

NURSING DIRECTIVE

SUBJECT: Tuberculosis Contact Investigation

SECTION: Standards of Care

SUMMARY: The investigation of persons exposed to infectious tuberculosis (TB) clients and treatment of those found to be infected are important components of TB prevention and elimination strategies within the United States.

BRIEF BACKGROUND: Contact investigations are complicated undertakings that require hundreds of interdependent decisions, the majority of which are made on the basis of incomplete data and dozens of time-consuming interventions. These actions may include those related to decisions to initiate a contact investigation, assign priorities to contacts, the evaluation and treatment of contacts, expansion of investigations, and communication through the public media. Factors such as the extent of disease in the index client, the duration of exposure, proximity of the individuals, and air circulation during the exposure all influence the likelihood of transmission to any given contact. Other medical factors including immunosuppression in the contact can also influence the likelihood of infection or disease following an exposure.

It is beyond the scope of this document to cover all situations that may arise during an investigation of any one individual or community. Additional considerations may come into play for certain populations. All nurses involved in contact investigations should have immediate access to guidelines, policies and procedures published by the Centers for Disease Control and Prevention (CDC) and the Virginia Department of Health (VDH), TB program. All nurses leading the contact investigation should have completed the VDH TB Training and Competency Assessment.

PROCEDURE/DIRECTIVE:

Initiation and Reporting of Contact Investigation

1. Contact investigation is the responsibility of the local health department. Services related to the investigation and evaluation of contacts are provided free of charge. Refer to the current [VDH Eligibility Guidelines](#).
2. A contact investigation should be initiated if the index client has a confirmed or presumptive pulmonary, laryngeal, or pleural TB. Index clients with smear positive confirmed or presumptive disease are the highest priority.
3. For a contact investigation of a smear negative case, identification of high-priority contacts should be undertaken, and evaluation of those contacts should be initiated.

4. Refer to Figure 1 on page 5 of MMWR "[Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis](#)" for decision guidance for other categories of clients.
5. The VDH TB Program should be notified with 24 hours and consulted for all contact investigations involving congregate settings such as jails, detention facilities, prisons, nursing homes, assisted living facilities and schools. Information can be included in the electronic initial notification [to the VDH TB Program of a new presumptive/confirmed case](#), by calling a TB nurse consultant, or by emailing tuberculosis@vdh.virginia.gov.
 - a. If for other reasons there is high suspicion of media involvement, alert the VDH TB Program.
6. VDH TB Program should be consulted for all contact investigations and treatment decisions involving contacts of MDR-TB and XDR-TB cases.
7. The client should be interviewed **within 3 business days** of initial notification for contact information. A minimum of two interviews during the early treatment phase is recommended. The interview should be face to face in the hospital, clinic, home or other convenient location that accommodates privacy and infection control considerations. Interview topics should include but are not limited to:
 - a. Demographic information
 - b. Concurrent medical conditions and treatment
 - c. History of previous exposure to TB
 - d. History of previous TB disease and treatment
 - e. Symptoms of illness and onset
 - f. Potential transmission settings – include where spent nights, worked, ate, visited, spent leisure time, exercised, worshipped, congregate settings, routine and non-routine travel, routine travel modes. Discuss length of time and frequency at named settings.
 - g. List of possible contacts – discuss length of time and frequency of exposure

Prioritization and Determination

1. To determine the period of infectiousness, follow the "[VDH Guidelines for Estimating the Start of the Infectious Period when Initiating TB Contact Investigations](#)" and Table 2 on page 7 of MMWR "[Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis.](#)"
2. Arrange for site visits to settings determined to be priority settings for investigation. Visits to some settings may be deferred pending the outcome of initial investigation and testing. Depending on the type of site, assess for number and spacing of people within site, room size, general ventilation and air flow patterns, and environmental clues for potential transmission, i.e., presence of toys when no children are listed as contacts.
3. In order to prioritize contacts for evaluation, best practice is to follow Figures 2, 3 and 4 of MMWR "[Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis.](#)"
 - a. All **high priority** contacts of index cases that are **sputum smear positive**

- or have cavitary chest x-rays** should be contacted with 7 business days from listing as a contact and complete the initial evaluation process as listed below within 5 business days of first encounter.
- b. All **high priority** contacts of index cases that are **sputum smear negative** should be contacted within 7 business days from listing as a contact and complete the initial evaluation process as listed below within 10 business days of first encounter.
 - c. All **medium priority** contacts regardless of smear or culture results should be contacted within 14 business days from listing as a contact to determine if the individual has risk factors that warrant a high priority designation. Any required evaluation should be completed within 10 business days of first encounter.
4. Follow "[VDH Guidelines to Assist in Determining the Need for Contact Investigation and Prioritizing Public Health Response](#)" and Figures 5, 6, 7, 8, and 9 of MMWR "*Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis*" for guidance in the evaluation, treatment and follow-up of contacts.
 5. Regardless of the result of testing for TB infection (i.e., TST or IGRA blood test), all **symptomatic contacts** should be evaluated immediately with chest x-ray (CXR), sputum or other bacteriology testing and be evaluated by a physician, physician's assistant or nurse practitioner as soon as it can be arranged.

