

**State of Kuwait
Ministry of Health
Infection Control Directorate**

**Strategic Plan for Elimination of Tuberculosis in
Health -Care Settings**

2007

Strategic Plan for Elimination of Tuberculosis in Health -Care Settings

Vision:

Health Care Settings free of Health-care associated tuberculosis (TB) by 2015

Goal:

Prevent transmission of TB in Health Care Settings.

Objectives:

1. Markedly reduce the risk for exposure of health care workers (HCWs) to TB infectious person (HCWs or patient) in Health Care Settings.
2. Early diagnosis and proper management of Health -Care Associated TB infections.
3. Prevention and control of outbreaks of TB in Health Care Settings.

Action steps:

I. General measures:

1. A written TB infection control program should be applied in all Health Care Settings as a part of an overall infection control program and should be updated annually. The program includes:

- Surveillance system
- TB risk assessment
- TB infection control policies
- Training and education of HCWs

2. Supervisory responsibility of the TB infection control program should be assigned.

3. Infection control program in the following settings should be implemented:

- Inpatient settings include: patient rooms, emergency departments, intensive care units (ICUs), surgical suites, laboratories, laboratory procedure areas, bronchoscopy suites, sputum induction or inhalation therapy rooms, autopsy suites.
- Outpatient settings include: TB treatment facilities, medical offices, ambulatory-care settings, dialysis units, and dental-care settings.
- Nontraditional facility based settings include: emergency medical service, medical settings in correctional facilities (e.g., prisons and jails) home-based health-care, and long-term-care settings, other settings in which suspected and confirmed TB patients might be encountered might include cafeterias, general stores, kitchens, laundry areas, maintenance shops and pharmacies.

4. Initial and ongoing risk assessment (including risk classification into low risk, medium risk and potential ongoing transmission) of the health care setting should be recommended to determine the appropriate level of control to be established.

5. Institutions that don't provide care to persons with TB should have a plan for isolation and prompt transfer of suspected patients to other facility.

6. Problem evaluation should be conducted when a case of suspected or confirmed TB disease is not promptly recognized or when failure to adhere to infection control program occurred.

7. Early identification and control of nosocomial TB outbreak should be conducted:

- When transmission of *M. tuberculosis* is suspected at a facility, an immediate investigation should be undertaken that includes consultation with public health officials and infection control. Evidence of potential transmission of *M. tuberculosis* includes:

1. Clusters of conversions of tests for *M. tuberculosis* infection among employees from negative to positive
2. Increased rates of positive tests for *M. tuberculosis* infection among employees
3. An employee with potentially infectious TB
4. Unrecognized TB among patients or employees
5. Recognition of identical strains on genotyping of *M. tuberculosis* isolates from patients or employees.

II. Measures for patients:

1. High index of suspicion should be maintained by health care providers to suspect TB cases according to case definition established by the national committee for TB control.
2. For suspected cases, the diagnosis should be confirmed or excluded as soon as possible
3. Prompt recognition, airborne isolation, diagnosis and treatment of patients with infectious TB should be established.
4. Persons with suspected or confirmed TB disease who are inpatients should remain in airborne infection isolation (AII) rooms until they are determined to be noninfectious and have demonstrated a clinical response to a standard multidrug antituberculosis treatment regimen or until an alternative diagnosis is made. If the alternative diagnosis cannot be clearly established, even with three negative sputum smear results, empiric treatment of TB disease should strongly be considered. Outpatients with suspected or confirmed infectious TB disease should remain in AII rooms until they are transferred or until their visit is completed

5. Symptomatic patients should wear surgical mask or procedure mask in waiting areas, during transfer or when other persons are present.
6. Airborne isolation should be implemented for patients with suspected and confirmed TB.
7. Cases with infectious TB should be instructed on respiratory hygiene and cough etiquette
8. Patient with infectious TB should be discharged from the hospital only when arrangements have been made to prevent contact with susceptible persons
9. Patients with TB should receive adequate planning for outpatient management to ensure that treatment is continued until a complete course of curative therapy has been administered.

