

Section 4

Enclosures

Enclosure Title

Program & Facility Planning Guidance for TB
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Department of Veterans Affairs
Veterans Health Administration

Program and Facility Planning Guidance
for Tuberculosis Programs
August 18, 1995

OVERVIEW

Over the last several years, the issue of tuberculosis (TB) has been prominent in both the medical literature and the national press. This has been emphasized in the last year coincident with an increased public awareness of emerging and re-emerging pathogens on the national and global level. Finally, and after much work, the actual number of new cases of active tuberculosis disease is decreasing nationally with the most notable decrease in the New York area. However, the TB epidemic continues particularly along the coast of the United States. No section of the country has been completely spared, however, as cases of tuberculosis have been identified in all VHA Regions.

To effectively plan and implement a tuberculosis program facilities must obtain information on current and projected TB workload, evaluate and define missions related to TE, and develop integrated plans for patient care, employee health and enhance facility controls. This TB program guidance will provide a consistent framework for such VA TB program planning,

This planning document is organized in a format that prioritizes overall guidance for TB control based on clinical and epidemiologic priorities. It specifies infection control practices and regulatory requirements, while incorporating work practice controls, engineering, controls, and personal protective equipment into the overall guidance. This is not designed to be a regulatory compliance document, but rather to integrate the various components of tuberculosis control strategies into the medical facility culture.

CHARACTERISTICS OF A TB PROGRAM

I. Assign Responsibility

While all programs within VA Medical Centers are the ultimate responsibility of the Medical Center Director, it is appropriate to assign the responsibility for the tuberculosis program to a specific qualified person or group of people within the facility. Each facility is to have a coherent, practical and implementable program. Then the program must be implemented, monitored, and evaluated. The program will also ensure that a mechanism will be established to identify responsible parties. For components of the program, establish the program structure, and define the hierarchy of responsibility from TB program officials to the facility Director. Included in this group should be representation from Infection Control, Medical Staff (Infectious Diseases and Pulmonary Medicine if available), Nursing, Occupational Health, Safety/Industrial Hygiene, and Engineering, thus assuring the availability of expertise in all areas of TB control as well as ownership of the program through a multidisciplinary input process.

II. Risk Assessment, Tuberculosis Plan and Periodic Reassessment

An initial facility risk assessment must be undertaken. This includes gathering data regarding the following: tuberculosis in the community, tuberculosis within the facility, skin test conversions within the facility, and other evidence, if any, of person-to-person transmission of TB within the local health care setting. A specific level of risk can be assigned for purposes of planning and monitoring or evaluating intervention strategies to be incorporated into the written facility tuberculosis plan. The plan should include all components of the tuberculosis control strategies for the facility in a format that is concise yet comprehensive. It should be located in a single document or group of documents that are easily accessible by hospital employees. Fragmentation of the tuberculosis control plan with multiple non-centralized documents should be avoided.

This risk assessment will need to be redefined at intervals appropriate to the risk- of transmission of tuberculosis as defined by disease/infection prevalence in the community and the facility. Specifically, changes in case rates for the facility or the community, clusters of skin test conversions, or other evidence suspicious for facility TB mission will necessitate immediate reevaluation of the facility risk. The repeat risk assessment should also include evaluation of the effectiveness of the extant, local methodologies for prevention of TB transmission.

III. Identification, Evaluation, and Treatment of Patients with Tuberculosis

The most important factors in preventing transmission of *Mycobacterium tuberculosis* are the early identification of patients who may have infectious TB, prompt implementation of TB precautions for such patients, and prompt initiation of effective treatment for those who are likely to have TB.

For patients presenting to the health care facility for care, screening for signs and symptoms of TB should be done in the initial triage locale. The detail and extent of this screening process should be determined based on the facility risk category. An example of a suitable screening methodology would be questioning the patient regarding cough lasting greater than three weeks, weight loss, night-sweats and malaise. A facility should individualize its screening methodology in the most appropriate manner for its own risk stratum based on perceived risk to other patients and employees. As patients present for care in high or moderate risk areas, the issue of initial triage is extremely critical. Consideration should be given to speed of triage, traffic patterns as patients move about in admissions area, clinic assignments, and risk to employees performing administrative functions. Any triage system must be designed to prevent patients with suspected or known infectious tuberculosis (S/KI TB) from moving about the facility in an unprotected manner.

