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## TECHNICAL REPORT

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# Expanding TB and TB/HIV Integrated Services in Thai Binh Province, Vietnam

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JANUARY 2009

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This report was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID). It was authored by Dang Viet Hung, Ho Thi Minh Ly, and Nguyen Thi Thu Lien. The interventions described in this report were initiated under the USAID-funded Quality Assurance Project; the assessment was performed under the Health Care Improvement Project, which is made possible by the support of the American people through USAID.



TECHNICAL REPORT

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JANUARY 2009

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**DISCLAIMER**

The views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

**Acknowledgements:** This report highlights the results of the quality improvement interventions that were implemented over the 18-month period of April 2007–September 2008 in Thai Binh Province in Vietnam. The interventions focused on improving quality and coverage of TB/HIV services. The report draws on data from the mid-term assessment that was conducted by Dr. Nguyen Nhat Linh.

We acknowledge with thanks the Thai Binh Department of Health; Thai Binh Provincial TB hospital; the district Preventive Health Centers of Kien Xuong, Thai Binh City, Hung Ha, and Dong Hung as well as staff at private health facilities in Thai Binh City (Lam Hoa, Hoang An, Phuong Mai, and An Tap) for their enormous support and cooperation during the fieldwork. We are very grateful for their warm welcome and for providing us important data, information, and human resources for evaluation. This support and cooperation were essential to its success.

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The authors recognize that this report might not have fully captured all of the program results. Therefore, we highly welcome and would appreciate any contributions that might better reflect the program results and the lessons learned for the implementation of the next phase.

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## **EXECUTIVE SUMMARY**

### **Background**

This report provides an evaluation of an 18-month quality improvement intervention supported by the USAID-funded Quality Assurance Project (QAP) and its successor, the Health Care Improvement (HCI) Project, in Thai Binh Province of Vietnam. The province, located in the Red River's Delta in northern Vietnam, has 1.8 million population, an annual TB case load of 1600–1800 cases, and an cumulative number of 2188 HIV-infected cases. In April 2007, QAP, in collaboration with NTP and Thai Binh Department of Health, initiated an 18-month work plan to pilot-test a model for TB/HIV integration activities at the provincial level and in all the eight districts in the province. Assistance to the intervention transitioned from QAP to HCI in 2008. The project also promoted partnerships between the TB program and other public and private health providers in order to maximize coverage of the DOTS program.

A number of activities to expand TB/HIV integration were carried out, including policy development; capacity building; maintaining the continuum of care; quality assurance of services; support for public and private partnerships; strengthening the monitoring and evaluation system; and conducting information, education, and communication activities.

### **The evaluation method**

The objective of the evaluation was to assess the impact of HCI-supported interventions on TB and TB/HIV programs in the province. Specifically, the assessment looked at the capacity of TB/HIV systems; the process of implementation of HCI support at provincial and district level; the linkages developed among different stakeholders; and the impact of the interventions on the coverage and quality of TB and HIV services.

The program's degree of success was assessed by reviewing epidemiological data to provide pre- and post-intervention data on specific indicators; interviewing key informants from the National TB Program, the Thai Binh Provincial Health Services, TB hospital, the HIV/AIDS Center, and the TB/HIV coordination committee; observing of the use of instruments and equipment provided by QAP/HCI at TB hospitals and at the district level; and conducting in-depth discussions with heads of private clinics in Thai Binh City.

### **Key results**

After 18 months of implementation, the standardized package of TB/HIV services, including provider-initiated counseling and testing, voluntary counseling and testing, and treatment and care, was available in all district health facilities. The proportion of TB patients receiving HIV counseling increased remarkably, up to 99% in the last quarter, compared with the baseline of 47%. The HIV testing rate among TB patients also increased from 38% to 90%. TB screening was provided to 563 people with HIV during the project period, yielding TB diagnosis in 16% of screened people. With these improvements, the case detection of TB/HIV increased considerably, from only 33 patients in 2006 to 66 in 2007 and 77 in the first three quarters of 2008. The HIV prevalence among all TB patients increased from 1.9% in 2006 to 3.7% (66/1774) in 2007 and 5.4% (77/1421) in 2008 (data from first three quarters). Apart from the quality improvement of TB/HIV services, the interventions contributed to a significant improvement in overall TB case detection. The overall TB notification rate increased from 93 per 100,000 population in 2006 to 97 in 2007 and is projected to increase to 104 in 2008 (assuming 4th quarter notifications are equal to average of the first three quarters in 2008). These figures translate to an annual increase of 4.6% in 2007 and 11.7% in 2008.

## **Conclusions**

Quality improvement methods applied to increase the integration of TB-HIV services in Vietnam significantly improved HIV counseling and testing rates among TB patients and TB screening among people with HIV and subsequently improved the case detection of HIV co-infected TB patients. In addition, the model contributed to improve overall case detection of TB.

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## ABBREVIATIONS

AFB	Acid-Fast Bacilli
AIDS	Acquired immunodeficiency syndrome
ARV	Antiretroviral
ART	Antiretroviral therapy
CDC	Centers for Disease Control and Prevention
CF	Case finding
CPT	Cotrimoxazole preventive therapy
C&T	Counseling and testing
DOH	Department of Health
IPT	Isoniazid preventive therapy
DOTS	Directly observed treatment, short-course
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GFTB	Global Fund TB Program
HCI	Health Care Improvement Project
HIV	Human immunodeficiency virus
M&E	Monitoring and evaluation
MDR	Multi-drug resistant TB
MOH	Vietnam Ministry of Health
NTP	National TB Program
OI	Opportunistic infection
PHS	Provincial Health Services
PITC	Provider-initiated testing and counseling
PLWHA	People Living with HIV/AIDS
PPM	Public-Private Mix
QAP	Quality Assurance Project
QI	Quality improvement
R&R	Recording and reporting
TB	Tuberculosis
URC	University Research Co., LLC
USAID	United States Agency for International Development
VAAC	Vietnam Administration of HIV/AIDS Control
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
XDR	Extensively drug resistant TB

