

Tuberculosis (TB) Investigation Guideline

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This guideline simply outlines information about the management and investigation of TB disease and latent TB infection (LTBI). Many aspects of the process such as contact identification, TB testing, and the treatment guidelines are complex and beyond the scope of this document. For complete information, the user MUST refer to (1) *Core Curriculum on Tuberculosis* (CDC), and (2) the KDHE Tuberculosis Program.

Tuberculosis (TB) Disease Management and Investigative Guidelines

CASE DEFINITION

A. Clinical Description for Public Health Surveillance:

A chronic bacterial infection caused by *Mycobacterium tuberculosis*, characterized pathologically by the formation of granulomas. The most common site of infection is the lung, but other organs may be involved. A case meets the following criteria:

- A positive tuberculin skin test, and
- Other signs and symptoms compatible with tuberculosis (e.g., an abnormal, unstable [*i.e.*, worsening or improving] chest radiographs, or clinical evidence of current disease), and
- Treatment with 2 or more antituberculosis medications, and
- Completed diagnostic evaluation.

B. Laboratory Criteria for Diagnosis:

- Isolation of *M. tuberculosis* from a clinical specimen,¹ or
- Demonstration of *M. tuberculosis* from a clinical specimen by nucleic acid amplification test,² or
- Demonstration of acid-fast bacilli in a clinical specimen when a culture has not been or cannot be obtained.

C. Case Classification:

- Confirmed: A case that meets the clinical case definition or is laboratory confirmed.

D. Laboratory Tests:

Isolates must be sent to the State Public Health Laboratory. Mailing Address: Division of Health and Environment Laboratories, Forbes Field, Building # 740, Topeka, KS 66620-0001

- Specimen: Sputum, gastric aspirate, blood, CSF, lymph node biopsy, urine, stool.

¹ Use of rapid identification techniques for *M. tuberculosis* (e.g., DNA probes and mycolic acids high-pressure liquid chromatography performed on a culture from a clinical specimen) are acceptable under this criterion.

² Nucleic acid amplification (NAA) tests must be accompanied by culture for mycobacteria species. However, for surveillance purposes, CDC will accept results obtained from NAA tests approved by the Food and Drug Administration (FDA) and used according to the approved product labeling on the package insert. Current FDA-approved NAA tests are only approved for smear-positive respiratory specimens.

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- Remarks: For additional information and/or questions concerning isolate collection, sample transport and laboratory kits call (785) 296-1620. An online manual of laboratory tests is available at <http://www.kdhe.state.ks.us/labs/links.html>

E. Bioterrorism Potential:

None.

F. Outbreak Definition:

An increase of $\geq 10\%$ in the incidence of TB within a specific jurisdiction, defined population and/or time period is considered an outbreak. Any clustering of cases by place (e.g., correctional facility, homeless shelter, etc.), person (e.g., cases in individuals sharing the same social network or workplace) and time may also indicate an outbreak and should be investigated with adequate resources allocated to the investigation.

INVESTIGATOR RESPONSIBILITIES

A. Investigation Tasks and Activities:

- Conduct an epidemiological investigation to identify the possible source of infection and to locate additional cases and/or contacts in the community.
- Identify contacts and assure appropriate TB skin testing (TST) has occurred.
 - Test results must be “read” within 48-72 hours after placement.
 - All contacts with a negative test should be retested 10-12 weeks after their last exposure to the case.
- Follow up with case(s) to assure compliance with any isolation orders until they are considered non-infectious.
- Report all confirmed cases to the Bureau of Epidemiology & Disease Prevention, using established methods.
- If the case is lab-confirmed, make sure that an isolate is forwarded to the State Public Health Laboratory.
- Complete and submit the CDC Report Of Verified Case Of Tuberculosis form.

B. Notifications:

- Report by telephone all suspect or confirmed cases to the Tuberculosis Control Program at 877-427-7317.
- Mail or deliver notification letter and/or disease fact sheet to case, contacts and other appropriate individuals or groups (if appropriate and/or requested).

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EPIDEMIOLOGY

The prevalence of TB is higher in low-income intercity areas and among nonwhite populations and ethnic groups. In the United States, a disproportionate number of cases occur among recent immigrants from specific areas of the world (*i.e.*, Asia, Africa and Latin America). Additional risk factors include: HIV, use of immunosuppressive drugs, intravenous drug use, and certain medical conditions, including: Hodgkin's disease, lymphoma, diabetes mellitus, renal failure and malnutrition. The reactivation of latent infection accounts for a large proportion of cases among the elderly.

