charged for sputum smear on district level. This is a local decision.
• Project funded TB/HIV collaboration even in the same location is a challenge.
• All activities beyond basic DOTS are project funded.
• Disbursements
  Funding gap: Provincial funding is more than central funding, both together cover 70 % of needs for basic DOTS.

Xpert in Can Tho: potential workload 400 / year
MDR-TB suspects: ca. 200 / year
TB/HIV 400 / year
Annexes

Annex 5
Endterm Evaluation Debriefing for National Tuberculosis Program Viet Nam
November 21 – December 2 2011
Ha Noi, Viet Nam December 1, 2011

Team

**Group 1** (WHO, Netherland Embassy, MOH, MPI, MoF, PATH, MoEF, CDC, CDC, Women Union, Farmer’s Union, WHO, USAID, VAAC, MOUSA, Hanoi TB and lung diseases hospital, (District TB unit in Hano)
- Dr. Cornelia Hennig, WHO-Vietnam (1st week)
- Dr. Paula Fujikawa, The Union (1st week)
- Dr. Pham Huyen Khanh, WHO-Vietnam (1st week)
- Dr. Le Thi Kim Thoa, Hanoi Medical University
- Dr. Reuili Nishikiori, WHO WPRO
- Dr. Huong Mai, WHO WPRO
- Mil. Dao Hoang Bach, Hanoi School of Public Health

**Group 2** (HCMC, Can Tho province)
- Dr. Paula Fujikawa, The Union (1st week)
- Dr. Cornelia Hennig, WHO-Vietnam (2nd week)
- Dr. Pham Huyen Khanh, WHO-Vietnam (2nd week)
- Dr. Bai Huu Quyen, Hanoi School of Public Health

**Group 3** (HCMC, Can Tho province)
- Dr. Paul Fujikawa, The Union (1st week)
- Dr. Le Thi Kim Thoa, Hanoi Medical University
- Dr. Reuili Nishikiori, WHO WPRO
- Dr. Huong Mai, WHO WPRO
- Mil. Dao Hoang Bach, Hanoi School of Public Health

Case Notification and Treatment Outcome

Age-sex specific case notification trend, Viet Nam

- Age-group and sex wise notification trend shows decreasing trend among all age-group except 15-24 and 25-34 age groups.
- Several in-depth analysis has conducted to explore the potential reasons: Increasing transmission among young adults due to urbanization, migration, HIV, etc.
Objective 1: to ensure provision of high quality DOTS services of health services delivery

**Achievements**
- Mature district-based and quality assured diagnostic and treatment network
- DOT in intensive phase to protect rifampicin (whether streptomycin or ethambutol in regimen)
- System of strong quantification of medications and supplies prevents stockouts in the periphery
- PAL in selected provinces (GF)

**Challenges**
- User charges exist (sputum test for TB suspects, CXR, water, syringes and vitamins)
- Continued use of 8 month regimen for new cases when 6 month regimen known to be more effective based on international clinical trial
- No increase in notification among children (diagnosis limited to provincial level)

**Recommendations**
- Ensure free-of-charge TB diagnosis and treatment
- Urgently plan and scale-up use of 6 month regimen, including the use of DOT in the continuation phase because of rifampicin
- Decentralize diagnosis and treatment of TB in children to district level based on clinical and CXR assessment

### PAL

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-PAL</th>
<th>PAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2001</td>
<td>100</td>
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</tr>
<tr>
<td>2002</td>
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<td>2003</td>
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<td>2004</td>
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<td>2008</td>
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</tr>
<tr>
<td>2009</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Objective 2: increased access to and use of health services of ethnic minority groups and the poor

**Background:** International publications from Viet Nam have assessed TB burden among some vulnerable populations
- TB burden among Ethnic Minorities from the 2006-2007 prevalence survey was confirmed to be lowest compared with rural and urban areas
- Poorest are two times more likely to have TB

### Treatment outcome, New smear-positive, 2000-2010

- Cured
- Completed
- Died
- Failed
- Transferred

<table>
<thead>
<tr>
<th>Year</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
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</thead>
<tbody>
<tr>
<td>2000</td>
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<td>2009</td>
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</tbody>
</table>

Objective 2: increased access to and use of health services of ethnic minority groups and the poor

**Achievements**
- ACSM – including primary health care expansion projects involving Farmers and Women Union (GF)

**Challenges**
- Difficult to demonstrate impact of individual ACSM activities

Objective 3: to develop and implement Public-Private mix DOTS in urban areas of 12 big provinces

Annexes
Annexes

PPM—Achievements

- Guidelines and PPM strategy
- Expansion to 15 provinces by 2009 (exceeding target of 12)
- Increased contribution – varies by province
- Progress in Public–Public – a large catch

PPM—Challenges

- Slow progress in some provinces and cities
- Limitation of referral only model (Model 1)
- Tracing mechanism to track referrals not in place
- Assessing true additiveness – Is PPM just ‘re-labeling’ patients? (i.e. only counting suspects/patients who would have been captured anyway by the NTP system)
- PPM labor intensive effort

