GUIDELINES FOR CONDUCTING
A REVIEW OF A NATIONAL TUBERCULOSIS PROGRAMME

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During the 1990s the WHO Global Tuberculosis Programme (GTB) has promoted the revision of national tuberculosis programmes to adopt the DOTS (Directly observed treatment, short-course) strategy. In the past 5 years, GTB has conducted more than a dozen in-depth National Tuberculosis Programme (NTP) Reviews in Africa, Asia and Latin America. The main criteria for selection of the NTPs were large population countries with big TB burden, those NTPs in an advanced stage of implementing a model programme and those with good prospects of developing a model programme for a region.

Teams of national and international consultants, with a wide range of expertise, conducted these NTP reviews. Many lessons were learnt from these experiences. In summary, these exercises were useful in:

a. securing government commitment to TB control;

b. reorienting TB control policies and planning activities to implement the DOTS strategy;

c. obtaining broader support to new policy from public health and academic institutions, co-operating agencies, donors and NGOs; and

d. decentralizing implementation of TB control activities through the existing primary health care services.

These guidelines for conducting a review of the National Tuberculosis Programme are based on the above experiences and provide the methodology to conduct a review. An initial review is recommended in all countries that require reorientation of their TB programme policies. It is also appropriate to conduct reviews periodically at 4-5 year intervals in countries that are implementing the revised TB control policy based on the DOTS strategy, to assess progress towards the goal of TB control.

National Tuberculosis Programme managers can use these guidelines to conduct reviews in their countries. They may need to modify or develop additional tools to suit their country situation. Although the focus of these guidelines is TB programmes, other disease control programmes may benefit by utilizing some of the concepts presented here to assess and evaluate their programmes within the health sector. Comments on these guidelines are welcome, particularly from those involved in conducting programme reviews. Please address correspondence to:

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INTRODUCTION

The World Health Organization (WHO) Global Tuberculosis Programme (GTB), in collaboration with several national governments, has conducted more than a dozen National Tuberculosis Programme (NTP) reviews in Asia, Africa and Latin America over the past 5 years, and has gained much experience in this process. This manual summarizes the knowledge and experience gained from these reviews and is intended to provide comprehensive advice to NTP managers in planning similar reviews of their programmes.

These guidelines consist of a description of the different elements of a programme review, and various tools to help you conduct a review. To make best use of these guidelines, we suggest that you read the text, and then look at the different tools. Some of them you will not need, others you may need to modify before using them.

WHY PERFORM A REVIEW OF THE NTP?

A programme review can be of great benefit to the NTP. It has three main purposes. These are to estimate the burden of tuberculosis, evaluate the adequacy of tuberculosis (TB) control policies and procedures for reducing TB mortality and morbidity, and promote organizational, technical and administrative measures to improve the current programme. The assessment will include:

- An estimate of the TB burden
- A description of the programme resources and the programme structure, within the context of the general health care system, health sector reform, and the economic status of the country
- An analysis of the current programme services, achievements and problems
- Specific discussion of the leading issues and constraints facing the programme
- Recommendations for the next steps to improve the programme

Benefits of a review

- improve the effectiveness of the NTP
- raise awareness about the TB situation, and increase political commitment for TB control
- develop coalitions for TB control with NGOs, the private sector, and donors
- increase problem solving and supervisory skills of NTP staff participating in the review

The decision to undertake a tuberculosis programme review should be made by the government, usually in coordination with WHO and other external collaborating organizations. Representatives of these agencies should be involved in the planning of the review from the beginning.
Which countries would benefit from a review?

- Countries with a significant burden of TB
- Countries which have not yet implemented DOTS
- Countries which have implemented DOTS, and want to review progress in controlling TB
- Countries in which the health care system is changing significantly, with potential effects on TB control services

First Steps: Responsibilities of the Ministry of Health.

- Decides to conduct a programme review
- Requests cooperation of WHO and/or other agencies
- Approves selection of international reviewers
- Identifies national participants of programme review task force

The programme review should analyse the structure and functions of the health services, including the national, regional, district and community levels. Normally, a review will cover a representative sample of regions in a country; in some large countries, it may be appropriate to only look at selected parts of the country, e.g. a state or province. Usually a review is needed before a NTP begins to implement the revised tuberculosis control strategy known as DOTS. Some countries will also need a review to evaluate progress in TB control after implementing DOTS for a few years, for example, before preparing a new five-year plan for the NTP.

WHAT IS DOTS?

DOTS is the only effective strategy for controlling tuberculosis, and ensures that people with the disease are correctly diagnosed, and treated until they are cured. This breaks the cycle of transmission of tuberculosis. The five essential components of DOTS are shown in the accompanying box, and provide a useful framework for analysing and evaluating the NTP. DOTS has been implemented in many countries around the world, with remarkable results, even in situations where the HIV epidemic has led to an increase in the incidence of tuberculosis. It is common for health workers and policy makers to be sceptical about the feasibility and value of DOTS. A review of the NTP is a valuable opportunity to provide them with information about DOTS, and to gain their commitment to this strategy for effective tuberculosis control.

The five essential components of DOTS

- Government commitment to a National Tuberculosis Programme
- Priority to detect infectious cases by sputum smear microscopy
- Standardized regimens of short-course chemotherapy, given under direct observation for, at least, the intensive phase of treatment
- Regular, uninterrupted supply of anti-tuberculosis medicines
- Monitoring system for programme supervision and evaluation
WHAT DOES A PROGRAMME REVIEW COVER?

Certain key elements need to be considered and evaluated during the review process. These key elements include:

- Estimated burden of tuberculosis
- Political commitment
  - programme strategies, targets and objectives
  - programme organization and health structures involved in NTP activities
  - NTP coverage
  - financial, institutional and human resources
  - advocacy activities
- Diagnosis
  - case-finding policies
  - procedures for diagnosis
  - laboratory services
  - case-finding performance
- Treatment
  - treatment policies and procedures
  - policy on prevention (BCG, chemoprophylaxis)
  - treatment outcome
- Logistics
  - drugs and other supplies
- Monitoring and supervision
  - training and supervision
  - recording and reporting

Other components of tuberculosis control programmes which should also be considered for evaluation include the following:

- integration within the general health services;
- coordination and collaboration with other disease control programmes such as Expanded Programme on Immunization, National Control AIDS Programme, Leprosy Control, etc.;
- health education activities;
- role of other diagnostic/treatment providers, such as academic institutions, NGOs and the private sector;
- research activities.

An effective programme review means asking good questions about the essential aspects of the programme, collecting good data to answer the questions, and using the findings to plan and build political support for programme improvements. The information used in a review comes from two sources:

a information provided to the review team by the NTP manager

b information collected by the review team on field visits
There are three main components of a review. These are: Planning and Preparation; Conducting the Review; and Follow Up. Every step described below, from the appointment of the review coordinators to the completion of the final report, is considered part of the programme review.

These guidelines will help you to carry out these different components effectively. We will look at each of these in turn, and describe the different tasks within each component. To help you with planning, a flow chart showing the different components and tasks is given in Figure 1. They are also shown in a check list and planning chart in annex 1.
Planning is a critical part of the review. The more time and effort you spend here, the better your review will be. There are 12 main tasks. Planning and preparation for a review takes several months. It is important to start early, and allow plenty of time, usually at least four to six months.

**Planning and preparation: tasks**

1. Appoint review coordinators
2. Appoint a programme review task force
3. Preparatory meeting of review coordinators
4. Define the purpose and set objectives
5. Set review dates
6. Plan for wide dissemination of the review findings
7. Select members of review team and define responsibilities
8. Select sites for field visits
9. Plan logistics
10. Prepare budget
11. Prepare data collection tools
12. Prepare introductory materials

### 1.1 APPOINT REVIEW COORDINATORS

A review is usually conducted by the government with support from WHO and other agencies. Two coordinators are needed - one from WHO, and one from the government - usually the NTP manager. They need to be in regular contact with each other, and will have at least one preparatory meeting. The main role of the NTP manager is to oversee the local organization of the review, including preparation of background materials, and building national interest in the review. The main role of the WHO review coordinator is to provide technical advice on the content and process of the review, and to organize the participation of international review team members.

**Tasks of review coordinators**

**WHO review coordinator**
- Identify international review team members
- Define responsibilities of international review team members
- Identify extra-country budgetary sources for review costs
- Prepare data collection tools for review team members
- Submit final report for approval by WHO
- Monitor progress in implementation of review recommendations and plan

**NTP manager**
- Identify national and international review team members
- Define responsibilities of national review team members
- Prepare background information for the review
- Arrange logistics for the review
- Identify local budgetary sources for review costs
- Submit final report for approval by Ministry of Health
- Follow up on review recommendations and plan
1.2 APPOINT A PROGRAMME REVIEW TASK FORCE

The programme review task force has overall responsibility for planning and conducting the review, and for ensuring that the review recommendations are followed up. The major roles of the programme review task force are to design the review, to supervise data collection and analysis, and to report findings and recommendations.

Possible members of the programme review task force

- Secretary of Health
- Director General of Health Services
- Other senior officials from the Ministry of Health
- NTP manager
- Other senior staff from the NTP, Regional and District TB coordinators
- WHO review coordinator
- Representatives from other international agencies and potential donors
- Representatives from relevant non governmental organizations (NGOs), self help groups and patient’s organizations
- Representatives from medical and nursing schools, central hospitals, municipal authorities, etc.