## **I. BACKGROUND**

Tuberculosis (TB) is widely recognized as a potential risk to public health in Vietnam. According to its National TB Program (NTP), this country has the 12th highest global TB burden, with roughly 221,000 people living with the disease. The NTP annually detects around 96,000 new cases, including 55,000 cases (57%) that are smear positive. Although both the global targets of 70% case detection and 85% cure have been achieved over the last 10 years, this achievement has not resulted in a significant impact on the epidemiological situation of TB in Vietnam [1]. Not yet achieved is the expected decline in annual TB case notification following the success of the national TB directly observed treatment, short course (DOTS) program. Evidence of an increase in TB among younger people in Vietnam can be interpreted as an increase in recent TB transmission [2]. Although not unique to the country, the impact of the human immunodeficiency virus (HIV) epidemic is one of the most obvious deterrents to progress in TB control [3]. The prevalence of HIV infection among TB patients has increased quickly in recent years: from 1.8% in 2000 to 5.0% in 2006 [4]. Although the average prevalence of HIV among TB patients is only 5% nationwide, the rate varies considerably by location. In 2006, the rate ranged between 10% and 20% in a number of high HIV-prevalence provinces.

Regardless of the increase in importance of the TB/HIV problem, integrated TB/HIV services have not been widely available in the country. Since 2006, integrated TB/HIV services have been implemented only in four PEPFAR-focus provinces: those with the highest prevalence of HIV/AIDS. Although some progress was made in this respect in 2007, such as the development of the national TB/HIV framework and the implementation of the Global Fund TB Project in a number of provinces, lack of effective collaboration at the provincial and district levels remains a problem. The major concerns include: a poor surveillance system, underestimation of the TB/HIV problem, and lack of a collaborative mechanism for early diagnosis and appropriate treatment and management of TB/HIV patients in most of the provinces.

## **II. USAID HEALTH CARE IMPROVEMENT PROJECT**

### **A. Quality Improvement Strategy and Approaches**

The USAID Health Care Improvement (HCI) Project, the follow-on to the Quality Assurance Project (QAP), implemented by University Research Co., LLC (URC), has built partnerships and leveraged resources to improve the quality of TB and TB/HIV services in Vietnam. QAP and HCI have sought to expand these services in order to decrease morbidity and mortality among TB/HIV co-infected patients. Both projects applied quality improvement (QI) methods and collaborative approaches to scale up best practices in the shortest possible time. The key elements of this work include a focus on TB/HIV integration, public-private partnerships, and infection control.

Funded by USAID, HCI has been working with the Ministry of Health (MOH), in collaboration with the NTP, the Vietnam Administration of HIV/AIDS Control (VAAC), and other partners (e.g., the Global Fund TB Program [GFTB], the U.S. Centers for Disease Control and Prevention [CDC], and the World Health Organization [WHO]) to develop operational strategies for integrating TB and TB/HIV services in Thai Binh Province. HCI and GFTB worked closely to plan, leverage resources, and implement the HCI work plan in the province. GFTB partially funded some HCI activities, such as provision of 1) chest X-rays for TB screening for people with HIV, 2) HIV test kits, and 3) training of district health coordinators. To plan and implement the project, HCI also worked with local partners in the province: the Thai Binh Department of Health, Provincial Hospital of Tuberculosis and Respiratory Diseases, Provincial HIV/AIDS Center, Provincial Center for Preventive Medicine, and provincial and district health facilities.

### **B. Project Site and Baseline Assessment**

The NTP asked QAP to work in Thai Binh Province in April 2007 due to high TB/HIV co-infection rates and because no other interventions that would complicate interpretation of results were present. A rural

province, Thai Binh has a population of over 1.8 million people. The prevalence of HIV infection among adults aged 15–49 years was 0.3% in 2005 [5]. By September 2006, 2188 people had been found to be HIV infected, and 487 acquired immunodeficiency syndrome (AIDS) patients had died in the province. Annually, 1600–1800 TB cases are detected, and of them, 1100 are new smear-positive cases. Cure rates of new smear-positive cases are over 90%.

It was estimated that 6% of TB patients are infected with HIV [3]; i.e., each year brings about approximately 100–110 new TB/HIV patients. However, notification of TB/HIV patients is likely to be underestimated, with only 33 cases detected a year in 2005 and 2006. The baseline assessment, conducted in November 2006, showed that basic health services for diagnosis, prevention, and management of TB/HIV had not been widely provided in the province, particularly at the district and health facility levels. Although nearly 20% of TB patients in the province were tested for HIV in 2006, most HIV testing services were offered by the provincial TB hospital. The proportion of TB patients who were tested for HIV at district health facilities was very low: 10–14% [6]. Access to HIV counseling and testing for TB patients, TB screening for HIV-infected persons, and other treatment and care interventions—e.g., antiretroviral therapy (ART), Cotrimoxazole preventive therapy (CPT) and Isoniazid preventive therapy (IPT)—were very limited or not available.

QAP, in collaboration with NTP and Thai Binh Department of Health (DOH), developed an 18-month work plan to pilot-test a model for TB/HIV integration activities at the provincial level and in all the eight districts in the province. Assistance to the interventions transitioned from QAP to HCI in 2008. In addition, HCI also supported strengthening partnerships between the TB program and other public and private health providers in order to maximize coverage of the DOTS program.

### **III. Activities Implemented between April 2007 and September 2008**

#### **A. Baseline Situation and Gap Analysis**

A baseline situation and gap analysis was conducted in two Thai Binh districts: those with the highest and lowest HIV prevalence. Based on the baseline results, QAP and local partners developed a work plan involving all the TB and HIV provincial and district health facilities.