III. Measures for HCWs

1. TB screening for HCWs

TB Screening Procedures for Settings (or HCWs) Classified as Low Risk:

- All HCWs should receive baseline TB screening, according to the Kuwaiti programme.
- After baseline testing for infection with *M. tuberculosis*, additional TB screening is not necessary unless an exposure to *M. tuberculosis* occurs.
- HCWs with a baseline positive (≥ 10 mm) or newly positive test result for *M. tuberculosis* infection (i.e., TST) or documentation of treatment for latent tuberculosis infection (LTBI) or TB disease should receive one chest radiograph result to exclude TB disease (or an interpretable copy within a reasonable time frame, such as 6 months). Repeat radiographs are not needed unless symptoms or signs of TB disease develop or unless recommended by a clinician.

TB Screening Procedures for Settings (or HCWs) Classified as Medium Risk:

- All HCWs should receive baseline TB screening, using two-step TST to test for infection with *M. tuberculosis*.
- After baseline testing for infection with *M. tuberculosis*, HCWs should receive TB screening annually (i.e., symptom screen for all HCWs and testing for infection with *M. tuberculosis* for HCWs with baseline negative test results).
- HCWs with a baseline positive or newly positive test result for *M. tuberculosis* infection or documentation of previous treatment for LTBI or TB disease should receive one chest radiograph result to exclude TB disease. Instead of participating in serial testing, HCWs

should receive a symptom screen annually. This screen should be accomplished by educating the HCW about symptoms of TB disease and instructing the HCW to report any such symptoms immediately to the responsible unit. Treatment for LTBI should be considered in accordance with CDC guidelines.

TB Screening Procedures for Settings (or HCWs) Classified as Potential Ongoing Transmission:

- Testing for infection with *M. tuberculosis* might need to be performed every 8--10 weeks until lapses in infection control have been corrected, and no additional evidence of ongoing transmission is apparent.
- The classification of potential ongoing transmission should be used as a temporary classification only. It warrants immediate investigation and corrective steps. After a determination that ongoing transmission has ceased, the setting should be reclassified as medium risk. Maintaining the classification of medium risk for at least 1 year is recommended.

2. HCWs with TB disease should be allowed to return to work when they:

- Have had three negative acid fast bacilli (AFB) sputum smear results collected 8-24 hours apart, with at least one being an early morning specimen and,
- Have responded to antituberculosis treatment that will probably be effective based on susceptibility results.
- In addition, HCWs with TB disease should be allowed to return to work when a physician knowledgeable and experienced in managing TB disease determines that HCWs are noninfectious. Consideration should also be given to the type of setting and the potential risk to patients.

3. Health care workers should use respiratory protection (N-95 respirator) while in contact with suspected or confirmed cases.

4. HCWs should regularly receive ongoing training and education on TB.

IV. Measures for the Environment:

1. Newly constructed Health Care Settings should be provided with AII room(s) for placing confirmed or suspected patients.
2. Local exhaust ventilation (e.g., enclosed, ventilated booth) should be used for cough-inducing and aerosol-generating procedures. When local exhaust is not feasible, perform cough-inducing and aerosol-generating procedures in an AII room.
3. High-Efficiency Particulate Air (HEPA) filters for air cleaning should be used when:
 - Discharging air from local exhaust ventilation booths or enclosures directly into the surrounding room or area
 - Discharging air from an AII room to be re-circulated into general ventilation system
 - Discharging air from an AII room to outside (as an added safety measure)
 - No AII room is present in the facility; so, HEPA filters should be used for air cleaning and to augment number of air changes per hour.
4. Ultraviolet germicidal irradiation (UVGI) for air cleaning can be used in:
 - Ducts that re-circulates air back to the same room.
 - Ducts that exhaust air directly to outside.
5. Based on the risk assessment for the setting, the required number of AII rooms, local exhaust and air cleaning devices should be determined.

V. Plan assessment and evaluation:

The plan should be assessed and evaluated on annual basis and as necessary.

VI. Funding:

Calculation of funds will be based on provisional data provided from risk assessment.