EXECUTIVE SUMMARY

International Hospital Federation
Immeuble JB SAY, 13, Chemin du Levant, 01210 Ferney Voltaire, France
Tel: +33 (0) 450 42 60 00 / Fax: +33 (0) 450 42 60 01
Email: info@ihf-fih.org / http://www.ihf-fih.org
Introduction
The Stop TB Partnership 2nd ad hoc Committee on the TB epidemic observed that: “Although many National TB Programme (NTP) personnel and others involved in TB control at different levels exercise considerable managerial responsibilities, few have acquired managerial expertise through ‘hands-on’ training. More formal development of managerial capability among these personnel would help to ensure high-quality managerial performance” (emphasis in bold and italics added by the “authors”).

The lack of sufficient trained staff is consistently cited as the main constraint facing TB control. Appropriate continuing training and orientation programmes need to be organized for health facility managers, physicians, nurses, laboratory and x-ray staff, NGO partners, community leaders and community health workers.

The neglect of human resources, that is the numbers of staff, their distribution and the quality of their performance, has been ranked first among the five key constraints to reaching the global targets for TB control in the 22 HBCs (High Burden Countries) as well as to global DOTS (Direct Observation of Treatment Strategy) expansion. At the same time there is growing recognition of the importance of training and human resource development as an integral part of NTP activities, although little progress has been made in finding ways of countering the loss of healthcare staff involved in organizing and delivering TB care in many developing countries. The call therefore is for training courses to become essential components of technical assistance as well as the development of generic training materials and tools for effective human resource management. For TB control-specific activities, the emphasis should be on:

- Quality
- Better management of training programmes
- On-going follow-up training and re-training
- Factors influencing behavioural change of health workers
- Community and environmental factors facilitating or obstructing change

Against this background, the International Hospital Federation (IHF), as a leading global representative body for hospitals and healthcare management professionals, has developed this training manual for TB and MDR (Multidrug-resistant)-TB control for managers of hospitals, clinics and health service facilities.

From the key learning objectives built into the training manual’s syllabus, it is believed that every Course participant will emerge prepared to assume and exercise the vital role, that of active participants of an area-wide organization of health services that reaches the community and home levels for effective TB and MDR-TB control. A role, thus far neglected, in leadership, planning, implementation and follow-up of more effective and sustainable TB and MDR-TB control programmes, at national, district or local community levels. In addition, he/she will emerge equipped with the skills needed to address the problem of TB diagnosis, prevention and treatment in a result-oriented and impact-effective way.

Learning objectives of the training manual
The following are the key learning objectives built into the syllabus:
- Know facts about the problem of tuberculosis both globally and in their own countries, including the extent of the problem, its effects on the health and wellbeing of affected individuals, families and communities, and its effects on the economy and society;
- Be able to describe the current policies and approaches to TB control in their own countries, the lessons learned from these approaches, problems met, solutions tried, and examples of TB control programmes that have shown success in meeting their objectives;
• Share lessons they have learned from their own past or on-going participation in TB control programmes;
• Know the critical elements of a successful and sustainable TB control programme, such as a specific geographic area orientation, inter-agency collaboration, re-orientation and training of health professionals and other personnel in the problem, DOTS and risk management, a network of accessible diagnostic and treatment centres, a referral system, reliable flow of supplies and medicines, community education and involvement that reaches the home level, continuous training and benchmarking with other successful programmes, a reliable communication and transportation system, a useful and trustworthy financial control and reporting system, shared management information systems, and regular review meetings for monitoring, evaluation, and problem solving;
• Know their respective roles as managers in developing a successful and sustainable TB and MDR-TB control programme in their area;
• Develop skills in leadership to gain the cooperation and commitment of other agencies and their own staff to plan and organize a successful and sustainable TB and MDR-TB control programme as described above;
• Develop skills in strategic and operational planning and budgeting, and devise guiding policies and written procedures for an area-wide TB and MDR-TB control programme;
• Develop skills in programme implementation such as team and network organization, effective delegation, and development of effective personnel training programmes;
• Develop skills in follow-up, review and management information systems to ensure that objectives and targets are achieved, problems identified and solved, and continuous improvements are introduced.

The global and national problem of tuberculosis
Dr. Paul Nunn, Coordinator of the Stop TB Department, of the World Health Organization (WHO) reported in April 2005: “About nine million people around the world fall sick with tuberculosis (TB) every year and each year, two million lives are claimed by TB…TB is inextricably linked to the HIV epidemic as TB is the major opportunistic infection and leading cause of death for people with AIDS.”

What is TB?
Tuberculosis, more commonly known by the abbreviation TB, is a social disease with medical implications, in that it has always occurred disproportionately among disadvantaged populations such as the homeless, malnourished and overcrowded.

The global perspective on tuberculosis is that:
• It is one of the world’s deadliest diseases.
• One-third of the world’s population is infected with the disease.
• Nine million people around the world become sick, each year, with TB.
• Two million TB-related deaths worldwide are recorded each year.
• It is the leading killer of HIV-infected persons.
• It causes more deaths among women worldwide than all causes of maternal mortality.
• It remains a leading infectious cause of death among men and women mainly between the ages of 15 and 44, their economically and reproductively active years.