##### **1. Policy Development**

At the national level, QAP and HCI provided assistance to the MOH (NTP and VAAC) to develop a national framework, guidelines, and training modules on TB/HIV integration; they would be applied nationwide.

At the provincial level, QAP and HCI supported the province in disseminating TB/HIV guidelines among TB and HIV health facilities. In addition, health care workers were trained in HIV and TB testing and TB/HIV management.

HCI worked with the DOH to establish a collaborative mechanism (“the TB/HIV Collaborative”) for improving TB/HIV management. A provincial TB/HIV task force was established to promote collaboration between TB and HIV program managers. Terms of reference for district collaborative working groups were developed and issued by the DOH. Chaired by the DOH, the task force met monthly and continues to do so at this writing: It leads the quality improvement process for TB/HIV integration in the province.

In addition, a referral system was established between TB and HIV/AIDS programs. Referral and feedback forms were developed and implemented in all public TB and HIV health facilities.

A referral system between private and public non-TB service providers was also established. Private clinics were trained on TB/HIV and TB symptoms and on referring suspicious cases to a TB hospital for confirmation tests. A referral feedback form was developed: A completed feedback form would be sent back to the referring private clinic for each referral; this system would enable quality assurance.

## **2. Capacity Building**

At the beginning of the project, QAP conducted TB/HIV training for 22 provincial trainers from ten provinces being supported by the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM), including Thai Binh. QAP, in collaboration with the GFTB program, also provided training on the TB/HIV Collaborative to 40 TB and HIV health workers in the province.

Sixty health workers from all provincial and district TB and HIV facilities in Thai Binh were trained on HIV counseling and testing. In addition, 150 general practitioners working at out-patient clinics of public health facilities and 88 private general practitioners practicing in the province were trained on TB and the referral system.

Training on TB case detection and treatment and the TB/HIV Collaborative was provided to 226 communal health workers from three districts (Dong Hung, Kien Xuong, and Thai Binh City).

Since July 1, 2008, all district TB control teams have been reorganized under the district preventive medicine centers, with technical support from general hospitals. A re-training course for 42 health workers was organized with the purpose of enhancing skills and capacity in TB detection, TB diagnosis and management, and TB/HIV integration activities.

HCI later provided two training courses on infection control for all 76 staff of the provincial TB hospital and 40 health workers from TB control teams and infectious diseases departments of all districts.

## **3. Strengthening the Monitoring and Evaluation (M&E) System**

Developing/revising recording and reporting systems for TB/HIV and public-private mix (PPM): The revised recording and reporting (R&R) forms for management of TB/HIV integration were developed and then implemented in all TB and HIV facilities starting in April 2007. A patient registration book and referral feedback forms were developed and are in use by the private clinics involved in TB control.

HCI supported the province in developing TB/HIV indicators and tools for monitoring and evaluating TB/HIV integration activities in the province.

An M&E framework was developed and implemented with regular monitoring visits by the NTP, HCI, and provincial coordinators to the project health facilities.

HCI supported monthly and quarterly review meetings to track progress, exchange experiences, and update information. These meetings also served as mechanisms to identify continuing challenges and develop solutions for improving case detection, case management and TB/HIV screening, and referrals.

## **4. Information, Education, and Communication and Advocacy Communication and Social Mobilization**

Two advocacy workshops were held on TB/HIV and PPM for TB control to expand involvement of public and private non-TB service providers and create an understanding of TB/HIV co-infection issues.

With HCI support, an advocacy workshop was held on TB infection control in health facilities for the first time in Thai Binh. The HCI Infection Control Manual was distributed to raise awareness about infection among health care workers and to improve and implement infection control in health facilities.

Three documentary TV programs were developed and broadcast on the local television in the province. In collaboration with the Provincial Women's Association and clubs of people living with HIV/AIDS (PLWHA), this activity enhanced the awareness of TB/HIV for the entire community.

Leaflets providing important health information for HIV-infected people and TB/HIV patients were developed and continue to be distributed: 20,000 have been printed and are given to HIV clients and TB patients when they attend health care facilities and PLWHA when they attend support group meetings.

TB/HIV information was disseminated using the community radio system to improve community awareness of TB/HIV.

Educational and promotional materials with simple graphics were used to raise awareness about TB among community members.

URC (non-project funds) supplied limited voluntary counseling and testing (VCT) test kits for the program.

## IV. Evaluation Methodology

The overall objective of the evaluation was to assess the impact of HCI-supported interventions on TB and TB/HIV programs in the province. Specifically, the assessment looked at:

- **Capacity** of TB/HIV systems
- The **process of implementation** of HCI support at provincial and district level
- The **interaction** among different stakeholders in TB/HIV
- The **impact** of the quality improvement interventions on the coverage and quality of TB and HIV services

The evaluation team employed the following methods to assess the success and failure of the program:

Review of epidemiological data to provide pre- and post-intervention data on specific indicators: The data were gathered from the preventive medicine centers in districts covered by the program and TB hospitals. Data were then compared with pre-program data. Also, time-based data analyses were conducted quarterly.

Key informant interviews: Several consultations were held with NTP, DOH/Provincial Health Services (PHS), and the HIV/AIDS center. TB/HIV coordination committee meetings were held to discuss the relevancy of HCI support. The opinions of key informants were also collected and noted at workshops and personal meetings.

Observation of the use of instruments and equipment provided by the QAP/HCI at TB hospitals and at the district level.

