

Strengthening the teaching of tuberculosis control in basic training programmes

A manual for instructors of nurses
and other health-care workers



World Health
Organization

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Acknowledgements

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This manual has been prepared based on the WHO training modules: *Management of tuberculosis: training for health facility staff*, 2003 (WHO/CDS/TB/2003.314 a–l) for use in national tuberculosis control programmes where WHO recommendations or compatible national recommendations are implemented.

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Introduction

Tuberculosis: epidemiology and the burden of disease

Approximately one third of the world's population is infected with *Mycobacterium tuberculosis* and at risk of developing the disease. Every year, more than 8 million people develop active tuberculosis (TB) and approximately 1.9 million people die. More than 90% of global TB cases and deaths occur in the developing world, where 75% of cases are in the most economically productive age group (15–54 years).

Once infected with *M. tuberculosis*, a person is infected for life. While only 1 in 10 of infected people with healthy immune systems will develop TB symptoms during their lifetimes, infected people with weakened immune systems, such as those with the human immunodeficiency virus (HIV), are at much greater risk of becoming ill with TB. At the same time, multidrug resistance, which is caused by poorly managed TB treatment, is a growing problem of serious concern in many countries throughout the world.

The World Health Organization (WHO) declared TB a global emergency in 1993 in recognition of the growing importance of TB as a public health problem. Governments in many countries with a high burden of TB have neglected TB control in the past. National TB control programmes (NTPs) have failed to achieve high detection and cure rates for infectious (smear-positive) patients. Besides poverty, population growth and migration and an increase in the number of TB cases attributable to the HIV epidemic in some countries, the persistence of TB has been mainly a result of:

- failure to ensure accessible diagnosis and treatment services, including directly observed therapy;
- inadequate treatment regimens and failure to use standardized treatment regimens;
- lack of supervision and an information management system for the rigorous evaluation of treatment outcomes of TB patients;
- misguided policies for health sector reform, with cuts in health-care budgets and resultant reductions in financial support to peripheral health services.

The DOTS strategy

In response to this situation, a new framework for effective TB control was developed and a global strategy called DOTS was introduced. The five essential components of the DOTS strategy are:

1. **Sustained political commitment** to increase human and financial resources and make TB control a nationwide priority integral to the national health system.
2. **Access to quality-assured TB sputum microscopy** for case detection among people presenting with, or found through screening to have, symptoms of TB (most importantly, prolonged cough). Special attention is necessary for case detection among HIV-infected people and other high-risk groups, such as household contacts of infectious cases and people in institutions.
3. **Standardized short-course chemotherapy to all cases of TB under proper case management conditions, including direct observation of treatment.** Proper case management conditions imply technically sound and socially supportive treatment services.

4. **Uninterrupted supply of quality-assured drugs** with reliable drug procurement and distribution systems.
5. **Recording and reporting system enabling outcome assessment of all patients and assessment of overall programme performance.** This is the basis for systematic programme monitoring and correction of identified problems.

The organizational principles of the DOTS strategy are:

- availability of a decentralized diagnostic and treatment network based on existing health facilities and integrated with primary health care (PHC);
- effective programme management based on accountability and supervision of health-care workers;
- an evaluation system of case-finding and cohort analysis of treatment outcomes.

The global targets for TB control, adopted by the World Health Assembly, are to cure 85% of newly detected cases of sputum smear-positive TB and to detect 70% of smear-positive cases in the community.

The seven key operations for implementation of the DOTS strategy are:

1. Establish a **national TB control programme with a strong central unit.**
2. Prepare a **programme development plan and a programme manual**, and establish the recording and reporting system allowing cohort analysis for treatment outcomes.
3. Plan and initiate a **training programme.**
4. Set up a **microscopy services network** in close contact with PHC services and subject to regular quality control to ensure that detection and cure of smear-positive TB cases remains a priority, through effective decentralization of diagnosis.
5. Organize **treatment services** within the PHC system where directly observed short-course chemotherapy is given priority.
6. Secure a **regular supply of drugs and diagnostic material.**
7. Design and implement a **plan of supervision** of key operations at the intermediate and district level.

Other important operations essential to strengthen and sustain DOTS implementation include: information, education and communication and social mobilization involving private and voluntary health-care providers; economic analysis and financial planning; and operational research.

Why include TB control in a basic curriculum for nurses and other health-care workers?

Nurses and other health-care workers play a key role in ensuring the long-term implementation of the five components of the DOTS strategy by undertaking TB case detection, treatment and follow-up as well as in educating patients and the public about TB. To enable nurses and other health-care workers to fulfill these professional functions, teaching and learning in training institutions must be adapted so that the skills and knowledge of graduates of basic training programmes are relevant to the needs for implementation of the DOTS strategy.

Purpose of this manual

The purpose of this manual is:

- To provide information on the professional functions related to TB control based on the DOTS strategy.
- To propose a standard curriculum for a training programme covering the professional functions related to TB control based on the DOTS strategy.
- To provide information on educational methodology, planning and evaluation of the training programme.

For whom is this manual intended?

This manual is intended for:

- Heads of education programmes and instructors in basic training programmes responsible for education on TB control based on the DOTS strategy.
- Authorities concerned with professional education and curriculum development.
- Personnel responsible for human resource planning and development.
- Administrators and supervisors of health services.

What does this manual include?

This manual is based on a set of training modules developed by the Stop TB Department of WHO. The set, called *Management of tuberculosis: training for health facility staff* (WHO/CDS/TB/2003.314a- I), comprises the following modules:

A: *Introduction (includes a glossary with definitions of terms that may be unfamiliar)*

B: *Detect cases of TB*

C: *Treat TB patients*

D: *Inform patients about TB*

E: *Identify and supervise community TB treatment supporters*

F: *Manage drugs and supplies for TB*

G: *Ensure continuation of TB treatment*

H: *Monitor TB case detection and treatment*

I: *Field exercise – Observe TB management*

J: *Management of tuberculosis – Reference booklet*

K: *Facilitator guide*

L: *Answer sheets*

The modules use a variety of methods and instruction, including reading, written exercises, discussions, role plays, demonstrations and observations in a real health facility. Practice, whether in written exercises or role plays, is a critical element of instruction. The *Reference booklet* contains important forms, worksheets and summaries of procedures taught in the modules. This booklet can also be used as an on-the-job resource.

This manual illustrates how the modules can be adapted for use by student nurses and other health-care workers in basic training programmes. Each section of the manual can be used independently to develop a single aspect of the course of study. However, its main purpose is as a package to ensure that, after training, students are capable of fulfilling all the objectives of this part of the basic training curriculum. The manual includes the following 10 chapters:

- Chapter 1: The TB control curriculum**, outlines a course of study that is intended to enable students to practise all of the major aspects of TB case detection and management.
- Chapter 2: Methods**, provides guidelines for selecting and using active learning methods.
- Chapter 3: Lesson plans**, provides an example of how to prepare a lesson plan for a topic on the curriculum.
- Chapter 4: Student material**, describes the basic course material.
- Chapter 5: Field exercises**, describes how to organize a field visit.
- Chapter 6: General issues in assessment**, discusses issues and problems in student assessment.
- Chapter 7: Assessment of practical skills**, describes the assessment of key skills.
- Chapter 8: Examination questions and answers**, provides sample examination questions with an answer guide.
- Chapter 9: Field placements**, describes the organization of field placements.
- Chapter 10: References**, provides suggestions for further reading.

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