Tuberculin skin testing for high risk patients (methodology to meet most current CDC Guidelines) is designed to identify patients who are infected with *Mycobacterium tuberculosis* before they develop symptoms (cough, fever, sweats, weight loss) of active disease and become infectious.

For long-term care facilities, screening prior to admission should include PPD testing (following most recent CDC and VA guidance) and/or chest x-ray as appropriate (routine screening chest x-rays should only be implemented based on local risk assessment), and include a focused physical examination. In high or moderate risk areas this should be done prior to admission to the long-term care facility. In minimal or low risk areas, this screening may be completed within 72 hours of admission if adequate triage is accomplished.

A. Patient Masks

When any patients are identified as having S/KI TB, they should wear a surgical mask and be placed in rooms meeting identified engineering controls 'or S/KI TE patients as noted later in this document.

B. Tuberculin Skin Test (TST) for High Risk Patients

Screening for high risk individuals must be a hospital-wide policy. This includes, but is not limited to, timely ongoing screening of HIV-positive patients, dialysis patients, the homeless, substance abuse patients and patients in other high risk special programs such as Hospital Based Home Care (HBHC) and others as identified by the facility. All these screening programs should use the most current CDC-defined methodology for TST. If a patient has signs or symptoms suggestive of tuberculosis disease, a full evaluation must be conducted.

C. Laboratory Assessment

It is critical to expedite the evaluation and treatment of patients with S/KI TB. This includes access to current laboratory technology for acid fast bacteria (AFB) smears, cultures, and susceptibility testing.

1. AFB smears, the following is necessary:
 - a. Available five days per week and reported within 24 hours of specimen receipt
 - b. Consideration should be given to seven days per week for areas with a high incidence of TB
 - c. One sputum per patient per day should be sufficient

2. Cultures for *Mycobacterium tuberculosis*, the following is needed:
 - a. Available five days per week
 - b. Rapid identification methodology

Smears and culture results should be reported immediately to designated person(s). This must include the care provider and should be reported to the Infection control function.

3. Susceptibility testing for *Mycobacterium tuberculosis*, the following, is appropriate:
 - a. First isolate
 - b. Additional isolates if:
 - (1) failure to convert cultures within three months of beginning therapy
 - (2) clinical evidence of failure to respond to therapy
 - (3) other specific circumstances may dictate additional susceptibility testing.

It is not required that all of these activities be done on station. It is the facility's responsibility to assure that rapid, current diagnostic laboratory testing for *Mycobacterium tuberculosis* is readily available to the clinicians. The guidance above should be used as a basis for individual station decision-making regarding specific time frames and location for each of the studies noted above based on patient care needs. These decisions should be documented in writing in the facility tuberculosis control plan to ensure facility-wide consensus by the process stakeholders on these critical clinical testing issues.

D. Patient Management

If the patient has been identified as having active tuberculosis disease, initiation of therapy should be prompt using the most current CDC guidelines.

After a patient has been identified as having S/KI TB, the patient should be placed in a room meeting the engineering control guidelines noted below in this document. Enablers may be necessary to assure that the patient remains in this controlled environment, since patients cannot be allowed to wander about the hospital in an unprotected manner. Enablers, such as television sets, telephones, bathing facilities, and recreational activities may be important to maintain these precautionary measures. In order to maintain proper directional air flow in the rooms, the doors must remain closed. If the patient must be out of the room for clinical purposes, the patient should wear a surgical mask and administrative arrangements made to expedite the return of the patient to the negative pressure room. Discharge and follow-up planning should be initiated as soon as possible in order to assure seamless transition between the hospital setting and outpatient care. This will likely involve the VHA outpatient clinic system and the governmental health department from which the patient may receive follow-up. As part of this process, immediate reporting of tuberculosis patients to the health department consistent with VA rules and regulations is necessary.

E. Visitors

Visitors to patients who have S/KI TB should be given respirators to wear while in the isolation rooms, and they should be given general instructions on how to use their respirators (CDC Guidelines *MMWR*, October 28, 1994, Vol. 43, No. RR-13, p28).