PPM—Recommendations

- Rigorous assessment of current performance and additiveness to feed into a strategic expansion plan
  - Assessment of different initiatives by all partners doing PPM work
  - Situation and performance assessment: types of area (urban, size of private sector, number of big hospitals, etc), mapping of providers, locating hidden cases, pharmacy surveys, etc
- Prioritize effective areas of work that bring true impact
  e.g. hospital engagement vs pharmacies and small clinics
  e.g. model 2 vs model 1; ?Model 4
  e.g. revision of GFATM PPM workplan
- Strengthen supervision and support for PPM activities at the central level

Objective 4: Implementation of framework of HIV/TB collaborative activities

Achievements
- Where units are supported by LifeGap/GFATM:
  - TB patients screened for HIV (up to 99%)
  - TB/HIV patients placed on CPT/ARVs
  - Increasing number of PLH screened for TB
  - Mortality among TB/HIV patients in some areas reduced because of early detection of TB and ARVs (see Can Tho data)

Challenges
- TB/HIV services project-centered rather than patient-friendly
- TB/HIV activities dependent on externally funded “projects”
- Collaboration between NTP and VAAC at central level and some provinces suboptimal

Recommendations
- GoV needs to increase % budget allocations for TB/HIV activities within their routine budget allocations (see chart for allocation to date)
- Under guidance of Minister of Health, NTP and VAAC should develop joint action and implementation plan focusing on needs and convenience of co-infected individual

Country-wide HIV achievement

<table>
<thead>
<tr>
<th>Year</th>
<th>% of TB patients with known HIV status</th>
<th>HIV prevalent among TB patients tested</th>
<th>CPT coverage</th>
<th>ARV coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>2%</td>
<td>42%</td>
<td>62%</td>
<td>40%</td>
</tr>
<tr>
<td>2007</td>
<td>3%</td>
<td>60%</td>
<td>45%</td>
<td>80%</td>
</tr>
<tr>
<td>2008</td>
<td>4%</td>
<td>70%</td>
<td>50%</td>
<td>90%</td>
</tr>
<tr>
<td>2009</td>
<td>5%</td>
<td>80%</td>
<td>60%</td>
<td>100%</td>
</tr>
<tr>
<td>2010</td>
<td>6%</td>
<td>90%</td>
<td>70%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Treatment outcome among TB-HIV co-infected patients in Can Tho, 2006-2010 Q3

<table>
<thead>
<tr>
<th>Year</th>
<th>Success</th>
<th>Died</th>
<th>Failure</th>
<th>Defaulted</th>
<th>Transformed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>25.4%</td>
<td>2.5%</td>
<td>20.0%</td>
<td>5.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>2007</td>
<td>23.3%</td>
<td>4.9%</td>
<td>19.6%</td>
<td>4.9%</td>
<td>10.0%</td>
</tr>
<tr>
<td>2008</td>
<td>21.8%</td>
<td>4.9%</td>
<td>19.6%</td>
<td>4.9%</td>
<td>10.0%</td>
</tr>
<tr>
<td>2009</td>
<td>18.8%</td>
<td>5.0%</td>
<td>15.3%</td>
<td>4.9%</td>
<td>10.0%</td>
</tr>
<tr>
<td>2010</td>
<td>15.3%</td>
<td>5.0%</td>
<td>13.3%</td>
<td>4.9%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>
Annexes

Objective 5: Development and provision of diagnosis and treatment for patients with MDRTB

Achievements
- All components of PMDT well organized in Can Tho and HCMC
- 696 MDRTB patients cumulatively enrolled for treatment in 6 sites with a rational MDRTB expansion plan (4 sites by 2015)
- Hospitalization time of MDRTB patients reduced from 2 months to 2 weeks

Challenges
- Further expansion needs to consider additional costs associated with diagnosis and follow-up of MDRTB patients from adjacent areas (availability of treatment, patient and specimen transport, data management between provinces, etc)
- Both clinical and drug data management increasingly complex (real-time patient and procurement linkage)
- Waiting list of confirmed MDRTB patients
- 8 mo second-line drug procurement cycle
- treatment outside of PMDT

Recommendations
- Need to review MDRTB expansion plan and budget to include lessons learned
- Urgently computerize patient data + drug management
- Accelerate e-TB manager expansion
- GoV needs to improve the parts of the procurement cycle it controls; work with stakeholders (GFATM, regional CDC in WHO, GoV) to shorten procurement process

Objective 6: increased access to TB diagnosis and treatment for people in penitentiary and re-education institutions (05-06 centers) in 16 provinces

TB Control in Closed Settings—Achievements
- Coordination and collaboration of NTP with MOP and MOLISA well established
- Development of policy guidelines
- Establishment of TB units
  - 35 TB units in prisons
  - 20 TB units and 10 microscopy sites in 05/06
- Active Case Finding activities being conducted twice a year in both
  - 13,332 prisoners screened in 2007-8
  - Sm+ Tb: 1,550 / 100,000
  - Culture+ Tb: 2,537 / 100,000
  - 4,421 inmates in 05-06 centers
  - Sm+ Tb: 415 / 100,000
  - Culture+ Tb: 1,221 / 100,000