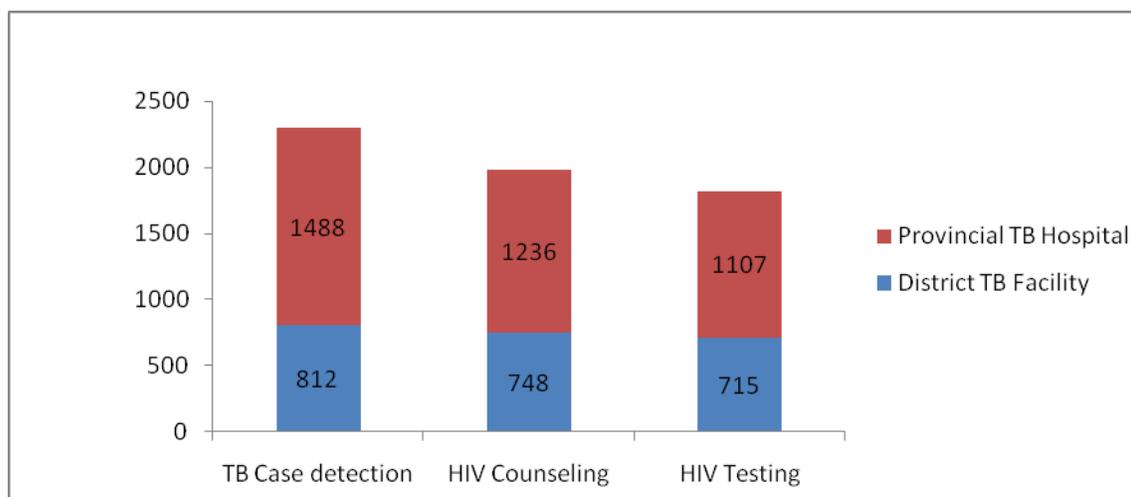
A series of in-depth discussions with heads of private clinics was conducted for all six private clinics and the one private hospital in Thai Binh City.

## V. Evaluation Results

### A. Strengthened Institutional Capacity

All the TB and HIV health facilities at the provincial level, including provincial TB hospitals and general hospitals in all eight of the province's districts, have the capacity to provide TB/HIV services, including provision of standardized HIV provider-initiated testing and counseling (PITC) for TB patients, VCT for persons seeking the service, and treatment and care for TB/HIV patients. The proportion of cases detected at the district level has increased. HCI is promoting a province-wide TB/HIV service delivery model. With this approach, all TB and HIV health facilities in the province have staff trained and providing: 1) PITC in TB settings, 2) VCT for non-TB patients, and 3) referrals for care and treatment for TB/HIV co-infected patients. Now, patients in all eight districts can access high quality TB/HIV services, and the program has increased the utilization of TB services at the district level (Figure 1).

**Figure 1: Utility of the provincial TB hospital and district TB facilities in case detection, HIV counseling, and HIV testing for TB patients (April 2007–September 2008)**



## B. Improved Quality of Services

Quality of services has been enhanced through capacity building as well as the use of QI tools. The key indicators are tracked at facility, district, and provincial levels on a regular basis to show trends in uptake as well as quality of services. Results of the data review are used for problem solving at all levels. This routine monitoring has resulted in:

- Uninterrupted availability of HIV test kits to improve the HIV testing rate among TB patients
- Establishment of additional VCT sites in areas where services are most needed
- Implementation of prophylaxis for opportunistic infections (OIs)
- Referrals of co-infected patients

The more intensive supervision by the province of the districts has contributed to improved quality of services. The quality of Acid-Fast Bacilli (AFB) testing provided by district-level facilities was relatively good with a false positive rate of 1.2% as validated by the TB provincial hospital. The preliminary data showed the time gap between the onset of symptoms to the start of a treatment course was reduced in all districts. The rate of treatment completion increased from 21.4% in 2007 to 48.3% in 2008.

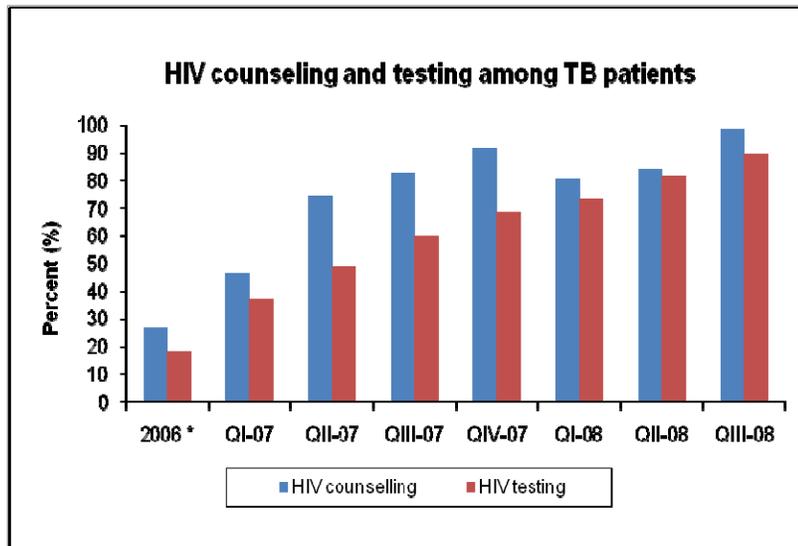
The continuum of care for newly detected TB cases was consolidated to reduce the lag time between the onset of TB-suspected symptoms and the time of starting DOTS, increase the number of patients entering the treatment program, and improve connections between private clinics and the TB hospital. The increase of case notification signals an improvement in the quality of the TB control program. Access to HIV counseling and testing for TB patients improved significantly (Figure 2).

Testing capacity at the district level improved along with the number of TB suspects referred by the private sector. This is believed to be the reason for the high number of detected TB cases.