The members of the task force should be knowledgeable about technical aspects of tuberculosis control, tuberculosis programme organization, and the national health system. Participation of experts in administration, finance and logistics may be desirable as these are usually key areas for programme strengthening. When selecting the members, it is necessary to consider their positions/capacity to influence decisions and their availability of time. Some members of the task force must participate in the field visits and observe programme delivery organization. The final review report may have more political weight if the task force members are recognized by their expertise and/or position in tuberculosis control and health management.

There should normally be no more than ten members of the task force, to facilitate planning and decision-making, although larger groups may be convened for specific purposes, such as reviewing findings and recommendations.

1.3 PREPARATORY MEETING OF REVIEW COORDINATORS

This preparatory meeting should be carried out at least 2-3 months prior to the review. The WHO review coordinator should visit the country to assist the NTP manager with planning for the review. The visit will normally last for 2-3 days, but may be longer if a preliminary field visit is needed. This visit gives the review coordinators an opportunity to hold a preliminary meeting with the review task force, in order to discuss the purpose, scope and method of the review.
Purpose of the preparatory meeting

- Preliminary meeting with review task force
- Set goals and objectives for the review
- Set dates for the review
- Select members of the review team
- Identify locations for field visits
- Prepare a draft plan and budget for the review
- Identify background information needed for the review

1.4 DEFINE THE PURPOSE AND SET OBJECTIVES

The review coordinators discuss and agree upon the purpose, objectives and scope of the programme review. The coordinators decide whether the review will be comprehensive or selective. A comprehensive review looks at all the aspects of the programme in detail. A selective review focuses on specific aspects of the NTP, for example, laboratory services. A comprehensive review is usually preferable to a selective one, as it provides a general overview of the programme strengths and needs.

The objectives and scope of the review should be clearly described and discussed with the Ministry of Health, before being communicated to the review task force members and review team participants.

Example of purpose and objectives of an NTP review

Purpose
To make a comprehensive and in-depth analysis of the TB situation, and make recommendations for strengthening of TB control services

Objectives
- Review the epidemiology of TB, including an assessment of the trend over the last few years, and predictions of incidence and mortality to the year 2005, based on different models of programme efficiency and the impact of HIV.
- Review the structure, process and outcome of current TB control activities
- Review the current structure of health service management and financing, and potential changes over the next 5 years which will affect the NTP
- Prepare specific recommendations for improvement of TB control services
- Prepare a one year action plan based on the review recommendations
SET REVIEW DATES

The review coordinators select dates and develop a tentative agenda for the programme review. Ideally, the review takes two to three weeks, depending on the size of the country, and the components of the NTP to be evaluated. The length of the review must balance the need to gather sufficient observational data with the cost and availability of the reviewers. Remember to take into account local festivals, national holidays, and other important events such as elections which may influence the timing, duration and impact of the review. (See Annex 2 for an example of a review agenda).

PLAN FOR WIDE DISSEMINATION OF THE REVIEW FINDINGS

The impact of the review can be increased significantly by ensuring wide dissemination of the findings and recommendations. Involve the Information and Communication Office of the Ministry of Health at an early stage of review planning to identify ways of publicizing the review findings. These could include a press briefing, press release, and public statements from key government officials in support of TB control at the conclusion of the review. The press and media will appreciate high quality supporting materials such as photographs and video footage documenting the TB situation in the country.

Medical opinion leaders, including private practitioners, chest physicians, academics, and public health physicians also need to know the review findings. The NTP can organize a meeting for them following the review, to present the findings, and build consensus on TB control policies in the country.

SELECT MEMBERS OF THE REVIEW TEAM AND DEFINE RESPONSIBILITIES

The review coordinators should assist the Ministry of Health to decide on the composition of review team members. The number of team members will depend on the size of the country, and the components of the NTP that are to be evaluated. It is important to have a balance of international and national reviewers. International reviewers bring specific expertise, experience from other countries, and new perspectives on local problems. National team members provide local experience, and understanding of the local situation and history. Consider inviting people who have TB to join the review teams. They will provide a different perspective on the NTP, and can help to identify and present the concerns of patients.

International team members should be selected on the basis of their specific expertise. It is essential to have experts in TB epidemiology, TB control, and laboratory services, but experts in other fields may also be useful. International reviewers must have good writing skills, and preferably be computer literate. Local review team members are selected on the basis of their responsibility and experience within the NTP and other associated fields. As the review members divide into teams for field visits, the national participants should be able to act as interpreters if necessary, and also provide background information for the international reviewers.
The review coordinators must define the roles and responsibilities for each member of the review team and circulate them to the review team members as early as possible.

**Potential review team members**

a **International members**
- Experts in:
  - TB epidemiology
  - TB control
  - Laboratory services
  - Advocacy
  - Health Planning and Policy
  - TB and HIV
  - Health Economics
- Representatives from donors
- Representatives from international NGOs

b **National members**
- Staff of the central unit of the NTP, including laboratory personnel
- Regional NTP coordinators
- Staff from intermediate levels of the health service (regional/provincial health offices)
- Officials from other departments of the Ministry of Health
- Representatives from relevant NGOs, self help groups and patients organizations

**1.8 SELECT SITES FOR FIELD VISITS**

The review should include field visits to institutions and organizations related to TB control. The purpose of these visits is to gather information on the structure, process and outcome of TB control activities in the country, and to interview people involved in the NTP or associated agencies. These will include health workers at all levels of the health service, TB patients, private practitioners, and policy makers. The institutions to be visited need to be identified and the participation of appropriate key persons from the institutions must be secured.

The main function of field visits is not only to gather quantitative data, which should be available from the NTP, but to make an assessment of the validity of the data and information provided, and to observe the organization and delivery of TB services. It is impossible to visit all health services in the country, so some selection is necessary. Ideally the sites should be selected randomly, but, in practice, provinces or states may be selected based on their accessibility, representativeness of the country or other characteristics. However, this can bias the review findings. Try to get a balance between urban and rural locations, and well functioning/problem districts. In each area selected, visits should be arranged to institutions, organizations and individuals at all levels of the health service. The decision on the number of areas and services to be reviewed should take into consideration the time involved in travelling to and from the facilities as well as the time involved in doing the actual site visit.
Potential sites for field visits

Central level
- Ministry of Health
  - Secretary of Health
  - Director General of Health Services
  - Planning Division
  - Central Chest Clinic/ Hospital
  - AIDS Programme
  - EPI Programme
  - IEC and Advocacy
  - Health Training
  - Central Drug Store
  - Central Laboratory
- Ministry of Finance
- Planning Commission
- NGOs involved in TB control
- Medical and Nursing schools
- International agencies

Intermediate Level
- Regional/Provincial hospitals
- Regional/Provincial Health Office
- Regional/Provincial Laboratory
- Regional/Provincial Medical Store

District Level
- District Health Office
- District Hospital and Laboratory
- Private hospitals
- NGO offices/clinics

Local level
- Health posts/centres
- Village Health Workers
- Health Volunteers
- TB patients

1.9 PLAN LOGISTICS

Planning of transportation, accommodation, and other logistical arrangements for the review should be initiated during the preparatory visit. It may be necessary to designate a person at the national level to coordinate logistics within the country. The WHO review coordinator will usually make arrangements for international travel and stipend/per diem for the international review team members.
Logistical considerations for NTP review

International
- government agreement for the review
- information to all levels of WHO and to collaborating institutions
- invitations to international review team members
- salary/per diem for international review team members
- air tickets for international review team members
- visas

Local
- invitations to national review team members
- salary/per diem for national review team members and support staff
- internal transport costs and arrangements (air/bus/rail tickets and vehicles)
- hotel reservations
- refreshments
- meeting rooms for briefing, debriefing and report preparation
- secretarial support
- administrative support (computers, printers, photocopy facilities)
- equipment and supplies (paper, pens, computer diskettes)
- office accommodation
- communications (telephone, fax, e-mail)
- notification to facility of site visit(s)
- notification to press/news media

1.10 PREPARE A BUDGET

The review coordinators prepare a proposed budget for the review. Expenses for the various components of the review should be outlined. Funding sources must be clearly identified.

NTP review budget items
- salaries/per diem for international reviewers
- travel to the country for international reviewers
- salaries/per diem for national participants
- transport costs during the review
- hotel costs
- secretarial costs
- hire of meeting rooms
- communication costs (fax, telephone)
- photocopying and printing costs
- equipment and supplies (stationery etc)
- refreshments for briefing/debriefing meetings
- materials for press briefing
PREPARE DATA COLLECTION TOOLS

Having identified the components of the NTP that are to be evaluated, the review coordinators will decide on the data to be collected and will choose/develop appropriate tools to collect qualitative and quantitative information on these areas. Some of this information will be collected before the review takes place, for inclusion in the introductory materials, which will be provided to all review participants. Other data collection tools will be used by the members of the review team during the field visits. Where good data is available, these should be validated during the field visits.

The use of standardized data collection tools and checklists will ensure that information collected by different teams is complete and comparable, and enable consolidation of quantitative data. Examples of some data collection tools are given in annex 3.

Data collection tools

- smear examination form
- case finding form
- smear conversion form
- treatment outcome form
- general information on institutions visited
- check list for visits to TB Basic Units
- interviews with health workers and administrators
- interviews with TB patients

PREPARE INTRODUCTORY MATERIALS

During the preparatory visit, the review coordinators agree on the background information that will be required for the review. This information will be collected by the NTP manager and staff of the central unit of the NTP. The information should be presented as a written report, and provided to the review team members prior to their arrival.

A summary of the detailed information needed for preparing the introductory materials is given in annex 4.