Follow Up on Contact Investigation Results

1. All contacts with a new positive test for TB infection should receive a CXR. If the CXR is abnormal, sputum x 3 should be collected.
2. All contacts found to have latent tuberculosis infection should be offered treatment for latent TB infection according to "*VDH Guidelines for the Use of Isoniazid/Rifapentine for Treatment of Latent TB Infection in Health Department Settings*" or MMWR "*Targeted Testing and Treatment of Latent TB Infection*" with consideration given to the resistance pattern of the source case.
3. Individuals with a known past positive test for TB infection should be screened for symptoms compatible with active TB disease during both the initial and second round evaluation.
 - a. Further evaluation including a CXR is required if these contacts are symptomatic.
4. If the individual has not completed treatment for LTBI, this can be considered if the individual is interested. A CXR is needed prior to the initiation of single drug treatment but is not considered part of the contact investigation follow-up.
 - a. If bacteriology samples are collected for any contact, **treatment for LTBI should be deferred until final culture results are received** and active disease is ruled out. As appropriate, an individual may be started on a standard 4-drug regimen as a presumptive.
 - b. Additional enhanced evaluation and treatment recommendations may be made for contacts in an outbreak situation. VDH TB Program will work closely with districts in outbreak investigations and follow-up for contacts in these situations.

Children and Immunocompromised Contacts

1. All contacts that are under age 5 or immune-compromised should have a PA and lateral CXR and physical examination regardless of the result of a test for TB infection. Contacts that are under age 5 or immune-compromised should be placed on [window prophylaxis](#) if all test results are negative and active TB disease is not suspected.
 - a. If the result of the second test is negative, and the child is at least 6 months of age, window period treatment can be discontinued, and the child can be considered not infected. However, in some circumstances where TST and IGRA results may be unreliable (such as children < 6 months of age or severely immune compromised children or adults), the individual may receive a full course of LTBI treatment at the discretion of the treating physician. See [LTBI Clinical Guidelines for more information](#).

Expansion and Conclusion of Contact Investigation

1. Decisions to expand a contact investigation should be made in conjunction with clinical team and VDH TB Program and should not be undertaken unless all high and medium priority contacts have been located, evaluated and appropriately treated.
2. At the conclusion of the investigation, a summary detailing the infectious period, basic history of exposure, sites investigated, and numbers of contacts identified, evaluated, found to be infected and treated should be prepared and filed in the case record. The report should contain aggregate numbers only. For confidentiality reasons, it should not contain contact names. A more extensive summary report may be needed for large investigations or where significant transmission occurred.
3. Case manager should submit the final 502, available on the VDH TB Program [website](#), as soon as possible upon completion of the contact investigation when all information is available, including treatment completion information.
 - a. For contact investigations in which screening/testing was **NOT performed by the local health department**, submit this summary report when complete information is available (including treatment completion data). The form is available on the VDH TB Program [website](#).

Recordkeeping

- Documentation is needed for all encounters with the TB program. A [TB Risk Assessment](#) form appropriate for some clients.
- Contact investigation forms and documentation should be filed in a separate prong folder adjacent to the patient record. The folder should be labeled “Contacts of [Case Name].” The TB 502 or a printout from an electronic file containing the same information as the TB 502 should be emailed with encryption to

tuberculosis@vdh.virginia.gov or faxed to 804-416-5178 according to the schedule established by TB program.

- A case management record is needed for:
 - All clients who meet one or more of the following criteria:
 - Referred for chest x-ray
 - Sputum collected
 - Identified as a presumptive or active case of TB disease regardless of the source of medical care or site of disease.
 - Recommended for treatment for LTBI as a contact to an active case regardless of the source of medical care or if treatment is chosen
 - Recommended for treatment for LTBI as a reactor by the local health department
 - Documentation by Exception chart forms are not appropriate for inclusion in the TB case management record.
 - Refer to VDH TB Program guidelines for Use of the TB Case Management record. Case records and records for suspects on trial course of treatment for presumed active disease should be filed in appropriate sized folder.
 - VDH TB Program record forms, test results and other medical records should be filed in the client record according to agency guidelines for assembling client records, but in such a way that bacteriology, blood and radiography results are filed together in orderly fashion to facilitate ongoing monitoring
 - Record Retention Information
 - A TB Risk Assessment form or Contact Investigation form alone may be appropriate for contacts with negative test results or patients with a positive test for infection and negative CXR that refuse treatment. All clients receiving medications need a health history form for 340b compliance.

EVIDENCE BASE:

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Directive Comments and Feedback

Comments and feedback regarding this directive should be directed to the Director, Public Health Nursing (804) 864-7014.