TB Control in Closed Settings—Challenges
- Active case finding (ACF), including human resources, equipment and supplies, is resource-intensive
- High transfer out from 05-06 and no follow-up
- Need to move beyond ACF: collecting cases or controlling TB?
  - intensified entry screening
  - Routine TB case detection within the facilities
  - Infection control and improving living conditions
  - Good monitoring and evaluation (performance and impact)
- Impact measurement and coverage assessment difficult w/o denominator

TB control in Closed Settings—Recommendations
- Strengthen entry screening (use of TB screening questionnaire, CXR where feasible)
- Strengthen routine TB case detection within facilities
- Assess infection control and advocate for improving living conditions accordingly
- Strengthen reporting system
  - Notification by case detection methods: entry screening, periodic ACF, routine health system
  - Obtain denominators: inmate population, entry and release
  - This information will enable performance and impact evaluation
  - Establish effective follow-up mechanism after release

Graphs and tables are included to illustrate funding sources, model simulation of TB control impact, and timelines for diagnosis and treatment of MDRTB and TB in closed settings.

132
Objective 7: To assess political commitment for, staffing, funding and management of the NTP

Political Commitment and Funding

Achievements
- TB remains national target program which assures additional funding
- NTP was able to mobilize > 90% required resources for 2007-2011
- Provinces contribute significantly (e.g., Can Tho provides 2/3 of DOTS funding)
- Establishment of Viet Nam Stop TB Partnership in 2010

Challenges
- Funding gaps:
  - Re: first line drugs EMERGENCY danger of stock out in 2012
  - MoH allocation for anti-TB drugs only covers 8 mo of need and no buffer stock; 2011 saw stockout of (RH)
  - buffer stock continuously depleted in absence of MoH allocation increase
  - Nationally procured drugs are 30% more expensive than internationally procured drugs
- 30% funding gap on provincial level (Can Tho) for basic TB control
- MORTB, TB/HIV, PPM, ACIM, OR
  - Highly dependent on external sources

Recommendation
- Continue mobilization of funding from MOH and provinces
- 2012 increase MoH allocation for first line drugs
- Consider grant/ direct procurement of FLD from international sources (GDF)
  - Save scarce resources 10 – 20 USD vs 30 USD per treatment course
  - Children friendly formulations
  - Quality assured

Donor Support Challenges
- Viet Nam now low MI country => decreasing donor interest
- GFATM (rounds 6 and 9), which contributes 72% of NTP central budget in 2011, in difficult financial crisis
  - GFATM to decrease, then stop, staff incentives
- Netherlands government support will end 2011
- USAID and CDC budgets have been cut by 25-30%
  - CDC to stop service support (incentives) and move to TA model
- Allocated funds not used on time due to bureaucratic inefficiencies of both donors and governments

Recommendations
- MOH and partner agencies need to advocate for TB to national politicians (the Party and National Assembly) and local authorities, with the technical assistance of external advocacy experts and organizations
- GoV (Ministries of Finance, Planning, MoH) needs to review long term strategic (through 2020 and 2030) and financial plans to take over funding needs currently supported by external assistance
- GoV needs to revise staff remuneration scale to provide living wage to eliminate culture of incentives for work

Objective 8: Make recommendations on the role and value of TA

Challenges
- still numerous TA (24 missions in 2011, not including trainings)
- Some overlap
- NTP not in “driver’s seat”
- “TBTEAM” : potentially useful to improve coordination and communication

Recommendations
- Improve TA planning for 2012 (and beyond)
- plan TA based on NTP needs for 2012
- invite and discuss with partners to “feed in” by end 2011
- Use TBTEAM to communicate
- Monitoring and evaluation of TA recommendations
Summary Slide

- NTP made good progress implementing 2007-2011 Development Plan in line with original DOTS strategy
- With expansion to the Stop TB Strategy, vertical nature of NTP poses challenge for cross-cutting issues of MORTB, TBHIV, PPM to increase case finding
- Imminent funding crisis (affecting FLD, HR support, sustainability of services)

Case finding efforts – Increasing suspect screening

- Cambodia
- China
- Philippines
- Viet Nam

Thank you
TB case notification

- Case notification declining
  - But TB increasing among young urban adults
  - Need more intensified case finding among people who have limited access

Access to TB care for Vulnerable populations

**Background**
- Case notification from mountainous areas is low
- Poorest are two times more likely to have TB

**Achievements**
- ACSM – including primary health care expansion projects involving Farmers and Women Union (GF) targeting the poor areas

**Challenges**
- Difficult to demonstrate impact of individual ACSM activities

Results of Evaluation and Teams

**Group 1 (Key partners, Hanoi TB and Lung Disease hospital, District TB unit in Hanoi)**
- Dr. Nobu Fujikawa, WHO WPRO
- Dr. Thong Manh Trinh, Hanoi Medical University

**Group 2 (Quang Ninh, Thai Binh, Thanh Hoa)**
- Dr. Pham Thi Thi Huyen, Hanoi School of Public Health
- Dr. Pham Duong Thi Quyen, Hanoi School of Public Health
- Dr. Huong Thi Quyen, Hanoi School of Public Health

**Group 3 (HCMC, Can Tho province)**
- Dr. Christa Veenstra, WHO-WHO
- Mr. D.G. B. B. Wijesinghe, WHO-WHO
- Mrs. Patricia A. D. J. van den Bussche, WHO-WHO