The preparation of an in-depth analysis of the epidemiological situation of TB in the country is an essential part of the review. The WHO review coordinator should prepare clear terms of reference for the epidemiological report, which will usually include a review of past trends in TB epidemiology, and predictions for the future, including the effect of HIV. For a possible outline of the epidemiology report, see annex 4. Because of the time required to prepare this report with a national counterpart, an international reviewer with expertise in TB epidemiology may need to arrive a few days ahead of the other team members or carry out a separate mission.
Minimum background information for NTP review

- General background information on the country
- General health profile of the country
- Health services structure, organization, resources and utilization
- Epidemiology of TB
- Organization and coverage of TB control services and level of integration within the general health services
- NTP activities; training, supervision, logistics, and laboratory services
- NTP performance; case finding and treatment outcome reports
- Laboratory performance, including number of smears and results of quality control
- NTP policies; general manual and laboratory manual

Other important information if available

- NTP annual report
- Recent reports from consultants/donors
- Relevant policy documents and guidelines
- Samples of NTP registers and forms
- Training materials
- Health education materials
- Essential drugs list
- Recent research reports
There are six main tasks involved in conducting the review, from briefing the review team members, to finalizing the first draft of the main report and disseminating the review findings. The review coordinators supervise these tasks. Depending on the size of the country and the scope of the review, this stage of the review process normally takes 2-3 weeks.

**Conducting the review: Tasks**

1. Briefing the review team
2. Field visits
3. Presentation of field visit reports
4. Preparation of the review report
5. Development of summary findings and recommendations
6. Debriefing to disseminate review findings and recommendations.

**2.1 BRIEFING THE REVIEW TEAM**

A thorough briefing should be provided for all review team members on the first day of the review. This meeting usually takes a full day, and must be planned carefully to include adequate time for questions and discussion. Specific review team members should be designated to record observations and conclusions from the field visits, for compiling the data extracted from laboratory registers, treatment registers and treatment cards, and for collecting the names of places visited and people interviewed. The team members should be given a thorough orientation to the specific data collection tools and methodologies that will be used for the review. You must ensure that team members understand that all quantitative data should be collected for similar time periods, to enable consolidation of data for the final report.

The review team members then divide into smaller teams for the field visits. Each team should be given specific areas of the final review report to prepare (see annex 5 for the structure of a programme review report). These areas will depend on the expertise of the individual review team members.

It may also be appropriate to organize courtesy visits to key authorities, to ensure that they are fully aware of the purpose of the review, and to introduce them to the international review team members.

**Agenda for briefing of review team members**

- Introduce review team members
- Clarify purpose and objectives of review
- Assign specific roles and responsibilities to teams and team members
- Discuss field visits and other logistical considerations
- Review data collection tools
- Present country information and other briefing materials
- Present draft of epidemiology report
FIELD VISITS

Field visits give the review team members an opportunity to observe the TB control system, to interview health workers and patients, and to collect quantitative data on NTP performance. Usually, the review team members will divide into small teams and each team will visit a different region of the country. The teams will normally have up to four members. More than this makes transportation difficult, and often means some team members are under-utilized. These visits take from 4 to 10 days depending on the size of the country and scope of the review. The teams should include international and national participants. Each team should have at least one member with a laptop computer, to prepare the field visit report.

One of the teams is responsible for the central level. This team visits senior officials in the Ministry of Health, other Ministries, and organizations and health institutions in and around the capital city. The NTP manager is usually a member of this team.

Each team has specific components of the NTP to observe and report on, depending on the expertise and specialization of the team members. Even though each team will have specific NTP components to report on, all teams should observe and gather information on all components of the NTP, and at each level of the health service - regional, district, and peripheral. Each team should check for:

1. **Consistency.** Teams should observe TB services provided and should collect quantitative data for the same time periods (to be agreed earlier). They check for consistency between the data they collect and the data reported in the routine NTP reporting system.

2. **Credibility.** Teams should confirm their observations and findings, and check the credibility of the data they are provided with.

**Major NTP components to observe on field visits**

- Case finding and laboratory services
- Treatment services
- Training and supervision
- Logistics
- Recording and reporting
- Health education
- Coordination with general health services, and other disease control programmes, e.g. Leprosy, EPI, AIDS
- Other treatment providers (e.g. NGOs, academic institutions and private practitioners)

During field visits, team members can also provide on the spot supervision and training of health workers. However, it is important that team members are fully aware of NTP policies before giving advice. Team members must not make up new policies on the spot, nor teach anything which is incompatible with existing NTP policies. The teams should attempt to verify information obtained from the briefing materials, background documents, presentations by tuberculosis programme staff, and data collected and analysed at the national programme.
level. Team members should record their findings, identify the strengths and weaknesses of the programme, analyse the reasons for these weaknesses, and propose solutions.

Field visits should include institutions at each level of the health service, such as provincial/regional health offices and hospitals, district health offices and hospitals, health centres, and community-based health workers. The key place to visit is the TB Basic Unit. This is the unit which serves as the centre for diagnosis, treatment and reporting of TB patients. It is usually a hospital or health centre, and serves a population of approximately 100,000. A visit to an institution which acts as a TB Basic Unit for the NTP may take four to six hours in order to properly assess the services provided. In addition, the teams should visit other service providers, such as private hospitals, clinics and pharmacies, university hospitals, and NGOs.

**Each team should keep a careful record of the places visited and people met.**

The teams should use the data collection tools prepared for the review to record their findings. Check lists are useful to ensure that all components of the NTP are covered during a visit. For an example of a check list for a visit to an NTP TB Basic Unit, see annex 6.

Interviews with patients can provide valuable information concerning the perceived quality of health services, including the accessibility, acceptability, appropriateness of TB control services and the constraints to undergo treatment. Individual patients may find it embarrassing to answer questions. It can be helpful to gather a small group of patients, and have a simple focussed group discussion with them, preferably without health workers from the TB Basic Unit being present.

A team member should be given specific responsibility for recording observations during the field visits. In addition, specific team members should be given responsibility for extracting data from cards and registers, and for recording names of places visited and people met. Spelling mistakes can be avoided by asking people to write their own names and positions (in capital letters).

During field visits, team members can use time in the evenings to discuss their findings, and to draft their field visit report. It is helpful if all team members stay in the same hotel. It is useful to meet briefly at the end of each day to review and summarise the observations and plan for the next days activities.

Following a visit to district, region or province, the team members should schedule an appointment with the respective authorities, to give a briefing on their findings and recommendations.

**Field visits to a TB basic unit**

- Check cards and registers for completeness, credibility and consistency
- Extract data from laboratory registers and treatment registers to evaluate case finding and case management
- Assess the quality of laboratory services; equipment and supplies, smear preparation, microscopy, recording
- Check the drug store; inventory, storage, records
- Observe interactions between health workers and patients
- Interview health workers
- Interview patients and relatives
2.3 PRESENTATION OF FIELD VISIT REPORTS

Following the field visits, the teams return to the centre to present their reports. Each team prepares a written report of the field visit, including observations, interpretation and analysis, conclusions and recommendations. Quantitative data and lists of places visited and people met can be included in the annex of each report. This report can usually be drafted in the field, though it may be necessary to set aside a day after arriving back from the field for this purpose. Ideally, each team will prepare the report on computer, (using the same word processor programme) and give a copy on diskette to the review coordinators.

Each team then makes a verbal presentation of their report to the other review team members, preferably using overhead projector transparencies or other visual aids to illustrate their findings. The chairperson of these presentations should ensure that discussion focuses on interpretation of the findings, with specific attention to programme achievements and constraints. The analysis of quantitative and qualitative programme data should go beyond a simple description of the programme. Every effort should be made to look at NTP targets, organization, policies and practices, and resources. NTP achievements in case finding rates, and cure rates should be scrutinized.

2.4 PREPARATION OF THE REVIEW REPORT

The final review report should include a discussion of the qualitative and quantitative data collected during the programme review. This should be organized and analysed in order to provide the country with information on the magnitude of the tuberculosis problem and the achievements and constraints of the NTP with respect to the expected impact on TB. Findings and recommendations should be prioritized to increase the effectiveness of the NTP in controlling tuberculosis. The final report provides information to base technical and political decisions for improving the tuberculosis programme, and may include an action plan for activities in the coming year. (See annex 5 for an example of the structure of a tuberculosis programme review report.)

Each small team will prepare specific sections for the final report, as allocated to them in the briefing meeting. They will utilize their own findings from their field visits, as well as the briefing information provided to them, and the findings of the other teams. Depending on the number of sections of the report each team has to prepare, it may take one to two days to prepare the first draft. The task of the review coordinators is to consolidate these individual sections, to ensure internal consistency of the report and to prepare the main summary and recommendations. Errors in the numbers, particularly in the epidemiological section, can seriously compromise the wide acceptance of the report, and must be avoided.
Tasks of the review coordinators in preparing the review report

- Consolidate the different sections of the report
- Check for consistency of language: names, terms, and abbreviations
- Check for consistency of findings: observations and conclusions
- Check accuracy of numbers and names
- Ensure that all recommendations relate to problems described in the report
- Preparation of executive summary and recommendations
- Preliminary briefing of review findings and recommendations for DG and WR

A study of the health economics of tuberculosis can also be included in the final report, if the expertise is available. This may take several days, and can be conducted at the same time as the epidemiological report is prepared, before the other review team members arrive. Cost-benefit and/or cost-effectiveness analyses of the TB programme can be used to convince senior officials in the Ministry of Health, Ministry of Finance and Planning Commission of the importance of effective TB control. The potential economic benefits to the nation of implementing a programme based on the DOTS strategy is a very useful tool to convince policy makers to invest in TB control. The costs of the tuberculosis programme should be weighed against the lowered human productivity, disability, and perpetuation of poverty produced by the country’s tuberculosis burden. For guidelines on preparing an economic assessment of TB control activities, see annex 7.