DISEASE OVERVIEW

A. Agent:

Mycobacterium tuberculosis or, rarely, *M. bovis* are the agents that cause TB. Their unique shape and staining properties give them the name of "acid-fast bacilli."

B. Clinical Description:

Tuberculosis can be either pulmonary (73%) or extrapulmonary (27%). Classic signs and symptoms of pulmonary TB include: a productive cough, weight loss, decreased appetite, malaise, night sweats, fever, hemoptysis (*i.e.*, bloody sputum), and/or weakness. Symptoms associated with extrapulmonary TB are dependent upon the site of the disease.

- **Differential Diagnosis (pulmonary only):** Pulmonary embolism, bronchogenic carcinomas, pneumonia and/or asthma.

C. Reservoirs:

Humans are the primary reservoir; however, in some parts of the world *M. bovis* infected cattle may be a significant reservoir. Although rare, cases have been linked to transmission from non-human primates and other mammals.

D. Mode(s) of Transmission:

Airborne transmission occurs through the inhalation of TB bacilli droplet nuclei that are produced by persons with pulmonary tuberculosis during expiratory efforts, examples include: talking, coughing, singing, or sneezing. Depending upon air currents, the droplet nuclei may remain suspended in the air for several hours and the risk of transmission is dependent upon the length of exposure, the degree of crowding, ventilation, the number of bacilli discharged and virulence of the organisms. Although extremely rare, transmission via mucous membranes or breaks in the skin has been reported. TB may also result from exposure to infected cattle or consumption of unpasteurized dairy products from infected animals.

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E. Incubation Period:

Highly variable, ranging from 2-12 weeks from initial infection to development of an immune response that can be measured with a tuberculin skin test (TST). The subsequent risk of pulmonary or extrapulmonary TB is greatest within the first 2 years after infection and latent infection may persist for life.

F. Period of Communicability:

Persons that are suspected or confirmed with active TB should be considered infectious if they are not receiving therapy, have just started therapy, or have a poor clinical response to therapy. Cases are no longer considered infectious when the following criteria are met:

- Cases have been receiving adequate therapy for at least 2 weeks, and
- Cases have had a favorable clinical response to therapy, and
- Cases have had 3 consecutive negative sputum smear results from sputum collected on different days.

G. Susceptibility and Resistance:

The risk of infection is directly related to the degree of exposure. The risk of developing disease is highest in children < 3 years of age, lowest in later childhood, and increases again among adolescents, young adults, the very old and the immunosuppressed. The reactivation of latent infection accounts for a large proportion of TB disease cases among the elderly.

H. Treatment:

Directly observed therapy (DOT) is the recommended method for treatment. Individuals should be given prompt treatment with the appropriate combination of antimicrobial drugs and regular monitoring of sputum smears. For drug susceptible disease, a 6-month course of therapy including: isoniazid (INH), rifampin (RIF), pyrazinamide (PZA) and Ethambutol (EMB) or Streptomycin (SM) is the standard of care for the first 2-months followed by INH and RIF for 4 months. When drug susceptibility results are available a specific drug regimen can be chosen for delivery.

STANDARD CASE INVESTIGATION AND CONTROL METHODS³

Standard investigation activities include the following: 1) Confirmation of the diagnoses (*i.e.*, case definition), 2) Collection of relevant demographic and clinical data (*e.g.*, age, sex, disease syndromes and/or symptoms), 3) Determination of the setting (*e.g.*, community, hospital, daycare or other facility), and 4) Investigation of possible epidemiologic links among cases (*e.g.*, cluster, household, co-workers, etc). This can be accomplished by completing the appropriate sections of the CDC Report Of Verified Case Of

³ LTBI investigations should only occur if the case is a child or the LTBI is a newly documented case when there is history of documented negative tests.

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Tuberculosis form. Most of the information can be obtained from the case person, healthcare provider and/or the medical record. The investigator may want to also review previous reported cases in the region and/or state.

Additional investigation activities include:

A. Identify Potential Source of Infection:

To help identify the source of the infection, the investigator should focus their investigation within the incubation period of tuberculosis (2-12 weeks) and focus their investigation on the following potential source(s) of infection.