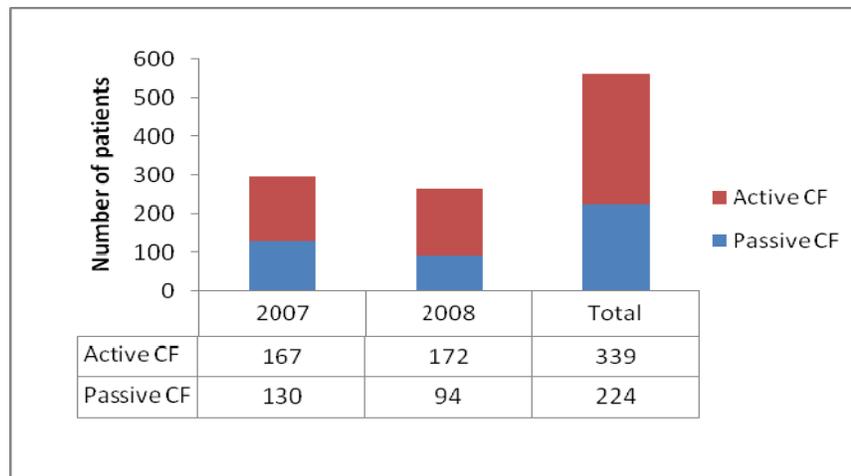
## C. Increased Surveillance and Coverage of Case Detection for TB and HIV

The number of HIV-positive persons screened for TB increased during the 18 months of project support (see Figure 3). The baseline assessment showed that TB screening for PLWHA was neglected: A total of 563 PLWHA were screened for TB. Among them, 339 (60%) were involved in active case finding (most of them were asymptomatic), and 224 (40% symptomatic) were referred by health workers from the HIV/AIDS health care facilities to TB clinics or hospital for TB diagnosis.

**Figure 2: HIV counseling and testing among TB patients**



**Figure 3: Active versus passive case finding (CF) for TB by quarter, 2007–2008**



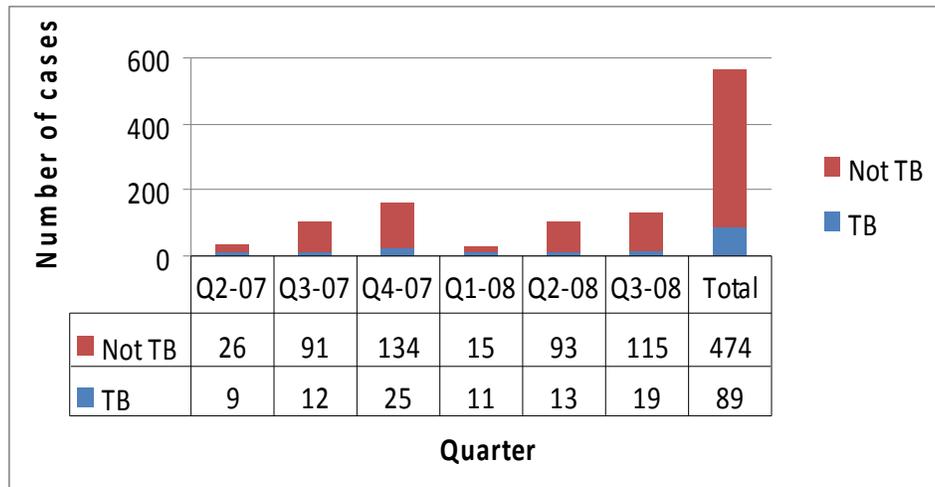
Of the 563 people living with HIV screened for TB, 89 (16%) had a positive TB diagnosis (Figure 4). This result was partially due to the co-support from GFTB for the surveillance of TB among PLWHA in the second half of 2007. GFTB provided chest X-rays for TB screening and Mantoux tests and promoted active screening among PLWHA.

The project contributed to an increase of annual notifications of TB cases compared with previous years. Increased active screening<sup>1</sup> for TB among PLWHA allowed for early detection and management of the disease.

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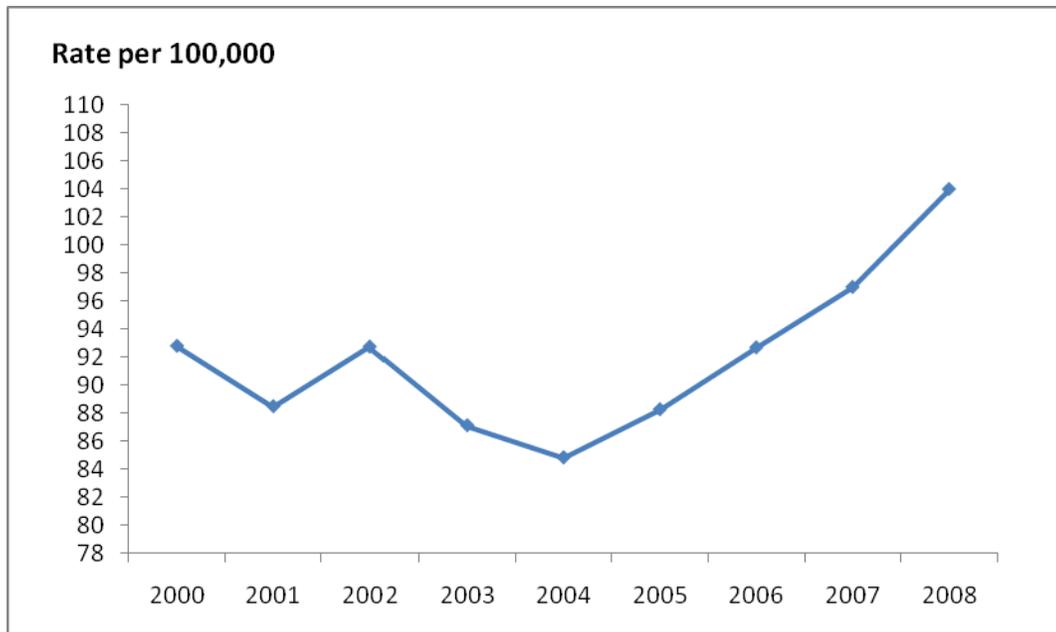
<sup>1</sup> Active case finding is TB screening conducted by a TB hospital; passive case finding is TB screening for those who are referred from other facilities.