The medical implications are that it is a contagious disease of the respiratory system caused by an organism called Mycobacterium tuberculosis (M. tuberculosis), also known as tubercle bacillus. It is spread from person to person through the air by droplet nuclei produced when persons with pulmonary or laryngeal tuberculosis cough, sneeze or speak. They can also be produced through
aerosol treatments, sputum induction and manipulation of lesions or processing of tissue or secretions in the hospital or laboratory.

Individuals with latent tuberculosis infection but not active disease are not infectious and thus cannot transmit the organism. It is estimated that approximately 10 per cent of individuals who acquire tuberculosis infection and do not undergo preventive therapy, will develop active tuberculosis, the risk being highest in the first two years after infection.

Four factors determine the likelihood of transmission of *M. tuberculosis*:

i) Number of organisms being expelled into the air  
ii) Concentration of organisms in the air determined by the volume of the space and its ventilation  
iii) Length of time an exposed person breathes the contaminated air, and  
iv) Immune status of the exposed individual.

**Treatment regimens**

The good news is that TB is treatable with drugs that cost about $10 for a six month course. There are four recommended regimens for treating patients with tuberculosis caused by drug-susceptible organisms. Each regimen has an initial phase of two months followed by a choice of several options. The treatment regimen for all adults with previously untreated tuberculosis should consist of a two-month initial phase of isoniazid (INH), rifampin (RIF), pyrazinamide (PZA), and ethambutol (EMB). The continuation phase of treatment is given for either four or seven months.

With proper treatment, over 90 per cent of cases are curable using the WHO-recommended treatment strategy, known as DOTS, introduced on a global scale in 1995, the five components of which are:

- **Sustained political commitment**, to make TB control an integral part of the national health system at all levels including the community level and fostering partnerships also at all levels.
- **Case detection by sputum smear microscopy** Sputum smear microscopy is the MOST COST-EFFECTIVE method of screening pulmonary TB suspects as it identifies highly infectious TB cases.
- **Standardized short-course chemotherapy** with direct observation of drug intake for six to eight months using a combination of anti-TB drugs.
- **Drug supply** - an accurate recording and reporting system is introduced, which provides the information needed to plan and maintain adequate drug stocks.
- **Recording and reporting system** to systematically evaluate patient progress and treatment outcome.

A growing threat to public health is the emerging anti-TB drug resistance, which threatens the success of DOTS. DOTS-Plus for MDR-TB is not intended as a universal strategy, but is a comprehensive management initiative, built upon the five elements of the DOTS strategy. Its goal is to prevent the further development and spread of MDR-TB. Application of this strategy is not required in all settings. Instead, its implementation should be in selected areas with significant levels of MDR-TB in order to combat potential or actual epidemics.

**Laboratory services**

The laboratory not only plays a pivotal role in national TB programmes in case detection and follow-up of TB patients under treatment, but it is also essential for monitoring drug resistance patterns. The information produced from the laboratory at all levels of the health system contributes to TB programme policy, planning, and quality assurance. Timely recording and reporting of results to both the healthcare provider and the patient are essential links to care and treatment.
Activities aimed at applying a comprehensive approach to strengthening laboratory systems and services should include, for example, strengthening management and leadership for performance improvement, development of national laboratory policy and strategic plans, development or adaptation of quality assurance systems to the local context and development of training packages to improve management practices in laboratory settings.

**Occupational tuberculosis in healthcare settings and healthcare workers**

In the fight against TB, the role played by primary healthcare services is critical with regard to the care provided to TB patients.

Lack of knowledge, training and skills, a poor management system and lack of access to tuberculosis information, negative attitudes towards tuberculosis patients as well as work are some of the obstacles observed among healthcare setting and workers in the provision of effective tuberculosis patient care.

*Transmission and environmental infection control of tuberculosis*

The healthcare facility environment is rarely implicated in disease transmission, except among patients who are immunocompromised. Nonetheless, inadvertent exposures to airborne pathogens (e.g., *Mycobacterium tuberculosis*) or environmental pathogens (e.g., Legionella spp., causing Legionnaires disease) can result in adverse patient outcomes and cause illness among healthcare workers. Environmental infection-control strategies and engineering controls can effectively prevent these infections. The incidence of healthcare-associated infections and pseudo-outbreaks can be minimized by 1) appropriate use of cleaners and disinfectants; 2) appropriate maintenance of medical equipment; and 3) adherence to water-quality standards, and to ventilation standards for specialized care environments (e.g., airborne infection isolation rooms).

Environmental factors that may enhance the likelihood of transmission include the following:

- Presence of someone with active TB who is not on effective therapy (undiagnosed, untreated, non-compliant with treatment, unrecognized drug resistance);
- Exposure of susceptible individuals to an infectious person in a relatively small enclosed space;
- Inadequate ventilation that results in either insufficient dilution or removal of infectious droplet nuclei;
- Re-circulation of air containing infectious droplet nuclei;
- Duration of exposure and the susceptibility of the exposed person.