- History of exposure(s) to active TB.
- Travel history, with dates of exit from and reentry into the United States and dates of travel to other counties and/or states.
- Case finding and transmission setting: identify possible illnesses among household members, neighbors, schoolmates, etc. and possible transmission setting(s).
- Occupation (e.g., healthcare worker, daycare worker, etc.) and work site (i.e., address).

B. Identify Potential Exposed Individuals / Populations (Contacts):

Contact tracing often follows a pattern of concentric circles beginning with the innermost circle defined as family and/or household members. If there is evidence of transmission within this circle the investigator should increase their scope of investigation into the next larger circle that includes: close friends, co-workers, and other “close” social contacts. The process is repeated until an outer limit of transmission has been established. Be sure to consider first responders and other healthcare workers in your investigation (if necessary).

- **First Circle or Close Contacts:**⁴
 - Investigate all suspected cases; don’t wait for lab results before beginning investigation.
 - Obtain a medical history and place a TST unless there is a documented positive skin test in the past or a history of treatment for TB. Adults should be tested within 2 weeks, children within 1 week. All contacts with a negative test should be retested 10-12 weeks after their last exposure to the case.
 - If the index case has a cough, positive smear/ culture, or pulmonary cavitation on x-ray, then all school, daycare and work contacts or any persons who may have had “significant” social contact (e.g., church members, social clubs, bars, etc.)⁵ with the case should be evaluated.

⁴ Defined as family and/or household members.

⁵ Depending upon the amount of time the case spends within these settings these contacts could be considered in the first or second circle.

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- Proceed to next circle if any converters are identified or if the prevalence of TB infection exceeds the norm for this group.
- **Second Circle or Social Contacts:**⁶
 - Obtain a medical history and place a TST unless there is a documented positive skin test in the past or a history of treatment for TB. Adults should be tested within 2 weeks, children within 1 week. All contacts with a negative test should be retested 10-12 weeks after their last exposure to the case.
 - Proceed to next circle if any converters are identified or if the prevalence of TB infection exceeds the norm for this group.

- **Ending Contact Investigations:**

When testing reveals that all of the contacts within a “circle” are negative then testing of identified contacts in the next larger “circle” is usually not warranted. However, it is important that the investigator does not stop until they are satisfied that an appropriate effort has been made to locate all potential contacts.

C. Isolation, Work and Daycare Restrictions:

- Cases should be advised to wear a mask when around other people and should stay home whenever possible. Unnecessary visitors should be avoided; if a visitor does enter the home they should be informed of the risk and should be offered a N-95 mask. These restrictions may be lifted when the case is no longer considered infectious. Cases are no longer considered infectious when the following criteria are met:
 - Cases have been receiving adequate therapy for at least 2 weeks, and
 - Cases have had a favorable clinical response to therapy, and
 - Cases have had 3 consecutive negative sputum smear results from sputum collected on different days.
- Adult case persons should be excluded from schools, daycares and isolated when in hospitals, nursing homes or residential facilities. These restrictions may be lifted when the case is no longer considered infectious. Child case persons are rarely considered infectious and need not to be excluded from daily activities.
- Persons with communicable TB that do not comply with treatment requirements may be quarantined by the local health officer. However, quarantine is a method of last resort and should not to be undertaken without first consulting with the KDHE TB program.

⁶ Defined as neighbors, with whom the case has regular contact, drinking partners/drug users, co-workers, schoolmates and visitors to the home.

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D. Follow-up of Cases:

- Directly Observed Therapy (DOT) is the standard of care for persons with active TB to help assure compliance with their medication regimen. DOT may be administered in the field, home, healthcare facility or any other place convenient for the case.
- The local health department is responsible for monitoring the treatment of all cases, regardless of whether DOT is being provided by the health department or by a private provider. If treatment is being provided by a private provider, the health department must maintain regular contact and, if necessary, assist them with TB issues, obtaining pertinent information from them and continue to report any required case information to the state health department.

E. Protection of Contacts:

Contacts with a negative TST should be retested 10-12 weeks after their last exposure to an infectious case. Converters should be classified as a LTBI case, reported to KDHE and evaluated for preventive therapy.

F. Environmental Measures:

Engineering controls may be used to help reduce the concentration of infectious droplet nuclei within buildings. Examples include: controlling the direction of airflow (*i.e.*, negative pressure rooms), diluting and/or removing potentially contaminated air through increased ventilation, and cleaning the air through high efficiency air filtration and/or ultraviolet irradiation.