**Group 4 (HCMC, Can Tho province)**
- Dr. Cornelia Henning, WHO-WHO
- Dr. Pham Huynh Khanh, WHO-WHO
- Dr. Bui Th Tran Quyen, Hanoi School of Public Health

**Basic DOTS services**

**Achievements**
- Mature district-based and quality assured diagnostic and treatment network
- DOT in intensive phase to protect rifampin (whether streptomycin or ethambutol in regimen)
- System of strong quantification of medications and supplies prevents stockouts in the periphery
- PUL in selected provinces (GF)

**Challenges**
- User charges exist (spun test for TB suspects, CXR, water, syringes and vitamins)
- Continued use of 8 month regimen for new cases when 6 month regimen known to be more effective based on international clinical trials
- No increase in notification among children (diagnosis limited to provincial level)

**Recommendations**
- Ensure free-of-charge TB diagnosis and treatment
- Urgently plan and scale-up use of 6 month regimen, including the use of DOT in the continuation phase because of rifampin
- Decentralize diagnosis and treatment of TB in children to district level based on clinical and CXR assessment

PPM—Achievements

**Increased contribution – varies by province (HCMC a top performer)**
- Progress in Public-Public – a large catch
- Rigorous assessment of current performance and additionality to feed into a strategic expansion plan
Further expansion requires significant financial resources.

PPM

**Challenges**
- Slow progress in some provinces and cities
- Limitation of referral only model (Model 1)
- A mechanism to track non-arrivals to receiving facilities not in place
- Assessing true additionality
- PPM labor intensive effort

**Recommendations**
- Rigorous assessment of additionality
- Prioritize effective areas of work that bring true impact
  - e.g. hospital engagement vs pharmacies and small clinics?
  - e.g. model 2 vs model 1? Model 4?

Let’s go for a big catch!

HIV/TB collaborative activities

**Achievements**
- Where units are supported by LifeGap/GFATM:
  - TB patients screened for HIV (up to 99%)
  - TB/HIV patients placed on CPT/ARVs
  - Increasing number of PLH screened for TB
  - Mortality among TB/HIV patients in some areas reduced because of early detection of TB and ARVs

**Challenges**
- TB/HIV services project-centered rather than patient-friendly
- TB/HIV activities dependent on externally funded “projects”

**Recommendations**
- GoV needs to increase % budget allocations for TB/HIV activities within their routine budget allocations (see chart for allocation to date)
- Under guidance of Minister of Health, NTP, VAAC and partners should develop joint action plan focusing on needs of patients (e.g. one-stop care)

Country-wide TB/HIV achievement

TBHIV Funding sources 2007-2011

Drug-resistant TB

**Achievements**
- 696 MDRTB patients enrolled on treatment in 6 sites according to the MDRTB expansion plan (10 sites by 2012)

**Challenges**
- Long treatment requires extensive patient support
- Drugs for treatment are very expensive
- Further expansion requires significant financial resources

**Recommendations**
- Need to review MDRTB expansion plan and budget to include lessons learned
- Early detection and successful treatment of all TB patients is the main pillar of MDRTB prevention

TB care in prisons and 05-06 centers

**Achievements**
- Coordination and collaboration of NTP with MOP and MOUSA well established
- Establishment of TB units
- Active Case Finding activities being conducted twice a year in both with high yields

**Challenges**
- Strengthening routine TB services within facilities

**Recommendations**
- Strengthen entry screening
- Strengthen routine TB case detection in facilities
- Assess infection control and advocate for improving living conditions accordingly
- Strengthen reporting system
Political Commitment and Funding

**Achievements**
- High political commitment for TB
- Establishment of Viet Nam Stop TB Partnership in 2010
- NTP was able to mobilize > 90% required resources for 2007-2011
- Provinces contribute significantly

**Challenges**
- MDR-TB, TB/HIV, PPM and ACSM are highly dependent on external sources

**Recommendations**
- Continue mobilization of funding from MOH and provinces

---

Donor Support Challenges

- Viet Nam now low MI country -> decreasing donor interest
- GFATM (rounds 6 and 9), which contributes 72% of NTP central budget in 2011, in difficult financial crisis
  - GFATM to decrease, then stop, staff incentives
- Netherlands government support will end 2011
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  - CDC to stop service support (incentives) and move to TA model
- Allocated funds not used on time due to bureaucratic inefficiencies of both donors and governments

**Recommendations**
- MOH and partner agencies need to advocate for TB to national politicians (the Party and National Assembly) and local authorities, with the technical assistance of external advocacy experts and organizations
- GoV (Ministries of Finance, Planning, MOH) needs to review long term strategic (through 2020 and 2030) and financial plans to take over funding needs currently supported by external assistance
- GoV needs to revise staff remuneration scale to provide living wage to eliminate culture of incentives for work

---

Summary

- NTP made good progress implementing 2007-2011 Development Plan in line with original DOTS strategy
- With expansion to the Stop TB Strategy, vertical nature of NTP poses challenge for cross-cutting issues of MDR-TB, TB/HIV, PPM to increase case finding
- Imminent funding crisis (affecting FLD, HR support, sustainability of services)