**Figure 4: TB screening for PLWHA, second quarter of 2007 through the third quarter of 2008**



The TB notification rate per 100,000 rose from 93 in 2006 to 97 in 2007 and is projected to be 104 in 2008, assuming fourth quarter notifications equal the average of the first three quarters in 2008. This increase includes an annual increase of 4.6% in 2007 and 7.2% in 2008 (Figure 5). This is likely to have resulted from intensive efforts in TB case detection. The interventions of the TB/HIV Collaborative (with the application of a new framework for diagnosis of smear-negative and extra pulmonary TB) and public and private partnerships (with early referral of TB suspects for diagnosis) newly implemented in 2007 and 2008 are important contributions to this increase.

**Figure 5: Trend of TB case notification rate 2000–2008**



#### D. Strengthened TB/HIV Integration

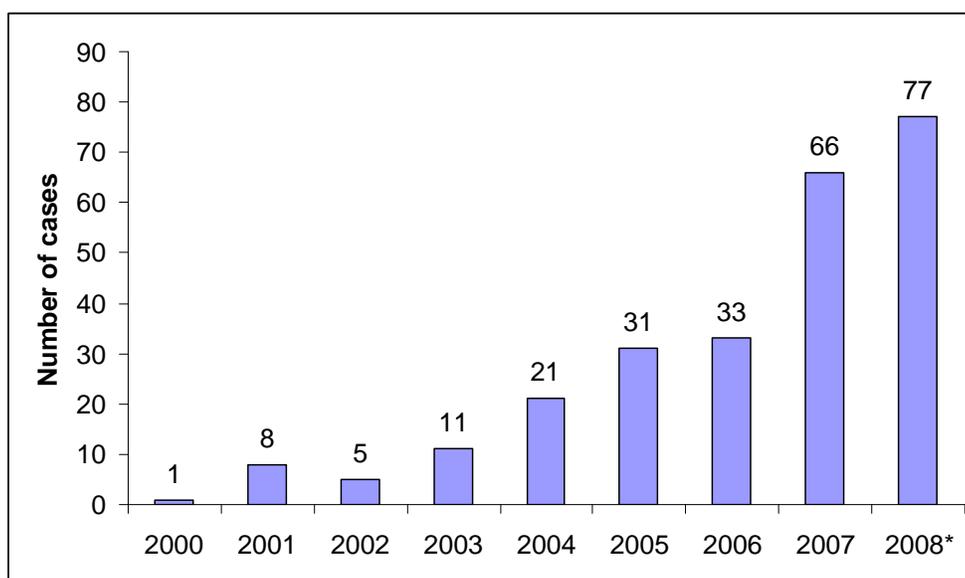
The project established an integrated system for TB/HIV detection and management in the province. The system has effectively enhanced the capacity and skill of health staff at provincial and district levels.

The Provincial Health Services recognized that establishing TB and HIV coordinating committees at the provincial level provided better coordination in planning and reaching targeted clients.

By working closely with key partners, especially NTP and GFTB, the program was able to harmonize activities and budgets into one work plan, avoiding overlap and enhancing capacity to address the dual epidemic. HCI acknowledges the GFTB-contributed resources, including HIV rapid tests for TB patients, chest X-ray and other support for TB screening for PLWHA, and training and CPT for TB/HIV patients. Also, NTP provided technical assistance in monitoring and evaluating the project.

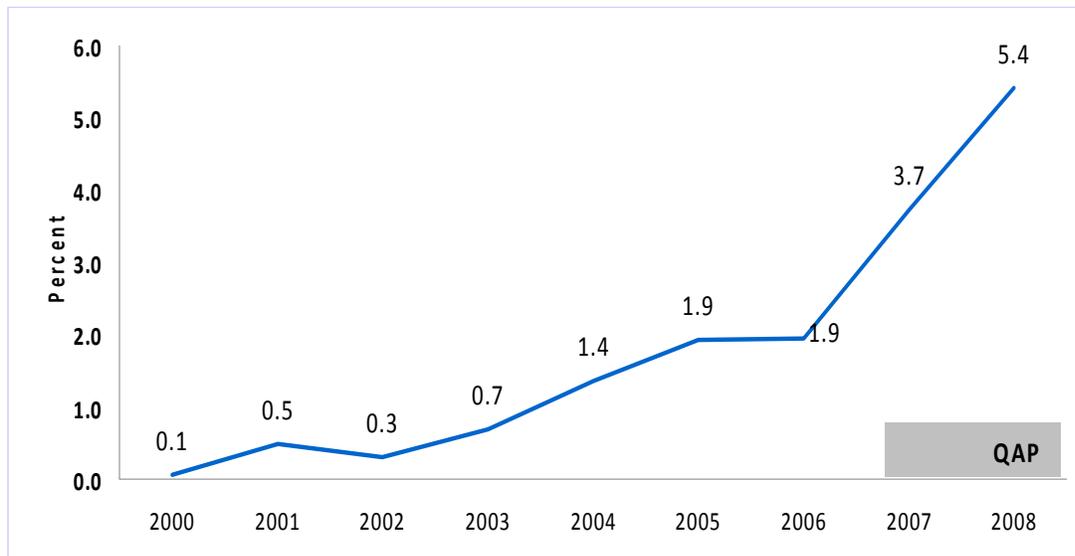
The TB/HIV Collaborative activities resulted in a remarkable increase of notification of TB/HIV cases compared to previous years when TB/HIV services were limited. For example, 66 TB/HIV cases were diagnosed province-wide in 2007 and 77 cases in the first three quarters of 2008: This is double the rate of 2005 and 2006 and significantly more than that of previous years (Figure 6). The increase in notification of HIV co-infected TB patients likely illustrates the results of efforts in case detection of TB/HIV. The TB/HIV case notification of 1.9% of TB patients in 2006 was underestimated due to limited access to TB/HIV services in the province. With these new efforts, several TB/HIV services have become available or improved, and more TB/HIV cases are consequently being detected.