A review of the role of the private sector, academic institutions, NGOs and other partners dealing with TB control activities in the country is very important. It would be useful to involve all such sectors in the process of the review, so that they can be involved in the NTP development. However, it is rather difficult to make a comprehensive review of all sectors and their activities/involvement with the NTP. The magnitude of the role of the private sector in the management of TB patients could be estimated through interviews with private physicians and personnel of private pharmacies and pharmaceutical laboratories (on sales of TB drugs). An effort should be made to at least prepare an inventory of institutions involved and/or interested in the NTP. This may lead to possible collaboration in the future.

The education and basic training of medical students and other health workers is an important area that should be included in the review, as this is an opportunity to ensure that the health care providers of the future are fully aware of the principles of effective TB control. The elements of a review of the basic training of doctors, nurses and other health workers is given in annex 8.

Finally, it is important to show how the TB control programme fits in to the health system as a whole. This is particularly important in a health service that is rapidly changing, for example, as a result of health sector reform. A description of some of the issues that should be considered is given in annex 9.
DEVELOPMENT OF SUMMARY FINDINGS AND RECOMMENDATIONS

This is the most crucial part of the review!

It is often not possible to finalize and present the whole report by the end of the review. However, it is essential that an executive summary and the main recommendations are drafted and presented to the highest possible decision makers in the Ministry of Health and other audiences as appropriate. This executive summary and recommendations will also be included in the final review document. Remember that all the members of the review team are responsible for the report, and not only the international participants. It is their joint effort.

The executive summary is often the only part of the review report most people read. Many of them will not be technical experts in TB, so the language should be adjusted accordingly. It must be prepared carefully, so that the main message of the review is stated clearly and unequivocally. It usually includes a brief assessment of the burden of tuberculosis in the country, a summary of the main achievements and constraints facing the NTP, and a statement regarding the benefits to the country (in epidemiological, economic and social terms) by implementing an effective TB control programme, based on the recommendations of the review team. An estimate of additional resource requirements, and potential sources can also be included.

Limit the main recommendations to the 5-7 that will contribute most to implementing an effective TB control programme, particularly those relating to resource requirements, and organization of the NTP. They should be concrete and feasible in the short or medium term, and should relate to the problems and constraints described in the summary. Other minor recommendations can be included in the main text of the report, after each section.

In order to ensure the acceptability and feasibility of the summary and recommendations, the review coordinators usually need to have a preliminary briefing meeting with the Director General of Health Services, and the WHO country representative, before presenting the draft to a wider audience.
DEBRIEFING TO DISSEMINATE REVIEW FINDINGS AND RECOMMENDATIONS

Once the draft executive summary and recommendations have been finalized, they can be presented to the review task force by the members of the review team and decision makers in the Ministry of Health. The purpose of this debriefing meeting is to:

a. disseminate the draft review findings
b. widen the consultation and increase the ownership of the review findings and recommendations
c. ensure that the recommendations are fully understood and accepted
d. agree on a time frame and responsibility for implementation of the recommendations
e. identify the next steps

In addition to the original members of the task force, other people can be invited to the debriefing meeting. These may include high level officials from the Ministry of Health (all departments should be represented), Ministry of Finance, Planning Commission, other ministries and government institutions providing health services (such as armed forces, police, social security) potential donors, academic institutions, NGOs and other partners. The review coordinators should introduce the review team members to the task force, and present the executive summary and main recommendations. The debriefing should include adequate time for discussion.

This may be followed by a media event to enhance awareness about TB and the actions proposed by the government and other partners. Advocacy is a valuable tool for encouraging greater political commitment to TB control. It is easy for policy recommendations to be ignored if they come in the form of a report that can be quickly filed away. It is much more difficult to ignore public concern about a problem. If care is taken when presenting the review findings to the press, it is unlikely to cause adverse publicity, criticism of the government, or unrealistic hopes in the community. In fact, the scheduling of a press event at the conclusion of a review can be an excellent way to attract the interest and involvement of key government officials who are seeking to be proactive in addressing their country’s social concerns.

Journalists from the national and international press, radio and TV can be invited to a briefing, where a senior official in the Ministry of Health can present the review report. The review coordinators should prepare a press release (see annex 10), and also provide other appropriate materials for the press and media, such as photographs and video footage. For further ideas and advice on preparing for an advocacy event see the WHO publication "TB Advocacy – A practical guide 1998".
3 COMPONENT 3: FOLLOW UP

The third stage in the review cycle is follow up. It is important to ensure that this stage is also carefully planned, and deadlines set. Otherwise, the political commitment generated by the review, and the momentum gained by the increased awareness of the TB situation will be lost. There are four main tasks in following up an NTP review. These are usually carried out by the review coordinators.

Follow Up: Tasks
1. Finalize the review report
2. Disseminate the review report
3. Implement recommendations and monitor progress
4. Revise plans

3.1 FINALIZE THE REVIEW REPORT

The final review report has to be approved by the Ministry of Health, and also by WHO. The NTP manager submits the first draft to Ministry of Health for approval, and circulates it to key people within the country for their comments. The WHO review coordinator submits copies to the WHO country office, the WHO regional office, and the WHO Global TB Programme. Following comments from the country, and from WHO, the WHO review coordinator will make further changes and submit a final copy to WHO for approval. This process should not take more than 1-2 months.

3.2 DISSEMINATE THE REVIEW REPORT

The NTP manager disseminates the final review report widely within the country, to ensure that all levels of the health service, potential donors and other partners involved in TB control are fully aware of the review findings and recommendations, and to sustain commitment to TB control.

Circulation of the review report
- Directors in the Department of Health Service
- Senior policy makers in the Ministry of Health
- Ministry of Finance
- Planning Commission
- Potential Donors
- NGOs
- Academic institutions
- Managers of intermediate levels of the health service (state/region/province)
- District health officers

In addition, copies of the field visit reports should be provided to senior officials from the places and institutions visited.
Other opportunities for disseminating the review findings include articles written for professional journals, newsletters, and presentations at conferences and other meetings.

### IMPLEMENT RECOMMENDATIONS AND MONITOR PROGRESS

The NTP manager is responsible for ensuring that the review recommendations are implemented in a timely manner, and for reporting progress to the WHO review coordinator. For this purpose it would be useful to prepare an action plan which lists the main activities that need to be implemented over the next year to develop an effective NTP. Each activity should be specific, achievable, and time bound. Estimates of the additional resources required to implement the action plan, and possible sources of funding, may be needed.

**Potential activities to include in an action plan**

- Revision of technical policy and operational procedures
- Development of long term plan for the NTP
- Revision of the recording and reporting system
- Development of NTP manuals
- Development or translation of training materials
- Establishment of demonstration and training sites for DOTS

The NTP manager may need external assistance in implementing some of the recommendations, particularly in mobilizing additional resources from donors. Close collaboration between the WHO country and regional offices and the GTB will be necessary to facilitate this. It may be necessary for the WHO review coordinator/WHO staff or consultants to make further visits to the country to monitor progress. There may be other opportunities for reporting on progress such as international conferences, and regional meetings of NTP managers.

### REVISE PLANS

The NTP review should be viewed as an event in the dynamic process of change. The NTP should be periodically reviewed and changed based on needs. The cycle of this dynamic process is planning, implementation, monitoring, evaluation (the NTP review fits into the cycle here), and replanning.
The one year action plan for the NTP provides a short term plan for revising the NTP to make it more effective. A 5-year plan for the development of the NTP should also be prepared, taking into consideration necessary policy changes and modifications in the programme. Once this plan is approved by the government and sufficient resources are mobilized, an annual operational plan of work can be prepared and activities implemented accordingly. A mechanism of monitoring should be put into place with well-defined and measurable indicators. Periodic and regular evaluation of the programme should lead to annual replanning.
**Planning and preparation: Tasks**

1. Appoint review coordinators
2. Appoint a programme review task force
3. Preparatory meeting of review coordinators
4. Define the purpose and set objectives
5. Set review dates
6. Plan for wide dissemination of the review findings
7. Select members of review team and define responsibilities
8. Select sites for field visits
9. Plan logistics
10. Prepare budget
11. Prepare data collection tools
12. Prepare introductory materials

**Conducting the review: Tasks**

1. Briefing the review team
2. Field visits
3. Presentation of field visit reports
4. Preparation of the review report
5. Development of summary findings and recommendations
6. Debriefing to disseminate review findings and recommendations.

**Follow Up: Tasks**

1. Finalize the review report
2. Disseminate the review report
3. Implement recommendations and monitor progress
4. Revise plans
The following table shows a possible agenda for a review lasting two weeks. The duration may be extended in larger countries.