---

Thank you
### ANNEX 7. OBJECTIVES OF THE NTP DEVELOPMENT PLAN 2007-2011

<table>
<thead>
<tr>
<th>Objective</th>
<th>Service Delivery Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective 1: To ensure provision of high quality DOTS services at all levels of health service delivery</strong></td>
<td>1. To sustain political commitment, 2. Early case detection and diagnosis, 3. To develop quality assured laboratory services, 4. To provide quality treatment of cases, 5. To ensure high quality and sufficient quantity of TB drugs and supplies and to develop an effective Management System, 6. To Monitor and Evaluate (M&amp;E) based on Reporting and Recording system, 7. To Supervise implementation of TB control, 8. To scale up Surveillance and Research, 9. Advocacy, communication and social mobilization (ACS), 10. Human resources</td>
</tr>
<tr>
<td><strong>Objective 2. Increased access to and use of health services by ethnic minority groups and the poor</strong></td>
<td>1. Monitoring and analysis of age, gender, and socio-economic status of TB patients, 2. To strengthen and expand integrated community health services in remote and mountainous districts, 3. To promote the strengthening and development of socio-economic support systems for urban and rural poor TB patients, 4. To strengthen provision of TB diagnosis and treatment close to the community by Development of community DOT (Community TB care - CTBC)</td>
</tr>
<tr>
<td><strong>Objective 3. To develop and implement Public - Private Mix DOTS in urban areas of 12 provinces/cities</strong></td>
<td>1. To prepare for PPM – DOTS collaboration, 2. Human resources development, 3. Advocacy, IEC and social mobilization for PPMD, 4. To maintain and strengthen the relationship between the NTP and Private sector, 5. To monitor and evaluate PPM – DOTS project at provincial level</td>
</tr>
<tr>
<td><strong>Objective 4. Implementing the framework to address TB-HIV co-infections</strong></td>
<td>1. Strengthening of collaboration of NTP and NACP in all levels, 2. Epidemiological surveillance/research, 3. Decrease the burden of HIV in TB patients, 4. Decrease the burden of tuberculosis in people living with HIV/AIDS, 5. Human resource development</td>
</tr>
<tr>
<td><strong>Objective 5. Development and provision of diagnosis and treatment for patients with MDR-TB</strong></td>
<td>1. Mobilizing political commitment for MDR TB control, 2. Development of a legal cadre to protect anti TB drugs and to support MDR TB services, 3. Build the physical and technical laboratory capacity to do quality assured culture and DST for diagnosis and follow up treatment of MDR TB, 4. Build the physical, technical, HR capacity to treat MDR TB patients, 5. Develop psycho-socio-economic support system for patients in need, 6. Ensure uninterrupted supply of quality first and second line TB drugs to the MDR treatment sites and other necessary supplies, 7. To assess the trend of the prevalence of MDR TB, 8. Development of IEC strategy, and materials for MDR TB Diagnosis and Treatment, 9. Program management, supervision, monitoring and evaluation, development, 10. Research, 11. External Technical Assistance in implementation of DOTS-Plus</td>
</tr>
</tbody>
</table>
Annex 8: TB Network in Vietnam

Ministry of Health

Provincial Health Service

District Health Center

TB Unit

Commune Health Post

National Lung Hospital

National TB Program (NTP)

K71 – K74 Hospital

Pham Ngoc Thach Hospital

Prov TB Center (North & Center)

Prov TB Center (South)

Command line

Technical line

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>F=C+D+E</td>
<td>I=H+G+F</td>
<td>J=I-J</td>
<td>L</td>
<td>M=L</td>
<td>N=M+L-K</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Streptomycin (lọ)</td>
<td>3 919 318</td>
<td>9 962 988</td>
<td>6 640 500</td>
<td>3 322 488</td>
<td>5 593 056</td>
<td>5 593 056</td>
<td>7 863 624,96</td>
</tr>
<tr>
<td>2</td>
<td>RH (viên)</td>
<td>4 231 404</td>
<td>6 318 977</td>
<td>5 803 799</td>
<td>515 179</td>
<td>12 330 312</td>
<td>12 330 312</td>
<td>21 204 750</td>
</tr>
<tr>
<td>3</td>
<td>RHZ (viên)</td>
<td>22 175 224</td>
<td>37 294 452</td>
<td>28 168 500</td>
<td>9 125 952</td>
<td>21 204 750</td>
<td>21 204 750</td>
<td>33 283 548,72</td>
</tr>
<tr>
<td>4</td>
<td>Ethambutol (viên)</td>
<td>40 092 060</td>
<td>80 351 998</td>
<td>51 918 000</td>
<td>28 433 998</td>
<td>30 202 059</td>
<td>30 202 059</td>
<td>39 170 119,81</td>
</tr>
<tr>
<td>5</td>
<td>INH (viên)</td>
<td>20 273 948</td>
<td>37 443 076</td>
<td>20 397 000</td>
<td>17 046 078</td>
<td>12 952 664</td>
<td>12 952 664</td>
<td>28 859 252,18</td>
</tr>
</tbody>
</table>