F. Discontinuation of AFB Precautions

The following criteria must be used for discontinuing precautions for patients in the Medical Center with S/KI TB:

1. The patient is found not to have tuberculosis
2. The patient is on appropriate therapy; (it should be noted that appropriate therapy needs to be defined at the local level based on community incidence of multi-drug resistant tuberculosis, tuberculosis susceptibility testing of facility isolates, and the specific known susceptibilities of the patient's organism) and A positive clinical response to therapy and Three consecutive negative AFB smears collected on separate days

IV. Engineering Controls

A. General Guidelines

The CDC guidelines are the minimum acceptable level, and should be increased where required to satisfy other mandated criteria or engineering requirements. Where current VA criteria exceed the CDC guidance, the use of VA criteria is recommended. However, if existing configuration or cost do not allow compliance to more stringent VA criteria, then the CDC guidance is the minimum acceptable.

1. Six total air changes per hour are likely to reduce the concentration of bacteria the room. For the purposes of reducing the concentration of droplet nuclei, TB bedrooms and treatment rooms in existing health care facilities should have an airflow of greater than or equal to six air changes per hour. Where feasible, this airflow rate should be increased to greater than or equal to 12 air changes per hour. New construction or renovation of existing health care facilities should be designed so that TB bedrooms achieve an airflow of greater than or equal to 12 air changes per hour.

2. Air from TB bedrooms and treatment rooms for S@ TB patients should be exhausted to the outside. The air should be exhausted in a manner and location so that it is not pulled into intake louvers or windows without significant dilution. At a minimum, the exhaust shall be 25 feet from any air intake. However, other factors, such as wind direction, wind velocity, stack effect, system sizes, and height of buildings must be evaluated and location of intake and exhaust outlets adjusted as required. If, in some instances, recirculation of air into the general ventilation system from such rooms is unavoidable, high-efficiency particulate air (HEPA) filters should be installed in the exhaust leading from the room to the general ventilation system. Air from TB bedrooms and treatment rooms in new or renovated facilities should not be recirculated into the general ventilation system.

3. Exhaust air quantity must be 10% greater than the supply air. It is further recommended that the exhaust system should serve only the TB rooms and not be part of the general exhaust system. If this is not practical, then use of the general exhaust system is acceptable provided appropriate precautions are taken to assure that these systems are adequately designed, installed, balanced and maintained. These requirements result in providing additional outside air through the air handling system which then impacts heating and cooling capacities for both air side and primary equipment. In all applications, thermal load calculations or occupancy of the space may require a higher air change rate.

4. Rooms should be under negative pressure with respect to adjacent areas when occupied by a patient with SIKI TB.

5. Anterooms are not necessary for SIKI TB patient bedrooms.

6. The direction of the air-flow for TB rooms shall be monitored daily when an S/KI TB patient is occupying the room. When not in use by S/KI TB patients, the directional allow will be checked monthly. The method of testing for directional airflow in the S/KI TB rooms is at the discretion of the facility, but must be of an acceptable standard. This would include such methodologies as smoke tube testing or an airflow gauge.

7. The number of air changes per hour in these rooms should be checked yearly at a minimum. This may need to be more frequent based on facility risk assessment and recommendations of the Environmental and Infection Control Committee. In addition, the number of air chances per hour should be checked after any maintenance to the airflow system.

8. In rooms where patient turnover is expected, use CDC guidelines (*MMWR*, October28, 1994,Vol.43,No.RR-13) for airchanges per hour to determine time required for removal of airborne contaminants before the next patient occupies the room vacated by a patient with S/KI TB.

9. When in use by SIKI TB patients, doors in negative pressure rooms must remain closed, except for entering or exiting the room. Proper airflow and pressure differentials between areas are difficult to control because of open doors, movement of patients and staff, temperature, and the effect of vertical openings. Air pressure differentials can only be maintained in completely closed rooms. An open door reduces or eliminates the desired effect of negative pressure rooms. Whether windows are needed in doors to S/KI TB patient bedrooms is a local decision.

10. Medical Centers and outpatient clinics should consider providing emergency power to exhaust systems serving inpatient TB rooms and to some of the ambulatory care rooms designated for management of S/KI TB patients. The potential risks to patients and staff, available emergency power system capacity, and relative priority of other functions covered by emergency power should be carefully evaluated when considering costly emergency power system emergency expansion.

