

GUIDELINES *for*

THE PREVENTION

of

TUBERCULOSIS



IN HEALTH CARE FACILITIES IN RESOURCE-LIMITED SETTINGS



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EXECUTIVE SUMMARY

Presently, disease caused by *Mycobacterium tuberculosis* (*M. tuberculosis*) is the leading cause of mortality among adults in the world. Populations in resource-limited settings account for nearly 95% of *M. tuberculosis* infections, with the global burden due to infection of *M. tuberculosis* being approximately 1.1 billion people. In 1998, WHO reported an estimated two million deaths due to tuberculosis (TB).

The WHO strategy to control TB, Directly Observed Treatment, Short-Course Chemotherapy (DOTS), can cure nearly all cases of TB. One of the foundations of DOTS is the administration of standard short-course chemotherapy (SCC) under direct observation to TB patients via health care workers (HCWs). Recent studies performed in developing countries have shown that HCWs caring for infectious TB patients are at increased risk of *M. tuberculosis* infection and disease.

HCWs are essential in the fight against TB and they should be protected. Given the integral nature of HCWs in managing active cases and in preventing further transmission of *M. tuberculosis*, the World Health Organization (WHO) presents these guidelines to provide Member States with limited resources, with inexpensive and effective control strategies for prevention of *M. tuberculosis* transmission in HCWs. These guidelines serve not only to prevent patient-to-HCW transmission, but also to prevent patient-to-patient transmission.

These guidelines provide discussion and recommendations for the district and referral level (thus accounting for the wide variety of health care facilities) based upon three levels of infection control: administrative, environmental, and personal respiratory protection. The first priority in infection control is the use of administrative control measures to prevent the generation of infectious droplet nuclei, thereby reducing the exposure of the HCWs and patients to *M. tuberculosis*. Measures at the referral and district level include development of an Infection Control Plan, HCW training, patient education, sputum collection, triage and evaluation of suspect TB patients in outpatient settings, and reduction of exposure in the laboratory. Additional measures such as isolation of patients with multidrug-resistant TB (MDR-TB) and other isolation policies apply specifically to referral level facilities.

The second priority is environmental control methods that are used to reduce the concentration of droplet nuclei in the air in high-risk areas. Environmental control methods range from inexpensive methods such as maximising natural ventilation and mechanical ventilation, to more costly methods such as ultraviolet germicidal irradiation and HEPA filtration. Environmental control methods should not be used in absence of, or as a replacement for, administrative control measures.

The third priority is to protect HCWs, via personal respiratory protection, from inhaling infectious droplets. Surgical masks prevent the spread of microorganisms from the wearer but do not provide protection to the wearer. Respirators provide protection to the wearer from inhaling infectious droplet nuclei. Respirators are expensive and they should be reserved for high-risk referral hospital settings.

Personal respiratory protection alone will not provide adequate protection for the HCW from infection of *M. tuberculosis*.

HCWs are vital resources in the fight against TB. These guidelines provide cost-effective interventions that can be directly implemented (or modified) within a facility at the district or referral level in any resource-limited setting. Efforts should be made to execute such control strategies to prevent nosocomial transmission of *M. tuberculosis*. Such measures serve not only to conserve resources in terms of direct costs due to treatment of HCWs and indirect costs in terms of loss of HCWs specialising in the management of TB patients, but also in reducing the burden due to tuberculosis.