**Assumptions 2012 based on**

1. Target notification 2012
2. Regimen
   - Northern mountainous + Highland: 8 month regimen (E)
   - Red River + Mekong River delta: 6 mo
   - Retreatment: estimated 10 %
3. Unit cost
   - 10 % increase compared to 2011
Annex 10

MINISTRY OF HEALTH
VIETNAM NATIONAL TUBERCULOSIS PROGRAMME

VIETNAM NTP INTRODUCTION

Transforming the Fight TOWARDS ELIMINATION OF TB

CONTENTS

- Vietnam NTP History
- Epidemiology trend and intervention solutions
- Summary in the period of 2007-2011
- New targets for TB control
- Strengths - Achievements
- Challenges and constraints
- The ways forward
- New concept – transforming from “Stop TB” to “Elimination of TB”

VIETNAM

- Surface: 330,000 km²
- Distance: >3,200km
- 2 climatic zones
- 4 seasons in the North.
- Population: 2010 - 86.93 mil (M 49.4%, F 50.6%, 54 ethnic minorities)
- Districts: 683
- Communes: 11,042
- GDP: 2010 - 6.78%
- Public Investment for health: 4-5% GDP

History and achievements of NTP

- 1957: TB activities set up with small scale.
- 1986: TB control program modernized according to the Union.
- 1997: Global targets achieved (CDR >70% and > 85% cure rate)
- 2006-07: VINCOTB-06 / TB re-estimation

- Technical assistance: KNCV, WHO, CDC, and others
- Financially supported by: Vietnam Gov’t, The Netherlands Gov’t (MCNV, RNE), World Bank, GFATM, PEPFAR (CDC, USAID), and many others.

ORGANIGRAM OF NTP MANAGEMENT OF VIETNAM

TB CONTROL NETWORK IN VIETNAM

Annexes
TB epidemiology in Vietnam

- Ranks 12th among 22 TB high burden countries.
- Ranks 14th among 27 countries with high burden of MDR-TB.
- TB epidemiology in Vietnam still high. VINCOTB-06 shows that previous estimation was lower than the fact of about 60%.

A significant number of tuberculosis cases remains undiagnosed or

Estimation TB prevalence in Vietnam – First national Tuberculosis prevalence survey, 2006-2007 (VINCOTB 06)

<table>
<thead>
<tr>
<th>Category</th>
<th>Prevalence/ 100000</th>
<th>Estimates number of TB cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimal</td>
<td>Maximal</td>
</tr>
<tr>
<td>PTB new AFB (+)</td>
<td>114</td>
<td>73,845</td>
</tr>
<tr>
<td>PTB AFR (+) all forms</td>
<td>145</td>
<td>92,704</td>
</tr>
<tr>
<td>PTB culture (+)</td>
<td>189</td>
<td>128,328</td>
</tr>
<tr>
<td>PTB bacteriological (+)</td>
<td>226</td>
<td>154,164</td>
</tr>
<tr>
<td>PTB AFB (+) (100k age ≥15 by zones)</td>
<td>North: 163 / Central: 152 / South: 256</td>
<td>Country: 197</td>
</tr>
</tbody>
</table>

TB notification 2005 – 2008 and prevalence

<table>
<thead>
<tr>
<th>Year</th>
<th>AFB (+)</th>
<th>Other PTB AFB (+)</th>
<th>PTB AFB (+)</th>
<th>EPTB</th>
<th>All forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>55,492</td>
<td>7,301</td>
<td>16,343</td>
<td>16,636</td>
<td>95,772</td>
</tr>
<tr>
<td>%</td>
<td>57.9</td>
<td>7.6</td>
<td>17.1</td>
<td>17.4</td>
<td>100</td>
</tr>
<tr>
<td>2006</td>
<td>56,476</td>
<td>7,493</td>
<td>16,681</td>
<td>17,758</td>
<td>98,408</td>
</tr>
<tr>
<td>%</td>
<td>57.4</td>
<td>7.6</td>
<td>17.1</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td>2007</td>
<td>54,457</td>
<td>7,638</td>
<td>17,554</td>
<td>18,675</td>
<td>98,344</td>
</tr>
<tr>
<td>%</td>
<td>55.4</td>
<td>7.8</td>
<td>17.8</td>
<td>19</td>
<td>100</td>
</tr>
<tr>
<td>2008</td>
<td>53,484</td>
<td>7,534</td>
<td>19,056</td>
<td>18,610</td>
<td>98,864</td>
</tr>
<tr>
<td>%</td>
<td>54.2</td>
<td>7.6</td>
<td>19.3</td>
<td>18.9</td>
<td>100</td>
</tr>
<tr>
<td>Prevalence survey</td>
<td>95,808</td>
<td>26,005</td>
<td>68,427</td>
<td>190,340</td>
<td></td>
</tr>
</tbody>
</table>

There is a significant amount of TB cases that are still not yet detected in community and being continuous source of transmission.