<table>
<thead>
<tr>
<th>DAY</th>
<th>AGENDA</th>
</tr>
</thead>
</table>
| 0   | • International review team members arrive  
      • Meeting of review coordinators to finalize arrangements for the review and to plan the briefing meeting |
| 1   | • Briefing of review team members  
      a) Introduction of review team members  
      b) Practical arrangements (per diem, confirmation of return air tickets etc)  
      c) Objectives of review  
      d) Planned programme of activities for the review  
      e) Identification of small teams and discussion of responsibilities for field visits and report writing  
      f) Presentation of data collection tools  
      g) Presentation and discussion of introductory materials prepared by NTP  
      h) Presentation of draft epidemiology report  
      • Courtesy visits to senior officials in Ministry of Health and WHO |
| 2-8 | • Field Visits  
      a) One team visits officials at the central level of the Ministry of Health, other policy makers, institutions and organizations in the capital and surrounding area  
      b) Other teams visit institutions and organizations in other parts of the country |
| 9   | • Return to capital  
      • Preparation of field visit reports |
| 10-12 | • Presentation of field visit reports by different teams  
      • Preparation of sections of review report by different teams  
      • Preparation of executive summary and recommendations  
      • Informal briefing of draft executive summary and recommendations with Director General of Health Services and WHO Representative |
| 13  | • Debriefing meeting for dissemination of main findings and recommendations to officials in Ministry of Health, donors (current and potential), NGOs and other organizations involved in TB control.  
      • Press briefing |
| 14  | • Departure of international review team members |
Data Collection Tools

- Microscopy Centre Data Collection Form
- Case Finding Report
- Two-month Smear Conversion Report
- Treatment Outcome Report
- Information to collect during interviews with health workers
- Information to collect during interviews with laboratory staff
- Information to collect during interviews with patients

The following data collection tools are examples that can be used for collecting data during NTP reviews. Please note the following points:

a. The forms can be used as tally sheets, and the results then transferred to a summary sheet

b. They should be adapted to the local situation, taking into account existing policies and reporting forms

c. The collection of gender specific data is time consuming, but provides valuable information that is often not routinely available

d. It may not be possible to collect all the information on these forms, for example, two-month smear conversion and treatment outcome data on treatment failures and smear-positive treatment after interruption patients, and treatment outcome data on smear-negative and extra-pulmonary patients
National Tuberculosis Programme Review
Microscopy Centre Data Collection Form

Microscopy Centre: ____________________________

Period: From: __________ to: __________

Name: ____________________________

Date: ____________________________

### Number of Smear Examinations

<table>
<thead>
<tr>
<th>Type of smear</th>
<th>Number of smears examined</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Suspects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Suspects M/F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Suspects M/F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follow Up Smears M/F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For new smear-positive cases:

- Number with 3 positive smears:
- Number with 2 positive smears:
- Number with 1 positive smear:

### Delay between diagnosis and start of treatment

<table>
<thead>
<tr>
<th>Period between diagnosis and start of treatment</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3 days</td>
<td></td>
</tr>
<tr>
<td>4-7 days</td>
<td></td>
</tr>
<tr>
<td>&gt; 7 days</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>
# National Tuberculosis Programme Review
## Case Finding Report

<table>
<thead>
<tr>
<th>Treatment Centre:</th>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Period</td>
<td>Date:</td>
</tr>
<tr>
<td>Patients registered from:</td>
<td></td>
</tr>
<tr>
<td>to:</td>
<td></td>
</tr>
</tbody>
</table>

1. New and Retreatment Cases by Registration Category

<table>
<thead>
<tr>
<th>Smear Positive</th>
<th>Smear Negative</th>
<th>Extra Pulmonary</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>New M/F</td>
<td>Relapse M/F</td>
<td>Treatment After Interruption* M/F</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Failure M/F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* NOTE: Smear Positive Treatment After Interruption cases only

2. Age and sex distribution of new smear positive cases

<table>
<thead>
<tr>
<th>Age</th>
<th>0-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65+</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# National Tuberculosis Programme Review

Two Month SPUTUM CONVERSION Report

<table>
<thead>
<tr>
<th>Treatment Centre:</th>
<th>Name: ____________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period</td>
<td>Date: ___________________________</td>
</tr>
<tr>
<td>Patients registered from: to:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Case</th>
<th>Number Registered</th>
<th>Number Not Evaluated</th>
<th>Negative</th>
<th>Positive</th>
<th>Died</th>
<th>Interrupted Treatment</th>
<th>Transferred Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Smear-Positive M/F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relapse M/F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure M/F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment After Interruption (smear positive only) M/F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Case</td>
<td>Number Registered</td>
<td>Number Not Evaluated</td>
<td>Cured</td>
<td>Completed</td>
<td>Failure</td>
<td>Died</td>
<td>Interrupted Treatment</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------</td>
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<td>-------</td>
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<td>-----------------------</td>
</tr>
<tr>
<td>New Smear-Positive M/F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Smear-Negative M/F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Extra-pulmonary M/F</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relapse M/F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure M/F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment After Interruption (smear positive only) M/F</td>
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</tr>
</tbody>
</table>

National Tuberculosis Programme Review
TREATMENT OUTCOME Report

Treatment Centre: ____________________________

Name: ____________________________

Period: ____________________________

Patients registered from: ____________________________ to: ____________________________

Date: ____________________________
Information to collect during interviews with doctors and other health workers

General
- Population of the area served by the institution.
- Other public health services in the area
- Other private health services in the area
- Number of beds
- Number of out-patients per day/month/year
- Number of admissions per day/month/year
- What are the major health problems in the area served by the institution
- Services available in the institution
- HIV situation in the area

Diagnosis of TB
- What is the definition of a TB suspect?
- Screening of TB suspects - where, who by, and how?
- What routine investigations are ordered for TB suspects?
- How many sputum smear examinations are ordered for a TB suspect?
- Who diagnoses extra-pulmonary and paediatric TB, and how?
- Do people with respiratory symptoms use the private sector? If so, how are they managed?

Treatment of TB
- Where do patients get their treatment?
- What treatment categories, regimens and dosages are used?
- Who Directly Observes Treatment?
- What quantity of medicines is dispensed in the intensive phase?
- What quantity of medicines is dispensed in the continuation phase?
- Who gives patient education and counselling?
- How often are patients called for follow up during treatment?
- How often are smear examinations ordered during treatment?
- Late patient tracing - who by, when and how?
- Do patients with TB get treatment in the private sector? What treatment regimens do private practitioners use?
- Is preventive therapy used? Who for?

Recording and Reporting
- Who maintains treatment cards and TB register?
- Who prepares the quarterly reports?
- Is there a system for cross checking the TB register with the laboratory register?

Training and Supervision
- When was the last NTP training for health workers in the institution?
- How often are health workers trained?
- How often do NTP supervisors visit the institution?
- When was the last supervisory visit from the NTP?
- What do supervisors do on their visits?
• Do supervisors use a supervision check list?
• Is feedback (verbal and/or written reports) provided by supervision?

Medicines
• How are anti-TB medicines ordered?
• How often do supplies of medicines come?
• Are quantities sufficient?
• Have there ever been shortages of medicines?

Any other problems or concerns reported by the health workers

Information to collect during interviews with laboratory staff
(see Microscopy Centre Data Collection Form)

General
• Number of staff working in the laboratory
• Number of staff who do smear examinations
• Other investigations carried out by the laboratory
• Work load in the laboratory of all investigations (general impression)
• Approximate number of sputum smears examined each day/month/year for AFB.
• Does the laboratory do any other investigations for TB (culture/sensitivity etc)?
• Other laboratories in the area

Equipment and Supplies
• Type of microscope and power supply
• Condition of microscope
• How are supplies (sputum containers, slides, reagents and chemicals) ordered?
• How often are they supplied?
• Have there been any shortages of supplies?
• Who prepares the reagents? How and where?
• Are reagents labelled?
• How long are reagents used for?
• Any problems with old reagents?

Sputum collection
• Where do patients cough up their sputum specimens?
• Does anyone observe them?
• What is sputum collected in?
• How are sputum containers labelled?
• How many sputum specimens are collected from each TB suspect?

Smear preparation and examination
• Who prepares the smears?
• Who stains them?
• What stains are used?
• Who examines the smears?
• How long does it take to examine a negative smear?

**Recording and Reporting**
• Is there a smear examination form?
• Who fills it in?
• Is there an NTP laboratory register?
• Who fills it in?

**Quality Control**
• Is there a quality control system?
• Are slides kept for quality control after examination?
• How often are slides sent for quality control?
• Has the laboratory received any feedback on quality of smear examination?

**Training and Supervision**
• How often do microscopists receive training from the NTP?
• When was the most recent training by the NTP?
• Is there a supervision system for the laboratory?
• When was the most recent supervisory visit?

Any other problems or concerns reported by the laboratory staff.

**Information to collect during interviews with TB patients**

This information may be collected during one to one interviews with patients. However, if time is available, it is often more useful to have a group of patients together, and give them the opportunity to talk freely about their illness, treatment and problems.

**General**
• Distance from home to place of treatment
• Attitude of other family members to having TB
• Attitude of neighbours and other people in their community to having TB
• Effect of illness on occupation
• Family history of TB

**Diagnosis**
• Symptoms
• Where did they go first when they became ill?
• What medicines did they take first?
• How long between first contact with the health services and the diagnosis of TB?
• How long between first symptoms and diagnosis?
• What investigations were done?
Treatment
- Who is treating them?
- What medicines?
- When do they take their medicines?
- Does anyone observe them taking their medicines?
- Duration of treatment?
- Any adverse effects?
- Were they warned about them?
- Any payment for treatment?
- Any home visits by health workers?