**Figure 6: TB/HIV case-notification 2000–2008**



The proportion of persons known to have HIV among TB patients increased following the increase in the HIV counseling and testing (C&T) rate and TB screening for PLWHA, from 1.9% in 2006 to 5.4% in 2008 (Figure 7), reaching the national estimation of 6–10% (the sentinel surveillance 2006 done by NTP/GFTB). This figure is believed to represent the real TB/HIV rate in the province.

**Figure 7: Notified HIV positive among TB patients**



### **E. Improved Treatment and Continuum of Care for TB/HIV Patients**

The proportion of TB/HIV cases registered for TB treatment increased from 49.6% in early 2007 to 84.6% during the period from the 2nd quarter of 2007 through the 3rd quarter of 2008. The main reason for the 13.4% of unregistered patients was reported to be people's unwillingness to be identified. The number of TB/HIV patients receiving Cotrimoxazole prophylaxis has increased remarkably: from zero in the baseline to 96.4% of all registered TB/HIV patients. However, the number of patients receiving antiretrovirals (ARVs) is still limited due to their unavailability: Only three patients received ARVs from the national HIV/AIDS program during the 18-month period reported here.

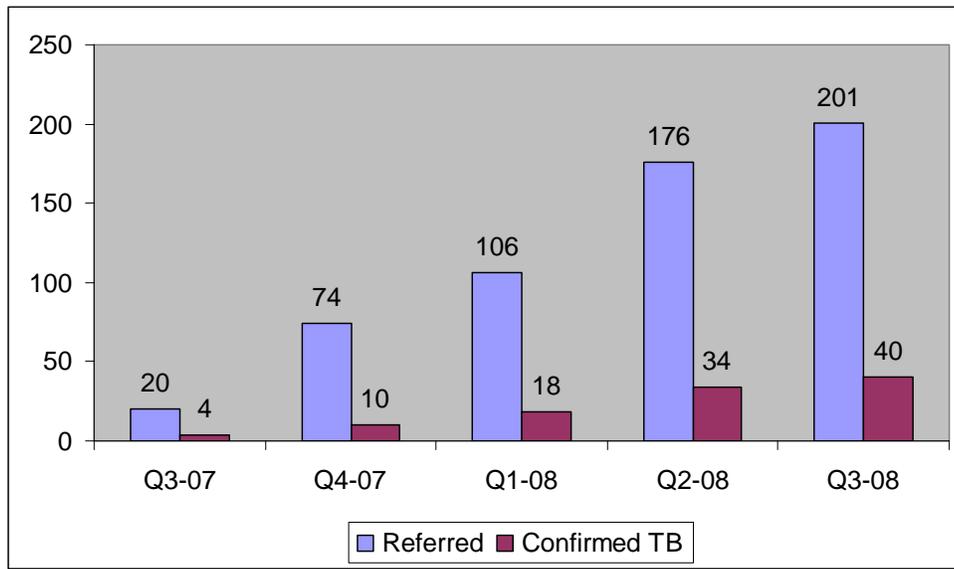
Treatment outcome of registered TB/HIV patients has reportedly increased. The mortality rate among registered TB/HIV patients was reduced from 21.4% in 2007 to 13.8% in 2008, and the rate of cured TB patients increased from 8.9% in 2007 to 13.8% in 2008. Low ARV coverage may explain the relatively low rate of successful TB treatment rate among TB/HIV patients.

### **F. Improved Collaboration between the Public and Private Sectors**

Preliminary results show that non-TB public and private health providers are routinely referring TB suspects to TB facilities. These results indicate the improved relationships between private sector clinics and the TB hospital, with increasing referrals and an increasing proportion of cases referred by private clinics (Figures 8 and 9). Private clinic staff reported in our interviews that they had an improved understanding of the purpose of TB detection and their role in increasing the capacity for TB detection among both the population at large and PLWHA.

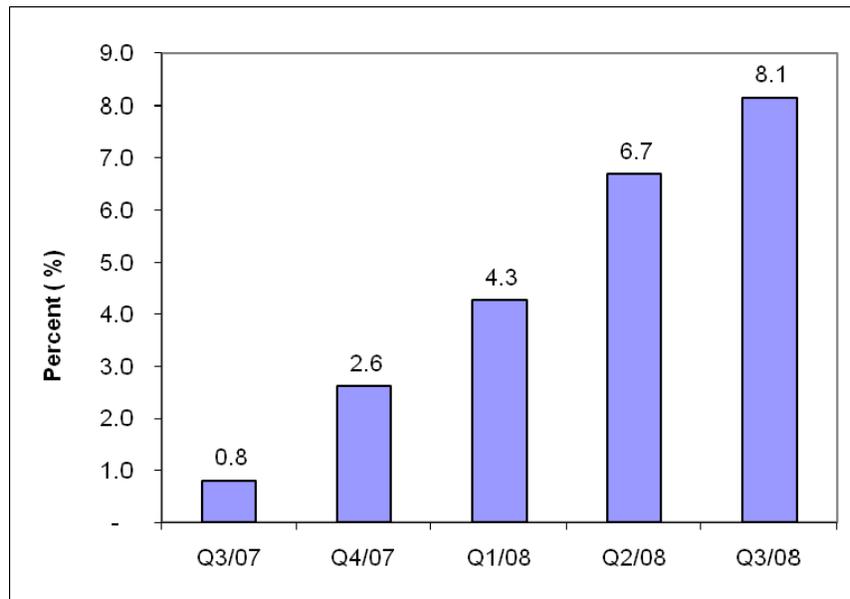
The referral mechanism sending suspected cases from private clinics to TB hospitals is a good way to increase TB case detection and reduce the risk of TB transmission in the community and within private health facilities as all TB suspects are sent to the TB hospital for diagnosis and treatment.