B. Medical, Surgical, and Neurological (MS&M) Nursing Acute Care Units

To determine the number- of TB rooms, use the following formulae to determine number of patient bedrooms for cases of S/KI TB:

1. Current need: (Identify the maximum number of patients requiring respiratory precautions for S/KI TB at any one time within the past 12 months,) x (change in incidence of TB in community over the past year).

2. Projected Need: Using the estimated change in the population in the facility, Distributed Population Planning Base (DPPB) for any Future year, calculate future needs based on current estimate as determined above multiplied by this population change ratio.

EXAMPLE 1- All specific numbers are for illustrative purposes only.

15.0	-	Maximum number of patients requiring AFB precautions at one time (e.g., 15)
<u>x 1.05</u>	-	Change in community incidence (this represents a 5% increase in community incidence)
15.75	-	Need for TB beds based on changes in TB incidence in community
<u>x 10.85</u>	-	Correct for future anticipated changes in veteran population (this represents a 15% decrease in expected veteran population)
13.38	-	Projected no. of AFB precaution beds needed corrected for calculated changes in veteran population and community incidence

C. Nursing Unit Organization

1. High Incidence Area or Referral Center:

Medical Centers with sufficient workload or those assigned the mission of referral center may choose to concentrate all TB bedrooms on an existing MS&N nursing unit designated for TB inpatient care. Or, they may designate bedrooms to be used for TB care throughout their facility. In establishing groups of TB bedrooms on an MS&N nursing unit, a Medical Center should renovate a contiguous sub-set of the bedrooms on the unit to meet HVAC and bathroom requirements; not necessarily the entire ward. The

number of bedrooms included in the sub-set would be based on anticipated workload determined for that facility. The following facility requirements must be met:

- a. All one-bed rooms designated for TB must meet CDC guidelines for S/KI TB
- b. Each one-bed room must have a private bathroom and should have a shower where possible. Safe shower facilities are to be available, however, if the bedroom for S/KI TB patients does not offer these facilities
- c. Anterooms are not required for the negative pressure rooms designated for S/KI TB
- d. For S/KI TB patients, examination/treatment rooms and any other special treatment rooms where sputum induction, aerosol treatments and/or cough or aerosol-generating procedures are performed should meet CDC requirements for infectious TB with the additional requirement of 12 or greater air changes per hour. Ultraviolet germicidal irradiation (UVGI) may be used as an enhancement to the recommended engineering controls.

2. Low Incidence Areas

For those facilities anticipating a low S/KI TB workload, little or no change to existing nursing units may be required. Existing VA space planning criteria for MS&N nursing units (see Planning Criteria for VA Facilities, Handbook 7610 Chapter 100.04) requires two isolation suites per nursing unit. These rooms will be capable of providing negative or positive pressure and have an anteroom and attached private bathroom. Minimum air changes are 8 per hour with 100% outside exhaust through a HEPA filter. If these rooms are not currently provided or if additional rooms are needed for S/KI TB patients then these additional rooms must meet CDC guidance for S/KI TB and have a private bathroom. An existing 2-bed room which has appropriate ventilation airflow and bathroom facilities meeting, at a minimum, current CDC guidance for S/KI TB, may be scheduled for use by a single TB patient as a low cost alternative to constructing or renovating an additional 1-bed room.

Sputum induction, aerosol treatments and/or cough or aerosol-generating procedures should be performed either in TB bedrooms or other rooms that meet CDC guidance for S/KI TB.

D. MH&BS Nursing Units (Mental Health and Behavioral Sciences)

In general, no rooms should be required for S/KI TB patients as they should be transferred to an appropriate MS&N nursing unit for diagnosis and treatment as needed until they are no longer infectious.

E. Intensive Care Units (ICUs)

1. Existing ICUs should meet current VHA space planning criteria (see Planning Criteria for VA Facilities, Handbook 7610 Chapter 102.05) for the number of isolation suites and at a minimum meet CDC criteria for ventilation for S/KI TB.

2. All ICUs which utilize return air systems shall have the return air HEPA filtered. Installation of ultraviolet (UV) lamps may be considered in ICUs which there is a high risk for TB transmission. All ICU rooms housing S/KI TB patients must, at a minimum, meet the current CDC guidance for S/KI TB.