Any other problems or concerns reported by the patients.
1 General information

1.1 Geography:
   1.1.1 Size and brief description including climate/regions
       (include a map of the country)

1.2 Transportation/communication situation

1.3 Population:
   1.3.1 Total (year)
   1.3.2 % rural/urban
   1.3.3 Urban growth rate
   1.3.4 Sex-age specific population distribution (year)
   1.3.5 Regional distribution
   1.3.6 Vital statistics:
       1.3.6.1 Crude birth rate
       1.3.6.2 Crude death rate
       1.3.6.3 Natural growth rate
       1.3.6.4 Infant mortality rate
       1.3.6.5 Life expectancy at birth

1.4 Economy and Development
   1.4.1 Gross national product per capita and trend
   1.4.2 Distribution of wealth
   1.4.3 Debt/service ratio
   1.4.4 Average household income
   1.4.5 Household expenditures
   1.4.6 Human Development Index (HDI)

1.5 Education
   1.5.1 Adult literacy rate (male and female)
   1.5.2 Primary school enrolment rate (boys & girls)
   1.5.3 Primary school completion percentage

1.6 Government
   1.6.1 Political history relevant for this review
   1.6.2 Structure (central/peripheral)
   1.6.3 Budget (year) and trend
   1.6.4 Budget breakdown by sector
   1.6.5 Proportion of budget coming from foreign aid
   1.6.6 Fiscal year

2 Health Sector/Ministry of Health

2.1 Brief description of Health Sector

2.2 Ministry of Health Budget
   2.2.1 Size
   2.2.2 Proportion of the total government budget
   2.2.3 Breakdown by sector
   2.2.4 Trend

1 PLEASE NOTE: Answers in Sections 1 and 2 should be brief, numerical where possible, and with minimal analysis
2.2.5 External assistance
2.2.6 Source, i.e. International agencies (UNICEF, World Bank, UNDP, WHO)
2.2.7 Bilateral Cooperation, NGOs and other sectors.

2.3 Organogramme of Government Health Sector, including national, regional and peripheral level

2.4 Policy and Planning
2.4.1 Long term planning period
2.4.2 Summary of main strategies of current long term plan
2.4.3 Health Sector Reforms (changes in health care financing, organization and integration of services, role of private sector

2.5 Manpower:
2.5.1 Number of physicians (number per population, urban/rural)
2.5.2 Number of paramedical staff (number per population, urban/rural)
2.5.3 Regional differences
2.5.4 Number of medical and/or nursing schools, and number of students trained per year

2.6 Estimated access and coverage of public health services
2.6.1 Urban, rural, total
2.6.2 Population per hospital bed (urban/rural)
2.6.3 Annual number of patients visiting Government health facilities (by primary-secondary-tertiary levels, if possible)

2.7 Drugs
2.7.1 Policies, essential drug list
2.7.2 Procurement, distribution
2.7.3 Drug consumption per capita (government/private sectors)
2.7.4 Pharmaceutical regulations

2.8 Health information system
2.8.1 Organization
2.8.2 Reporting year and frequency of reporting
2.8.3 Is there a mortality registration system, if so, what is its estimated coverage?
2.8.4 Ten leading causes of reported morbidity (with source of information)
2.8.5 Ten leading causes of loss of DALYs
2.8.6 Ten leading causes of mortality (with sources of information)

2.9 Private and Non-governmental health sector
2.9.1 Private sector health facilities
2.9.2 Estimate of coverage of private sector
2.9.3 Control and availability of medicines in the private sector
2.9.4 Regional differences
2.9.5 Other relevant information
2.9.6 Role (and provide list if possible) of non-governmental organizations (NGOs) active in health sector
2.9.7 Professional organizations (medical associations, chest physicians, etc.)
3 Epidemiological situation of tuberculosis

3.1 Notification of new cases of tuberculosis
3.2 TB case definition/diagnostic criteria used for reporting
3.3 Newly reported cases (new and relapses)
   3.3.1 New pulmonary smear-positive cases
   3.3.2 New pulmonary smear-negative
   3.3.3 New pulmonary smear-negative, culture positive
   3.3.4 New extra-pulmonary
   3.3.5 Smear-positive relapses
   3.3.6 Age and sex specific distribution of new smear-positive pulmonary cases
   3.3.7 Geographic distribution (e.g. by district/region and by urban/rural/capital city)
3.4 If available, what have been the trends in TB case notification:
   3.4.1 Overall
   3.4.2 By age group
   3.4.3 By gender
   3.4.4 By region, or for capital city
3.5 Reported incidence and trends of tuberculosis meningitis in 0-4 years age-group
3.6 Expected incidence of new smear-positive TB cases and method of estimation
3.7 TB Mortality and case fatality (and trends)
3.8 Estimated annual risk of TB infection (year) and its trend (with source of estimate) or estimated prevalence of infection in selected age groups: (provide list of studies on prevalence and/or citations)
3.9 AIDS incidence, HIV prevalence, particularly among new TB cases and trend (and method of estimation)
3.10 Predicted trend of HIV (and method of estimation)
3.11 Prevalence of TB in people with AIDS
3.12 Particular risk factors and high risk groups for tuberculosis (and method of determination)

4 National Tuberculosis Programme (NTP)

4.1 Description of NTP history and political commitment to NTP (include TB control programme annual report, if available)
4.2 NTP structure and level of integration in general health services:
4.3 Number and distribution of diagnostic and treatment centres
4.4 Number of TB hospital beds and/or designated hospitals
4.5 Type, number and distribution of manpower involved in TB control
   4.5.1 How many and which positions are dedicated fully to TB control
   4.5.2 Number of these positions that are vacant
   4.5.3 List names/titles/posts of TB responsible officers at central and regional levels
4.6 NTP technical policy
   4.6.1 Please provide a manual or guidelines, if available, otherwise briefly describe policies for the following
   4.6.2 Case-finding (including how a TB suspect is defined)
   4.6.3 Treatment required for type of TB case, and method of supervision (including policies for retreatment and preventive chemotherapy)
   4.6.4 Hospitalization of TB patients
   4.6.5 BCG vaccination
   4.6.6 Integration with or into other health services or programmes

4.7 Planning process of NTP at national/provincial/district/peripheral levels: if there is a written plan, please provide a copy: indicate targets and time frame.

4.8 NTP coverage
   4.8.1 Estimated programme coverage (defined as estimated proportion of the country's population currently having access to TB control services) and method of estimation.
   4.8.2 Plans for expansion

4.9 NTP budget
   4.9.1 Is there a designated budget for the NTP?
   4.9.2 Total budget amount
   4.9.3 Proportion of the NTP budget compared to the budget of the public health sector and its trend
   4.9.4 Proportion of the NTP budget for:
      4.9.4.1 salaries
      4.9.4.2 drugs
      4.9.4.3 patient hospitalization
      4.9.4.4 transport
      4.9.4.5 supervision
      4.9.4.6 training
      4.9.4.7 other
   4.9.5 Other resources provided for TB control by other programmes or sectors (e.g. drug supplies, manpower, beds etc.)
   4.9.6 Amount of external assistance provided to NTP

4.10 Relation of the NTP with other government health programmes (AIDS, EPI, Leprosy etc.)

4.11 Role of private sector in TB control (estimate of proportion of TB patients treated, coordination with NTP, etc)

4.12 Role of NGOs involved in TB control (and list, if possible)

4.13 Existence and activity of a national anti-tuberculosis association and relationship with NTP.

5. **NTP Case Detection Activities**

5.1 Description of activities for case detection at facility level (e.g. who is responsible, how is suspect determined, how is sputum sample taken, where examined, how are results provided to patient, etc.)
5.2 Laboratory Services:
5.2.1 How many laboratories perform sputum examinations
5.2.2 How many perform culture
5.2.3 How are these laboratories distributed (i.e. central, provincial, and/or district levels)
5.2.4 Have any shortages of laboratory reagents, sputum cups, slides, etc. been experienced in last year

5.3 Activities of Central Reference Laboratory:
5.3.1 Number of personnel?
5.3.2 Does it carry out quality control of all microscopy activities?
5.3.3 If so, how is it conducted?
5.3.4 Is culture testing routinely performed?
5.3.5 Is sensitivity testing performed?
5.3.6 Does it provide training of staff of all laboratories carrying out TB diagnostic tests? Who is trained? How often?
5.3.7 Does it supervise all laboratories performing microscopy?
5.3.8 How is supervision carried out?
5.3.9 Does it carry out research activities
5.3.10 Is there a national TB laboratory network and, if so, how does it operate

5.4 Diagnostic results (case detection monitoring indicators)
5.4.1 Number of suspects tested for TB, for most recent year available, and proportion that were found to be smear-positive (and trend over time if figures available)
5.4.2 Number of slides examined for diagnosis, and how many were positive
5.4.3 Number of TB cases diagnosed (if it is different from TB notification)

5.5 If quality control is performed, provide information on discordant results (i.e. proportion of false positive and false negatives)
5.6 Results of contact-tracing activities (if carried out)
5.7 Use and results of other diagnostic techniques (i.e. x-ray)

6 Treatment activities
6.1 Treatment initiation: Number of TB patients who initiated treatment, for last year for which data is available, and trend over time, by category:
6.1.1 Sputum smear-positive or culture-confirmed pulmonary
6.1.2 Sputum smear-negative or culture-negative pulmonary
6.1.3 Extra-pulmonary
6.1.4 Retreatment

6.2 How is treatment evaluated? Is treatment cohort analysis performed? If so, how performed:
6.3 Treatment results (first, provide results for smear-positive patients on short-course chemotherapy (SCC), provide results for other patients separately.
6.4 Of smear-positive patients on SCC in most recent cohort for which data is available (give cohort period), what percentage were:
6.4.1 Cured (with smear confirmation) (%)
6.4.2 Completed treatment (%)
6.4.3 Died during treatment (%)
6.4.4 Treatment failure (%)
6.4.5 Interrupted treatment (%)
6.4.6 Transferred (%)
6.5 Provide trends in treatment results, if available
6.6 Number of patients entered on preventive chemotherapy, if any.