Incidence all cases /100,000 173
Incidence new AFB (+) /100.000 77 (Prevalence new AFB (+) - VINCOTB-06)
Prevalence all cases 225
Prevalence AFB (+) /100.000 90 (VINCOTB-06)
TB mortality /100.000 23
Of new TB cases, % HIV (+) 5.0%
Of new TB cases, % MDR-TB 2.7%
Of previous treated TB, % MDR-TB 19%

Vietnam NTP in 2007-2011

Goal
- To reduce tuberculosis morbidity, mortality and transmission, and related psychosocial suffering in order to contribute to the comprehensive poverty reduction and growth strategy of Vietnam.
- To prevent development of drug resistance.

Vietnam NTP in 2007-2011 Objectives

Objective 1 To ensure provision of high quality DOTS services at all levels of health service delivery
Objective 2 Increased access to and use of health service of ethnic minority groups and the poor
Objective 3 To develop and implement Public – Private mix DOTS in urban areas of 12 big provinces/cities
Objective 4 Implementation of framework on HIV/TB collaborative
Objective 5 Development and provision of diagnosis and treatment for patients with MDR TB
Objective 6 Increased access to TB diagnosis and treatment for people in penitentiary and re-education institutions (05-06 centers) in 16 provinces
THE BASIC ACTIVITIES OF THE PROGRAM

- Diagnosis: Passive / Active / Contact tracing.
- Treatment: Regiments / follow-up treatment response and side-effect.
- Laboratory
- ACSM
- Planning, supply
- Training, research
- Supervision, Management & Evaluation
- Recording, reporting.

Budget for the period 2007-2011

<table>
<thead>
<tr>
<th>Objectives / Service Delivery Areas (SDAs)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj 1. To ensure provision of high quality DOTS services at all levels of health service delivery</td>
<td>29,529,291</td>
</tr>
<tr>
<td>Obj 2. Increased access to and use of health service of ethnic minority group and the poor</td>
<td>1,378,810</td>
</tr>
<tr>
<td>Obj 3. To increase synergy between Public - Private mix on DOTS collaboration in urban area of 12 provinces</td>
<td>259,275</td>
</tr>
<tr>
<td>Obj 4. Implementing the framework to address TB-HIV co-infections</td>
<td>1,754,680</td>
</tr>
<tr>
<td>Obj 5. Development and provision of diagnosis and treatment for patients with MDR TB</td>
<td>4,823,365</td>
</tr>
<tr>
<td>Obj 6. Increased access to TB diagnosis and treatment for people in penitentiary and re-education institutions (05 - 06 camps ) in 16 provinces</td>
<td>516,430</td>
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<tr>
<td>GRAND TOTAL</td>
<td>38,269,811</td>
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</tbody>
</table>

Data 2010

<table>
<thead>
<tr>
<th>POPULATION (368 MILLION)</th>
<th>AB</th>
</tr>
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<tbody>
<tr>
<td>ESTIMATES OF BURDEN</td>
<td></td>
</tr>
<tr>
<td>Total number</td>
<td>143</td>
</tr>
<tr>
<td>Rate</td>
<td>143</td>
</tr>
<tr>
<td>New cases</td>
<td>143</td>
</tr>
<tr>
<td>Died</td>
<td>143</td>
</tr>
<tr>
<td>Defaulted</td>
<td>143</td>
</tr>
<tr>
<td>Completed Tx</td>
<td>143</td>
</tr>
<tr>
<td>On treatment</td>
<td>143</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
</tr>
<tr>
<td>Died</td>
<td>6</td>
</tr>
<tr>
<td>Defaulted</td>
<td>11</td>
</tr>
<tr>
<td>Completed Tx</td>
<td>80</td>
</tr>
<tr>
<td>On treatment</td>
<td>4</td>
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<tr>
<td>Total</td>
<td>101</td>
</tr>
<tr>
<td>%</td>
<td>5.9%</td>
</tr>
<tr>
<td>10.9%</td>
<td>76.2%</td>
</tr>
<tr>
<td>4.0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Data 2010

<table>
<thead>
<tr>
<th>Treatment success rate (2010) (%)</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>New smear positive</td>
<td>80</td>
</tr>
<tr>
<td>New smear negative/ extrapulmonary</td>
<td>75</td>
</tr>
<tr>
<td>Died</td>
<td>75</td>
</tr>
<tr>
<td>Defaulted</td>
<td>75</td>
</tr>
<tr>
<td>On treatment</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
</tr>
</tbody>
</table>

Proportion of the TB categories 2005 - 2010
TB case notification of new smear positive PTB per 100,000 populations period 2005 – 2010, by zones

NEW SS(+) TB CASES NOTIFICATION RATE PER 100,000 POPULATION BY AGE GROUPS, 2004 - 2009

Treatment result of new smear positive cases by 2SHRZ/6HE (2006 - 2009)

Researches change the policy

Vietnam TB strategy, TB Control guideline - 2009

Current Situation

New targets of Vietnam NTP

- Early diagnosis of all TB cases:
  - Detecting as much as possible PTB AFB (+) cases in community;
  - High quality diagnosis of PTB AFB(-), EPTB, TB/HIV, TB in children; MDR-TB
- Remain High cure rate for all TB cases diagnosed.