**Occupational tuberculosis in healthcare workers**

Healthcare workers are exposed to a variety of occupational infections. Tuberculosis can be considered both a nosocomial (hospital-acquired) and an occupational infection. The incidence of *mycobacterium tuberculosis* infection in and transmission to or from healthcare workers varies widely, according to the type and size of the facility, the prevalence of TB in the community, the patient population served by the facility, the occupational group the person represents, the area of the facility where the person works and the effectiveness of the facility’s TB control programme. Multiple drug-resistant strains of *M. Tuberculosis* are an increasing occupational concern among healthcare personnel, with hospitals and other healthcare facilities proving settings for the nosocomial transmission of these strains of *M. Tuberculosis*. 
Management and leadership skills for a TB and MDR-TB training programme

Health Managers at all levels and all over the world are facing health systems in upheaval, with low staff morale, competing priorities and scarce resources. In some regions, communicable diseases such as TB and MDR-TB and the AIDS pandemic are decimating the workforce and thrusting senior-level responsibilities on lower-level managers much earlier than expected and without support. A major task of managers is improvement of the morale and motivation of their frontline health workers in the face of insufficient resources, training and preparation. Health managers, regardless of whether their responsibilities involve supervision of teams at rural clinics or service as ministers of health, need to know how to lead well and manage well in order to achieve results in the face of such challenges.

In the fight against the ever increasing problem of TB and MDR-TB control, treatment and prevention programmes, the wise application of management skills is an essential element. As a respected health leader and manager, an individual has the responsibility to use and develop his/her management skills of leadership in order to plan, organize and maintain:

- reliable and accessible diagnostic, treatment and referral services,
- a reliable flow of supplies and medicines,
- continuing orientation and training for professionals, managers, staff, and community level workers in DOTS and their respective roles in the programme,
- a risk management system that prevent TB transmission within the health system,
- TB education campaigns that promote prevention, case finding, and effective cures,
- a reliable communication and transportation system,
- a reliable and useful financial budgeting, reporting and control system,
- shared information and management control systems,
- regular review meetings to monitor progress, evaluate results, identify and solve problems, and enable the introduction of continuous improvements in the programme,
- a benchmarking system to learn and apply lessons learned from other successful TB and MDR-TB control programmes

One vital point emphasized is that the majority of people with contagious tuberculosis in poor countries are not found in hospitals or clinics. They are in their crowded homes spreading the disease unknowingly to other people. The natural tendency of health workers to focus on patients in their institutions will have no effect on the undiagnosed contagious patients in the community. Scheduled visits by inexpensive mobile sputum examination teams to the communities can have a significant role in identifying contagious patients so their treatment and education can be started.

Another vital point is the lack of coordination and communication between TB control personnel and private hospitals and clinics. The heads of TB control programmes need to assume leadership and be the champion of TB control in their respective areas. This means meeting with the heads of all health facilities and programmes to present the problem to them and talk about how they can collaborate in using approved protocols, tracking progress and reaching people in the communities for case finding and follow-up.
Conclusion

The role of managers is to be active participants of an area-wide organization of health services that reaches the community and home levels for effective TB and MDR-TB control. They serve as facilitators for doctors, nurses and community level health workers to enable them to provide treatment without interruption and apply actions for monitoring the control programmes, the absence of which costs and human suffering increase significantly, particularly as a trend in resistance to major anti-TB drugs emerges. Financial support for TB treatment drugs has to be continuous as interruption to the drug therapy process increases the potential and likelihood of resistance to all major anti-TB drugs. Managers in charge of finance and organization of health services have the responsibility of ensuring that such lapses in drug therapy do not occur.

This training manual does not constitute a textbook on TB and MDR-TB control. Such materials already exist, some of which are referenced in the manual. The aim is rather to present summarized information on TB and MDR-TB control and to clarify the roles and skills needed to enable managers (some of whom may be medics, nurses or administrators) participate effectively in developing and maintaining a successful and sustainable TB and MDR-TB control programme in their area.

This training manual is meant for both self-study and study-circle groups within health facilities and will be available in printed format and later provided free-of-charge on-line. In order to meet the various training needs of its participants, the course is available in three versions:

- The workshop version includes lectures, discussions, skill-building individual and group exercises, videos and practical illustrations from real life.
- The eight-week version can be undertaken as a distance-learning course or as a series of one-day workshops over a period of eight weeks. This option uses the same approach as the workshop version, but also allows time for assignments between the sessions.
- The self-study version offers participants the manual as a resource and reference to be used in conjunction with a still to be developed study guide. This version lacks the valuable small group component of the other versions.

It is the intention of the International Hospital Federation to ultimately have the course accredited by a recognised CME accreditation institution once the results of test-case initiatives, to be undertaken, are determined and implemented.