Drug Supply

7.1 Provide description of methods for estimating drug requirements, financing, costs, procurement, storage, buffer stock, and distribution system.
7.2 Provide information on use of fixed-dose combinations/blister packs and drug quality assurance mechanisms.
7.3 Describe frequency of drug stock-outs at national, regional or peripheral level and provide likely reasons for such stock-outs.

Case registration and notification systems

8.1 Describe process and method of case registration and notification.
8.2 Provide copies of all recording and reporting forms used in the NTP

Supervision

9.1 Describe system and activities performed in last year (e.g. number of supervisory visits, by whom and to which level; regularity; frequency; duration of supervisory visits; and whether a supervisory checklist is used).

Training

10.1 Provide description of the type of training provided for personnel in TB control.
10.2 At what level is training provided, and for what staff?
10.3 What is the content and frequency of this training?
10.4 What materials are used?
10.5 How many staff were trained each year over the last five years?
10.6 Provide a description of training institutions.
Programme monitoring and evaluation

11.1 Provide a description of the method of programme monitoring and evaluation.
11.2 How often is it done?
11.3 Have monitoring indicators been determined, and are they utilized?
11.4 Please provide a copy of annual programme report.
11.5 What action has been taken with the monitoring and evaluation results?

Research

12.1 Provide description of any TB-related research conducted in the last five years (i.e. themes, quantity, quality, results, impact).

BCG vaccination

13.1 Where does responsibility for BCG vaccination lie (i.e. with EPI, NTP or joint responsibility)?
13.2 Which type of BCG is used?
13.3 What is the BCG vaccination/revaccination policy?
13.4 For most recent year available, what was the coverage rate for infants 0-1 year?
13.5 Provide trends over time, if available.
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Laboratory

Interview with laboratory staff:
(see the questionnaire for laboratory staff)
How many staff work in the laboratory?
Have they received NTP training? When?
Do they have the NTP laboratory manual?

Smear request form:
How are smears requested and reported?
Is the NTP smear request form used?

Sputum containers:
Are there adequate supplies?
Are they marked properly (laboratory number on the side)?

Laboratory register:
Is the NTP laboratory register used?
Is it up to date?
Is it filled in completely?
Do negative suspects have 3 negative smears?
Do positive cases have 2 positive smears?
Are positive results written in red?
How many smears (diagnosis and follow up) were examined recently (see data collection form)?

Slides:
Are there adequate supplies?
Are slides marked with a diamond pen?
Is the laboratory number marked on the slide properly?
Check some positive and negative smears - are they smeared, stained and reported correctly?

Reagents:
Are there sufficient quantities of reagents?
Are bottles labelled correctly with the name and date of preparation?

Microscope:
Type (binocular/monocular, electric/light)
Condition

Quality Control:
Are slides kept for quality control?
Are there sufficient slide boxes?
How often are slides sent for quality control?
How are slides sampled for quality control?
Has the laboratory received results of quality control?

Disposal:
Method of waste disposal (burial/burning)
ANNEX 6
CHECKLIST FOR A VISIT TO A TREATMENT CENTRE

Clinic

Interview with patients: (See the questionnaire for patients)

Interview with staff:
- Who sees the patients in the clinic?
- Have they received NTP training? When?
- Do they have the NTP manual?
- How supervises treatment?
- Who does late patient tracing?

Treatment Cards:
- Are cards stored properly?
- Check correctness, completeness, consistency and credibility
- Check categories, treatment, medicines taken

TB Register:
- Is it up to date?
- Check correctness, completeness, consistency, and credibility
- Compare with the laboratory register; any pre-treatment defaulters? Any discrepancies?
- Compare with treatment cards - any discrepancies?

Cohorts:
- Check reports prepared by treatment centre staff
- Prepare case finding, two-month smear conversion and treatment outcome cohorts (see data collection forms)
- Any discrepancies?

Store

Medicines:
- Are there adequate quantities of anti-TB medicines?
- Are medicines stored properly?
- Check expiry dates, is a FEFO* system used?
- Are stock cards kept up to date?
- Do the stock cards match the actual stocks (check at least one medicine)?

* FEFO: First Expiry First Out.
Methodology for economic analysis

An economic analysis of the NTP usually includes an assessment of the current and future costs and potential savings of effective TB control services. This requires three pieces of information: the direct costs of TB control services to the provider, the indirect costs of TB disease and deaths to the patient and community, and estimates of the epidemiological trends in TB.

Cost analysis: direct provider costs

To evaluate the cost-effectiveness of the NTP as well as the value of potential changes, an analysis of the full economic costs of the current program should be performed. Full economic costs differ from the financial costs shown in program budgets because they include the total resource consumption of an activity. For example, they include the cost of using existing infrastructure such as buildings, vehicles, and equipment such as x-ray machines and microscopes.

In order to analyse the cost of proposed changes to the NTP, the following categories of economic costs are useful:

- **Average (total) costs** include capital costs (buildings, equipment, vehicles etc) and recurrent costs (salaries, maintenance, administration, drugs, diagnostic supplies, training, supervision etc).

- **Incremental costs** for TB control are costs that are specifically incurred for TB control activities (drugs, diagnostic supplies, dedicated staff etc), excluding costs of the general health infrastructure such as buildings and administration. Incremental costs are determined by asking which cost changes occur due to the provision of TB control services (compared with a health care system without any TB control services).

- **Marginal costs** are costs for increasing the number of output units for a specific activity, for example, taking 200 instead of 100 x-rays, or treating 500 instead of 300 TB patients.

Most economic analyses of the NTP investigate the effect of changing the number of TB cases on costs. It is usually necessary to calculate the marginal cost per case treated. A common assumption in studies of provider costs for health services is that marginal costs equal average costs. However, it is often necessary to deviate from this practice. The costs of infrastructure and personnel depend on the proportion of time spent in NTP activities, as they are rarely used exclusively for one intervention in integrated health programs. An increase or decrease of the workload for TB control will influence this share, but it is unlikely that this will have cost implications for the provider with respect to peripheral health units, because the number of staff or buildings will probably not change. To determine which type of cost to use, it is useful to roughly calculate how the workload will change under the new program in comparison to the current status. For example, if the workload at clinics implementing intensified TB services is projected to increase from 20 to 30 cases per year, this increase is unlikely to require additional infrastructure with respect to treatment services, and marginal costs can be used. However, care should be taken to determine whether the restructuring of the program will require the purchase of capital items, such as new binocular microscopes or vehicles. The incremental cost calculation for the new program must include the (annuitized) costs of equipment, while marginal costs with respect to treatment activities can often be calculated simply as the average variable costs for drugs and stationary.
Cost analysis: indirect costs

Indirect economic costs resulting from morbidity and mortality due to TB are most easily calculated based on the human capital approach, using, for example, the average GDP as an indicator of the marginal product of labour. Loss of productive time is calculated separately for the morbidity and the premature mortality resulting from TB. Calculations of the time of productive life lost due to premature mortality should be made separately for HIV-infected and non-HIV-infected TB patients.

To estimate the indirect costs of morbidity and mortality, the following assumptions can be used:

- a diagnosed and treated case would lose, on average, two months of time at the workplace
- a patient who remains undiagnosed would lose, on average, one year of work-time
- for HIV-infected individuals, death from TB would, on average, only lead to the loss of two years of productive life, because death would occur from other HIV-related illnesses after cure from TB
- For non-HIV-infected individuals, it is necessary to determine the normal age at which participation in the work force would end (e.g., at age 60). The lost years of economically productive life is calculated from the age of death until that age.

To simplify calculations, age weights based on the currently reported age distribution of newly diagnosed TB patients can be used to calculate an average value of years of productive life lost from a death from TB. Streams of future life years should be discounted, normally at rates between 3% and 10% per year.

Epidemiological forecasts

The determination of cost and benefits of programme modifications should take into account future scenarios, since benefits in the form of a decrease in case numbers and deaths will only occur several years after the initial investment is made. This calculation will require the use of an epidemiological model.
For each category of health worker (including doctors, nurses, public health officers, paramedical health workers, laboratory technicians/assistants, village health workers, and community health volunteers), consider the following questions:

1 Relationship between NTP and health training institutions
   a) Do institutional links exist? If so, describe them.
   b) Are doctors and other health workers trained (on tuberculosis) out of the country? If so, which countries?

2 Training Objectives
   a) What are the TB related training objectives for each category of health worker?
   b) Is there a course outline for TB related training?

3 Organization of TB related training
   a) What is the duration of TB related training?
   b) Who provides the training?
   c) Is theoretical training mandatory or optional?
   d) What practical training is provided? (e.g. communication with patients, sputum smear examination, reading chest X-rays, tuberculin test, etc.)
   e) Is TB related training provided as part of training in infectious diseases, communicable disease control, general medicine, chest diseases, or separately?
   f) What post graduate training courses are available in the country?

4 Training materials
   a) What materials are used for TB related training?
   b) Which text books are recommended?
   c) Is the technical manual of the NTP used in training?

5 Assessment of knowledge and skills
   a) How are students evaluated (for example; written test, multiple choice questionnaires, dissertation, simulated case solving, oral examination)
   b) What practical skills are evaluated?
   c) When is the evaluation made? At the end of each period of training, or at the end of the course?
   d) How is the evaluation made? As part of a general examination/evaluation, or as a specific test of TB related knowledge and skills?
Introduction

TB control is usually part of the general health services of a country, and often many other actors and organizations are involved, such as the private sector and NGOs. A review gives the NTP an opportunity to analyse its own structure, organization and direction and see how this fits with those of the health sector as a whole. If the TB programme operates autonomously, and is heavily reliant upon separately channelled donor funds, how much local support and ownership of the programme is there, and how sustainable would the programme be in the absence of such funds? If the NTP is closely integrated into the general health services how feasible will it be to make any changes suggested in the review? Who are the key actors in the organization and funding of services, and where are the triggers that must be activated before any change can occur?