Organization aspects:
- High Political commitment – setup NTP since 1995
- TB network nation-wide, intergrated to general health system and collaboration with private sector.
- Well functioned TB laboratory network with quality assurance according to WHO criteria (quality control from super-national lab, reference national lab; zonal, provincial, district).
- Supply, management system for TB drugs, materials for diagnosis and treatment.
- Established Vietnam Stop TB partnership, with the support of the Global Stop TB partnership.
- Long standing co-operation with international partners: Netherlands Gov., GFATM, WHO, KNCV, CDC, Universities, and etc.,....
Stop TB Partnership - VSTP

- MoH, MoP, MOLISA, VAAC
- NGO’s: MCNV, CCHD, PATH, VMA, ... 
- WHO, KNCV, CDC, UCSF, Sydney Uni., OCU, the Union, ...
- Education Ministry, Medical University
- Women Union, Famer, Red Cross, ... 
- Sponsors – GFATM, RNE, USAID, CIDA, ...
- Many others partners

CURRENT SITUATION

STRENGTHS - ACHIEVERMENTS (2)

Technical aspects:
- Standardized technical guidelines, issued by MOH.
- National and zonal reference laboratories have tried and applied 13 of 19 new techniques certified by WHO and ready for applying new techniques if any.
- Nation-wide TB recording and reporting system. Implementing the Vietnam TB information management electronic systems VITIMES.
- Well implementing the new components such as TB/HIV collaboration, MDR-TB, PAL, TB in children, PPM, hospital engagements, and needs to be scaled up.

CURRENT SITUATION

STRENGTHS - ACHIEVERMENTS (3)

Achievements
- DOTS covered 100% (remote, mountainous areas, prisons, ...)
- Maintained high cure rate (>90%)

CHALLENGES AND CONSTRAINTS

- Lack of budget and human resources
  - Low incentive, inadequate support policies for TB staff in the areas with high risk – Expecting improvement in 2012
  - State budget investment for NTP is increasing annually, however, this covered about 30% the total budget only.
  - with universal access orientation, there will be lack of a big amount of fund.
- Policies and laws for TB not strength enough
  - TB drugs available in the free market
  - Reporting TB cases according to the Law on prevention and control infectious diseases No 03/2007/QH12 not yet working adequately.
  - Health insurance system not yet involved, especially in term of universal access: all TB suspects need to be examined and all TB cases need to be treated free of charge without any barriers.
- Health system at the grassroots level: Expecting improvement in 2012 focus on TB control network
- Rapidly developed private sector
- TB / HIV epidemic, MDR-TB.
- Involvement of the social organizations
  - Many social organizations have been involved in TB activities, however, effective operational mechanisms need to be setting up ASAP.

NATIONAL TUBERCULOSIS CONTROL STRATEGIC PLAN FOR THE PERIOD 2011 – 2015

VISION:
TB ELIMINATION IN VIETNAM

What is new in the period 2011 - 2015

- New orientation: transforming from “STOP TB” to “Elimination of TB” globally.
- Needs:
  - New concept relevant to TB control: many aspects, responsibility and benefit / national and local. Patients centered approach / patient’s charter
  - New techniques: New diagnosis techniques, New drugs; New vaccines; New approaches
  - New investment: effectiveness and appropriate – universal access
  - New partners: Expansion and effectiveness / right and benefit
- Vietnamese theme for the World TB day 24/3/2010: “Innovation of thinking for better control of TB”

Annexes
Strategic Plan for the Period 2011-2015

Goals
1. By 2015, to halve TB prevalence in Vietnam compared to that in 2000, measured by:
   - Case detection 2015 / TB prevalence survey 2014
2. Control the MDR TB situation in 2015 not higher than that in 2010, measured by Drug resistant Survey: (MDR TB among newly detected TB cases <3%)

By:
1. Early diagnosis of all TB cases
2. Maintain the high cure rate

With 6 objectives
1. Obj1. To ensure access to and provision of equitable, high quality basic DOTS services at all levels of health service delivery, in accordance with NTP guidelines.
3. Obj3. Contribute to health system strengthening (PAL,...)
4. Obj4. Engage all care providers (PPM)
5. Obj5. Engage people with TB and affected communities (ACSM)
6. Obj6. Surveillance and research to monitor and evaluate performance and impact

07 objectives of the strategic Plan “Strengthening TB laboratory network”

PLANNING AND INDICATORS

VISON: ELIMINATION OF TB IN VIETNAM

Budget requirement by objectives

Most budget focus on objective 1 – Universal access to TB diagnosis and treatment service for free (including strengthening TB laboratory network).

Funding gaps

WHO report 2011

<table>
<thead>
<tr>
<th>FINANCING</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total budget (US$ millions)</td>
<td>59</td>
<td>74</td>
</tr>
<tr>
<td>Available funding (US$ millions)</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>% of budget funded</td>
<td>31</td>
<td>26</td>
</tr>
<tr>
<td>% available funding from domestic sources</td>
<td>24</td>
<td>31</td>
</tr>
<tr>
<td>% available funding from Global Fund</td>
<td>66</td>
<td>62</td>
</tr>
<tr>
<td>NTP Budget (blue) and available funding (green) (US$ millions)</td>
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</table>

Don’t worry, We’re here !!!!
Please Eliminate TB with us! Thank you very much.

towards MDG target