F. Post Anesthesia Recovery Units (PARUs)

Medical Centers should have at least one recovery room within the PARU meeting at a minimum CDC ventilation criteria for S/KI TB. As an option, especially in low-incidence areas, Medical Centers may recover surgical patients with S/KI TB in an ICU isolation suite or room that meets CDC guidance for S/KI TB.

G. Surgical Suite (See *MMWR*, October 28, 1994, Vol. 43, No. RR- 13, p. 50-51 for details)

1. Existing VHA facility criteria (see HVAC Design Manual) and standards for surgery are appropriate for surgical care of S/KI TB patients. Current VHA criteria exceed the CDC guidelines. Typically, no changes will be required unless return air is used in the OR. VA criteria have not sanctioned the use of return air in ORs for many years.

2. Traffic patterns should be designed to reduce unnecessary movement throughout the surgical suite, hallways and other associated areas when surgery on a patient with S/KI TB is performed.

3. Appropriate scheduling and other controls are necessary for surgery on S/KI TB patients since positive pressure airflow is used in operating rooms.

H. Long Term Care

In general, no rooms are required for S/KI TB patients as they should be transferred to an appropriate MS&N nursing unit for diagnosis and treatment as needed until they are no longer infectious.

I. Ambulatory Care

1. Determining the Number of TB Rooms:

Determining the number of TB rooms in the Ambulatory Care setting should be in alignment with the facility risk assessment. Specifically, facilities in the lowest risk assessment category may not need rooms with specific tuberculosis engineering controls at all, but rather a written plan for dealing with the possible event of a S/KI TB patient reaching the facility. For facilities above the minimal risk category, the following is a suggested method for determining the number of exam/treatment or special treatment rooms designated for S/KI TB patients in unscheduled ambulatory care areas (hospital-based, satellite, and independent OPCs):

a. Obtain the estimated eligible veteran population for the facility from DPPB for any specified future year and the current eligible veteran population for the facility.

b. Each facility should generate the estimated number of potential unscheduled S/KI TB patient visits per year.

c. Calculate the projected number of potential unscheduled S/KI TB Patient visits per year using the following formula:

A = Estimated eligible veteran population for the facility from the DPPB for any specified future year

B = Current eligible veteran population for the facility from DPPB

C = Current number of potential unscheduled S/KI TB patient visits

D = Projected potential unscheduled S/KI TB patient visits per year

$$(A \div B) \times C = D$$

EXAMPLE 2 - All specific numbers are for illustrative purposes only.

(A)
400,000 - Estimated population for a future year (e.g., 400,000 for the year 2000)

(B)
÷ 450,000 - Current veteran population (e.g., 450,000)

÷ 0.88 - Result of A ÷ B

(C)
480 = Current number of unscheduled S/KI TB patient visits per year (e.g., year 2000)

(D)
422.4 - Results of A ÷ B x C which is the estimated number of unscheduled visits of S/KI TB patients for future year (e.g., year 2000)

d. Provide the number of designated TB exam/treatment or special procedure rooms as determined below using the potential SIM TB patient visit estimated generated in 1. I.c. above.

CALCULATED POTENTIAL UNSCHEDULED S/KI TB PATIENTS VISITS (PER YEAR)	DESIGNATED TB EXAM/TREATMENT ROOMS
500 OR LESS	Use emergency area isolation room
501-1000	One additional TB room
Each additional 1000	One additional room

Designated TB rooms determined above may be located in the walk-in clinic module and/or in other modules to meet local operating procedures and needs.

2. Facility/air:

a. Meet at a minimum current CDC guidelines for unscheduled areas and high risk clinics.

b. Meet a minimum current CDC guidelines for ventilation and airflow for S/KI TB:

- (1) Emergency area Isolation room(s) (anteroom not required)
- (2) ENT room(s)
- (3) Aerosolized pentamidine room(s)
- (4) Designated exam/treatment/procedure room(s)

3. Unscheduled areas

All unscheduled ambulatory care areas and associated waiting- areas should have ventilation designed and maintained to reduce the risk of tuberculosis transmission. Germicidal UV lamps and/or HEPA filters may provide additional benefit when used to supplement ventilation, particularly in facilities located in areas of high incidence for TB.

4. Scheduled areas (clinics)

All scheduled areas serving patients who are at high risk for TB transmission should be designed to reduce the risk of TB transmission. Air from clinics serving patients at high risk for TB should not be re-circulated unless it is first passed through an effective high-efficiency filtration system (HEPA filters are currently the effective high-efficiency filtration system available).