Many countries are in the process of reforming their health sector, or are about to undertake major changes. It is important that those conducting the review are aware of what is going on and what future directions the health system is likely to take, so that the recommendations that they come up with are useful, feasible and politically acceptable.

It is unlikely that there will be sufficient time or resources in a review to undertake an in-depth health systems analysis. The following framework provides a quick analysis to give a broad overview of the health care system and an understanding of how TB fits into it.

Where do TB suspects go for treatment?

Within the health sector as a whole
In many countries people with cough go to medicine sellers, private practitioners or traditional healers rather than the government health sector. Some patients go to private hospitals or hospitals linked to religious or trade organizations, missions, mine or railway hospitals, etc.

Within the government health system
Many patients go to hospitals or to other government facilities which are not part of the national programme. These include health services of prisons, social security, police, army and central hospitals.

In some countries the majority of patients are treated outside the TB programme. Some of these patients receive adequate treatment, but not according to standardized protocols and policies. Some receive substandard treatment, and develop and spread drug resistance. This problem will have to be addressed if the review is to come up with recommendations that will have an impact on TB control. Even the best run programme will have no epidemiological impact if it is only treating 10% of the patients, particularly if the remaining 90% are being mistreated and are developing resistance to anti-TB drugs.

The first step is to estimate the proportion of symptomatics and patients that go to each type of facility, and then investigate how they are being managed. This will highlight the key areas for action - which include improving the accessibility of services, encouraging referral to the NTP or improving the diagnostic and treatment practices of other practitioners.
How are TB control services managed?

It is important to look beyond the organogram showing the organization of health services to identify where the key levels are for decisions on planning, management and resource allocation. If programmes are experiencing difficulties in operating and effecting changes, is it because they are focusing on one level while the key decisions are made at another? For example, is the system centralized, federal or decentralized? In a central system everything is controlled and managed by the Ministry of Health. In a federal system most health matters are dealt with at the state or provincial level. In a decentralised system management and funding decisions are made at the district level.

Within this organogram which departments are involved in TB control?
At the central and intermediate levels of the health system, there may be several departments which are involved in TB control, for example, training, surveillance, drug procurement and supply, laboratory services, hospital services, health education, contracting, liaising with NGO's, etc. If these departments are not collaborating and operating within the same systems and guidelines, confusion and conflicting messages are likely to result. Proposed changes in the NTP will have to be communicated to all these actors.

What are the linkages between levels?
In most countries there is an officer responsible for TB at the intermediate level of the health service. How do these staff relate to the general health services and to the NTP? Who are they managerially accountable to? Through which channel do resources for their salaries and activities flow (vehicle, fuel, training, supervision)? Who makes decisions about transferring them? From whom do they receive technical and policy guidelines?

How are key components of the TB programme organized?

The key components of effective TB control are common to many other areas of general health services - a trained and motivated workforce, an effective drug supply, adequate diagnostic and treatment services, and a recording and reporting system that provides reliable and useful information. Which of these inputs are organized in the same way for TB as for general services, and where are the differences? For some inputs in some countries it will be important for TB to be different (e.g. because general health services are so unreliable, or because TB services are being provided free, while general health service components are being funded through user fees). In other areas the ownership and sustainability of services is likely to be increased if they are shared.

How are TB services financed?

Government funds
In most countries the state has accepted responsibility for providing free TB treatment. How does this work in practice? Is there a separate budget line for TB? How much money is allocated for TB control relative to the total budget? Is there an effective system for transferring funds to the centres that are actually treating patients? If budgets are held locally, how are priorities set, and is TB a priority?
**Donors**
The way in which donor funds flow can have an impact upon the sustainability of a programme. If the NTP receives funding from donors or through loans, how long is this likely to continue? Does the money come earmarked for TB, or is it part of a contribution to the health service as a whole (basket funding, or a sector wide approach)? Is a sector wide approach for donor funding being considered? Do donor funds flow through the Ministry of Health, or do they go directly into a TB budget?

**Alternative sources of funding**
Are user fees charged in the general health services? If so, are TB patients exempt from these? Are fees charged for diagnosis? What impact does this have on utilization? If drugs and diagnostic services are largely funded through user fees, is there an effective system to supply drugs and laboratory supplies for the NTP? In some countries which have adopted an integrated and decentralized health system, the 'vertical supply system' has been abolished, but integration has proved problematic as TB services are cross subsidised by other services.

**What is the role of legislation?**

**Notification**
In most countries TB is under reported as private practitioners do not notify cases. If it is not possible to make private practitioners notify cases, it may be feasible to require private laboratories to report on the number of smear-positive cases detected and participate in quality control of smear microscopy in exchange for certification and ongoing involvement/education. In some countries TB cases are reported on the basis of attendance at hospitals and clinic. However, these reports often include follow up as well as new visits. Hospital utilization data usually results in over reporting of cases. When compiling data from all these sources, it is important to know on what basis it was collected.

Is notification of TB cases mandatory and does the system work? Are there examples of any other diseases where legal sanctions or any other strategy can encourage practitioners to notify the relevant authorities?

**Use of rifampicin**
The widespread and uncontrolled use of rifampicin greatly increases the development of drug resistance. Some countries have successfully restricted the use of rifampicin and other anti-tuberculosis drugs in the private sector.

Are there controls on the sale of rifampicin in pharmacies? Do they work? Are any other drugs effectively controlled? Is there any effective system of drug quality assurance within the country?
Thailand Sitting on a TB Time Bomb

MINISTRY OF PUBLIC HEALTH TO ADOPT NEW STRATEGIES TO PREVENT SPREAD OF INCURABLE MULTIDRUG-RESISTANT STRAINS OF TB

Deadly, incurable forms of tuberculosis will be plaguing Thailand unless the country's TB control efforts are quickly strengthened, according to a preliminary report by a team of medical experts.

This warning was issued today by a group of 24 TB control specialists from the World Health Organization, the Thailand National TB Programme and other government agencies who have just completed a review of Thailand's worsening TB situation.

"Thailand is sitting on a TB time bomb", said Dr Nadda Siriabha, national consultant to the Ministry of Public Health. "TB is definitely coming back as the HIV epidemic is speeding up the time for infected individuals to develop the full-blown disease. In effect, HIV is shortening the fuse on a potential explosion of multidrug-resistant TB cases in Thailand."

According to the report, approximately 3000 people had multidrug-resistant TB in Thailand last year. If uncured, each case can infect an average of 10 to 15 other people in a year's time.

Multidrug-resistant TB - like all forms of TB - is spread through the air by coughing, talking and sneezing, and causes prolonged coughing, weight loss and ultimately death. Whereas regular strains of TB can be easily cured if anti-TB medicine are properly administered, it is much more difficult - and sometimes impossible - to cure multidrug-resistant strains of TB.

"Multidrug resistant TB is a human-made problem," said Dr Thavisakdi Baanrungrakul, Director of the National Tuberculosis Programme. "It results when health workers do not directly observe their TB patient swallow the correct combination of medicines. It is only when TB patients fail to take some of their medicines that multidrug resistant TB can develop."

According to the report, the only solution is for Thailand to quickly begin adopting a treatment strategy known as DOTS - directly observed treatment short-course. DOTS is a system in which a health worker or an entrusted community volunteer watches each patient swallow his or her medicines a few times each week for the entire length of treatment. DOTS is considered to be the best method to prevent the development of multidrug-resistant TB. The DOTS strategy is already being tested by the Ministry of Public Health in some parts of Thailand to great success. In a section of the Chonburi region, DOTS has helped increase cure rates from 68 percent to nearly 91 percent.

"Because of the growing HIV epidemic, Thailand must quickly strengthen its TB control programme," said Dr E. B. Doberstyn, the World Health Organization's representative in

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Thailand. "When an HIV-positive person is infected with TB, they become 30 times more likely to become sick with TB and infectious to others, than if they were not HIV-positive. In effect, HIV will be putting the spread of multidrug-resistant TB on fast-forward."

Nearly 40 percent of TB patients in Chiang Mai are HIV positive. In the Klaeng district in eastern Thailand, TB cases have increased within year, from 84 to 130, as a result of increased prevalence of HIV. Tuberculosis is now the leading cause of death among HIV positive people in Thailand.

Dr Darong Boonyoen, Director General of the Department of Communicable Disease Control in the Ministry of Public Health welcomed the recommendations of the review. "Our department will be taking immediate steps to eliminate the threat of multidrug-resistant TB before it even becomes a serious problem in Thailand," said Dr Boonyoen. "I have instructed the National TB Programme to prepare a strategy for strengthening Thailand's TB control efforts."

The World Health Organization commended the Thailand National TB Programme for its otherwise high quality of TB control services. It detected no shortages of supplies or TB drugs, and treatment facilities and primary health care system were described as being among the best in Asia.

After years of steady decline, TB cases began increasing in Thailand in 1992. there were 49,688 cases of TB and 3595 deaths reported in Thailand in 1993. Worldwide, TB kills three million people each year, more than AIDS, malaria and tropical diseases combined. Two-thirds of these deaths occur in Asia. Every second, someone is newly infected with the TB bacillus. In 1993, the World Health Organization declared TB a global emergency, urging the world’s governments to make TB control a high priority.

For more information, contact Dr Thavistakdi Bamrungtrakul, National TB Programme at 223-9009 or 223-5920; or Dr Nadda Sriyaphaya, Ministry of Health at 591-8198.