**Figure 8: Number of suspects and confirmed TB cases referred by private sector**



**Better support for private sector clinics:** A new patients' register book and referral forms were implemented among the participating private clinics and allow the tracking of examined/referred cases from private clinics. Project-provided training and supervision have improved private sector doctors' and nurses' knowledge and practice. However, the outcomes of PPM activities have not been systematically evaluated. Sending feedback of positive tests by the TB hospital to the private clinics that had referred the suspected TB case was not well implemented; still, training and technical support for the private sector were considered important aspects of PPM in the field of TB/AIDS control in the province.

**Figure 9: Percentage of TB cases referred by private facilities**



## **G. Project Relevance to National Strategy**

The TB/HIV Collaborative model has resulted in increasing the number of newly detected TB cases. It has also increased the rate of HIV testing among TB patients as well as TB detection among PLWHA. All these indicators show that the QI model is effective and operational in the province. NTP representatives affirmed HCI's relevance to the NTP strategy at the October 23, 2008, evaluation meeting. There is interest in scaling up the model to other provinces.

## **H. Sustainability of the Services**

With focus on capacity building through technical assistance and leveraging resources, the project did not provide resources for cash incentives, salary supplements to the health workers, or other costly interventions. HCI encouraged the active participation of local health staff and authorities in all project processes in order to help them identify gaps in quality and develop their own operational plan to close the gaps. The program also leveraged additional resources and technical assistance from other sources (e.g., GFTB) to support program implementation in the province. With this approach, a collaborative mechanism was used to build capacity of the existing health care system that can be sustained.

## **VI. Remaining Gaps**

Several issues have been identified as potential gaps:

TB screening for PLWHA is still limited to those who attend the peer clubs organized at the district level. Of 1745 people living with HIV officially registered in the province, only 563 (32.3%) could be approached at the district level, clearly indicating a lack of ability to provide TB counseling and screening for people with HIV infection. Although, TB screening significantly improved in the later phase of the project, this activity is mainly based on active case finding among PLWHA. Routine screening for TB in this population should be improved in the project's next phase. This will require more intensive collaboration in referring patients at the HIV/AIDS, primary health, and other health facilities caring for HIV/AIDS patients. The focus should be on monitoring to support TB/HIV integration at the primary health care level to refer PLWHA for TB screening and on information, education, and communication on TB/HIV at the community level.

Counseling needs to be further improved: A greater proportion of patients should be tested, and consent should be gained from all patients. The target of a C&T uptake rate of at least 90% among all TB patients should be maintained in the project's next phase.

Despite the remarkable improvement in case detection, improvement in treatment and care is not evident. Registration of all diagnosed TB/HIV cases should be a focus area for improvement in the next phase. In addition, referral of patients between the health facilities for HIV/AIDS-related care is still limited and should be improved.

In Thai Binh, the provincial TB hospital plays an important role in detecting TB cases and providing TB/HIV services. The network of district health facilities is responsible for detecting 35% of TB cases and providing less than 40% of HIV counseling and testing services for TB patients. This fact creates a concern over the quality and coverage of services provided by the district health networks as the majority of patients need to go to the provincial level for counseling and testing services.

Quality of reporting is limited due to lack of reliable data on the impact of quality improvement interventions in the province. The manual handling of data due to the lack of professional staff limited opportunities to process epidemiological data.

## VII. Recommendations for 2009

Recommendations to improve coverage and quality of TB/HIV services in Thai Binh include:

HCI should continue working in Thai Binh Province to improve the quality of TB/HIV services at the district and community levels. The main focus should be to improve quality and access of HIV counseling and testing services; provide TB testing for PLWHA; provide HIV testing for TB patients; and improve TB diagnosis for PLWHA by improving the quality of TB testing, referral systems, and data management.

Stakeholders should respond to the increasing rate of smear-negative and extra-pulmonary TB among PLWHA by implementing laboratory-strengthening activities (e.g., enhanced capacity to detect both smear-negative and extra-pulmonary TB among PLWHA, external quality assessment, drug resistance surveillance, and rapid detection of TB drug resistance for clinical decision-making).

HCI should continue promoting public-private partnerships for TB control by piloting TB testing and treatment at private facilities; continued training of public and private doctors and focus on monitoring and evaluating the referral, recording, and reporting systems in public and private health facilities is recommended.

HCI should work on improving infection control at TB facilities by training providers and establishing infection control protocols at facilities. As the TB team is transitioning from the district hospital to a district health center, the district TB facility network should be consolidated to ensure quality of services. Improving TB infection control to prevent PLWHA from coming in direct contact with someone with active TB is essential.

Stakeholders should improve knowledge and practice of health care workers on infection control of TB, especially multi-drug resistant and extensively drug resistant TB (MDR/XDR TB) and establishing a surveillance system for MDR/XDR-TB in project sites.

Stakeholders should ensure that eligible TB patients receive HIV/AIDS prevention, treatment, and care, including ART and Cotrimoxazole to prevent OIs.

Stakeholders should ensure that eligible PLWHA receive IPT to prevent active TB.

Monitoring and evaluation should be strengthened by improving M&E tools. On-going M&E should be conducted in line with QI approaches at the project and provincial levels on all the project components.

Stakeholders should assist NTP in expanding the TB/HIV integration model to other provinces if more funding is available. The evaluation team recommends the expansion to Hai Duong Province using HIV/AIDS centers as the core institution. This would serve as a comparison model for Thai Binh Province, which used the TB hospital as the core institution.

Stakeholders should implement the WHO-recommended TB treatment protocol, DOTS, in order to ensure that patients complete their TB treatments. In addition, it is essential to establish linkages between TB treatment and ART so that people who are co-infected receive the medical attention they need.

Stakeholders should support activities to address multi-drug resistant and extensively drug resistant TB for TB/HIV patients, including rapid TB diagnosis and treatment.

Stakeholders should continue support for sustaining and strengthening the TB/HIV surveillance and management system in Thai Binh Province. Technical and infrastructure supports should be made to help the district level manage data using computers.

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