5. Designated exam/treatment rooms for S/KI TB

VHA ambulatory care programs in Medical Centers and in satellite/independent outpatient clinic must have some facilities that are adequate to deal with S/KI TB patients. These TB rooms can be exam/treatment rooms and/or special procedures rooms that are designated for use with S/KI TB patients. These rooms should meet CDC guidance for S/KI TB with the additional requirement that a minimum of 12 air changes per hour must be exhausted (See IV.A.2). These rooms would normally be located 'm or near the walk-in clinic module.

J. High Risk Areas

1. Potential Aerosol Producing Procedure Areas:

a. The pulmonary function laboratory (including spirometry and exercise rooms), bronchoscopy area(s), pulmonary function treatment rooms, and sputum induction areas and any other special procedure room (e.g., ENT) in which cough inducing procedures are done on patients who may have infectious TB must meet CDC guidelines for S/KI TB with the additional requirement that a minimum of 12 air changes per hour must be exhausted. Additionally, airflow rates should be calculated on expected patient turnover in these treatment areas based on the most recent CDC guidance.

b. Any room (e.g. examination/treatment room procedure room) in the health care facility in which aerosolized pentamidine (AP) procedures are performed on patients who may have infectious TB must meet CDC guidelines for infectious TE with the additional requirement that a minimum of 12 air changes per hour must be exhausted (See IV .A-2). Additionally, airflow rates should be calculated on expected patient turnover in these treatment areas based on the most recent CDC guidance. If a booth or other containment entity is used for any potential aerosol producing procedure, booth airflow and exhaust should meet CDC guidelines.

K. Radiology

At least one radiology room with chest x-ray capabilities should meet CDC guidance for S/KI TB. Both ambulatory care and in-patient programs can share this negative pressure radiology room if feasible. This specialized room with these engineering controls may not be necessary in facilities in the minimal risk category.

L. Anatomic Pathology:

The morgue must meet at a minimum CDC guidance for infectious TB and follow current VA criteria with a minimum of 12 air changes per hour with 100% exhaust to the outside through a HEPA filter.

M. Dental

At referral centers and at facilities in which emergency dental care is provided, at least one dental operators should meet CDC guidance for S/KI TB. Other health care Facilities may send S/KI TB patients for dental. care to referral centers based on workload and travel distance.

N. HIV-related Issues

No, specific heating, ventilation and air conditioning (HVAC) considerations are necessary for patients with HIV infection.

O. Dialysis Program

A room which meets at a minimum current CDC ventilation and airflow guidelines for S/KI TB must be available for dialysis of S/KI TB patients. The location of this area is at the discretion of the facility. Based on local need this area may be in the dialysis unit or ICU, or other area in the Medical Center based on patient need and efficient use of resources.

V. Respiratory Protection

A. General Criteria

Performance criteria for respiratory protective devices as outlined in the most recent CDC guidance are to be met. This requires a respiratory protection program that follows the regulatory requirements of the Occupational Safety and Health Administration (OSHA) as well as American National Standards Institute (ANSI) Standards.

B. Respiratory Protective Devices

Respiratory protection is required for persons entering rooms in which patients with S/KI TB are being housed, for persons present during cough-inducing, aerosol-generating procedures performed on such patients, and for persons in other settings where administrative and engineering controls are not likely to protect them from inhaling, infectious airborne droplet nuclei. These other settings include transporting patients who may have S/KI TB in emergency transport vehicles, and providing urgent surgical or dental care to patients who have S/KI TB before determination has been made that the patient is non-infectious. These settings may also include home based health care programs, where patients with S/KI TB are being seen in the home setting.

In the Mycobacteriology Laboratory, routine use of respiratory protective devices should not be necessary. However, if the laboratorian is working with significantly amplified *Mycobacterium tuberculosis* cultures in liquid media, or performing specific procedures where aerosolization is expected, the use of respiratory protective equipment, gloves and gowns may be appropriate. The most recent standards for laboratory practices should be followed.

VI. Healthcare Worker Training

All health care workers are to receive periodic TB education appropriate for their work responsibilities and duties and should include epidemiology of TB in the facility, mode of transmission, pathogenesis, diagnosis, and occupational risk for tuberculosis. The training should also describe work practices that reduce the likelihood of transmitting *Mycobacterium tuberculosis* in the healthcare setting. The training must be given to all those who work at the VA Medical Center who are at risk for the transmission of tuberculosis. All training is to follow the latest written regulatory requirements of valid oversight bodies such as OSHA.

VII. Healthcare Worker Counseling And Screening

All healthcare workers should be counseled regarding tuberculosis disease and tuberculosis infection. This should include information about the increased risk to immunocompromised persons for developing active tuberculosis disease.

VIU. Personnel Health

A. TB Screening using most current CDC methodology

1. Prior to employment, TST results are required for covered employees who work in the VHA- For any TST done outside the Personnel Health Unit on station, appropriate written documentation must be provided as detained by the Personnel Health Physician.

2. Interval TST screening as detained by risk assessment as outlined in the most recent CDC guidance should be conducted.

3. TST is recommended at the time of separation for all employees

4. Follow all pertinent VACO Directives and Manual references related to TB screening

B. Record keeping

1. Record keeping is critical for the long term needs of the employee, station, and regulatory compliance
2. Record keeping to comply with VHA directives, manuals, and valid regulatory agencies' requirements

C. Return to work clearance for health care workers with S/KI TB

1. At a minimum, return to work clearance should follow current CDC guidelines
2. Employees must be monitored for lack of infectiousness

D. Healthcare Worker TST Conversions

The facility must track and evaluate TST conversions in order to document possible episodes of transmission of tuberculosis in the healthcare setting, to define the facility risk assessment category and to identify facility TST conversion rates.

IX. Coordination with Health Department

It is critical that VA facilities coordinate all phases of tuberculosis control with appropriate health department authorities. Prompt reporting to public health authorities is a critical component of TB control. It is most critical that the discharge planning for individual patients be done in close alignment with community health officials.

X. Child Day Care

For facilities with child day care facilities state and local guidelines regarding tuberculosis screening and/or tuberculosis control programs should be followed.

XI. References

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7. 5 United States Code, Section 552A, Privacy Act.

8. Title 38, United States Code, Committees on Veterans Affairs - Patient Rights January 31, 1992.
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10. VA Regulations, Title 38 Code of Federal Regulations, Part 1, General Trans. Sheet 177, Safeguarding personal Information in VA Records. May 9, 1986.
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HVAC REQUIREMENTS IN TB ISOLATION ROOM SUITE

(NEW CONSTRUCTION)
 SEE VA PRIMER OF MAY, 1997, FOR GRAPHIC INFORMATION

1. Indoor Design Conditions:

Area	Summer Degree C (Degree F)	Winter Degree C (Degree F)	HVAC Design Manual Ref.
Bed Room	24 (76) - 50%RH	25 (78) - 30% RH	Application. A36
Ante Room (If provided)	25 (78) -50% RH	22 (72) - 30% RH	"
Bathroom & Toilet	25 (78)	22 (72)	"

2. Minimum Air Changes per Hour:

Area	Air Changes	HVAC Design Manual Ref.
Bed Room	12	Application. A36
Ante Room (If provided)	12	"
Bathroom & Toilet	10 (No supply)	Para. 3.5

3. The use of Ante room is not mandatory, however, its need should be discussed with the facility. Application. A36
4. All air from bed room, ante room (if provided), bathroom & toilet should be exhausted to outside through a dedicated exhaust system. "
5. Maintain negative pressure in bed room with respect to ante room. Maintain negative pressure in ante room with respect to corridor. Maintain negative pressure in bath room & toilet with respect to bed room. "
6. The supply air to the bed room and ante room shall be constant volume with terminal reheat. "
7. Provide an individual air flow control valve in each individual space exhaust branch for control reason. See VA standard detail 15900-7 and 7A, but controls should be set up for isolation room Mode 1 only, and NOT MODE 2 FOR REVERSE ISOLATION. "
8. The use of HEPA filters in the 100% exhaust from the TB isolation suite is not necessary, but its use should be considered wherever exhaust air could possibly reenter the system. CDC Guidelines
9. Negative pressure in the bed room should be monitored daily while the room is occupied. Application A36
10. Exhaust fan for TB isolation suite is not required to be on emergency power. Consult facility staff.. "

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