G. Education:

- Teach the case to cover both nose and mouth when coughing or sneezing and to wear a mask when in contact with others until they are considered non-infectious.
- The case and their household members should be instructed about TB including: signs and symptoms, modes of transmission and the proper use of respiratory protection devices (if applicable).
- Emphasize the importance of taking their medication and make sure they understand that:
 - DOT is the standard of care for therapy.
 - Medication may be necessary for a long period of time (*e.g.*, ≥ 6 months) and must be taken even if their symptoms improve.
 - Drug resistance may develop if their medications are not taken as directed.

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MANAGING SPECIAL SITUATIONS

A. Reported Incidence Is Higher than Usual/Outbreak Suspected:

If you suspect an outbreak, consult with the epidemiologist on call at the KDHE. They can help determine a course of action to prevent further cases and can perform surveillance for cases that may cross county lines that would be difficult to detect at the local level.

ADDITIONAL INFORMATION / REFERENCES

- American Academy of Pediatrics. 2003 *Red Book: Report of the Committee on Infectious Disease, 26th Edition*. Illinois, Academy of Pediatrics, 2003.
- Heymann. D., ed., *Control of Communicable Diseases Manual, 18th Edition*. Washington, DC, American Public Health Association, 2004.
- Case definitions for Infectious Conditions Under Public Health Surveillance, Division of Public Health Surveillance and Informatics, Nationally Notifiable Infectious Diseases, United States 2005. Available at: <http://www.cdc.gov/epo/dphsi/PHS/infdis2005.htm>
- Kansas Department of Health and Environment, Bureau of Epidemiology. *Disease Protocols*, 2001.
- County of Los Angeles, Department of Health, Public Health Programs and Services, *Communicable Diseases Manual*, June 2003.
- Oklahoma State Department of Health, Communicable Diseases Division. *The Epidemiologic Follow-up of Communicable Diseases in Oklahoma*, 2001.
- Missouri Department of Health and Senior Services, Section of Communicable Disease Control & Veterinary Public Health, *Communicable Disease Investigation Reference Manual*. 2001.
- Oregon Health Services Website. Available at <http://www.ohd.hr.state.or.us>
- Commonwealth of Massachusetts, Department of Public Health Website. Available at <http://www.state.ma.us/dph/>
- CDC Website. Available at <http://www.cdc.gov/health/default.htm>
- Centers for Disease Control and Prevention. *Core Curriculum on Tuberculosis, What the Clinician Should Know. 4th Edition*, 2000.

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
OFFICE OF EPIDEMIOLOGIC SERVICES: TUBERCULOSIS CONTROL PROGRAM
LATENT TUBERCULOSIS INFECTION AND DISEASE FORM
PLEASE TYPE OR PRINT NEATLY

COUNTY OF RESIDENCE: _____

Event Information: <input type="checkbox"/> Active <input type="checkbox"/> Suspect <input type="checkbox"/> LTBI <input type="checkbox"/> Contact to an active case	HAWK Number: _____
Name of Active Case: _____	Occupation: _____
Patient Name: _____ Last First Middle	Name of Employer/School: _____
Referral Source: _____	Day Time Phone () _____ Evening Phone () _____

Address: _____ Street/Route City/Town State Zip Code
Parent/Guardian Name: _____ Last First Middle Telephone Number: () _____
Address: _____ Street/Route City/Town State Zip Code

Race: Mark all that apply <input type="checkbox"/> American Indian/Alaskan Native <input type="checkbox"/> Native Hawaiian/Other Pacific Islander <input type="checkbox"/> Asian <input type="checkbox"/> Race not otherwise specified <input type="checkbox"/> Black/African American <input type="checkbox"/> White	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	Ethnicity: <input type="checkbox"/> Not Hispanic or Latino <input type="checkbox"/> Hispanic or Latino	Date of Birth: ____/____/____
---	--	---	---

Country of Birth: <input type="checkbox"/> USA <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Refugee <input type="checkbox"/> Recent Immigration <input type="checkbox"/> Class B1 <input type="checkbox"/> Class B2	Date of Arrival: ____/____/____
--	--

<input type="checkbox"/> Homeless in the past year <input type="checkbox"/> Resident of a Correctional Facility at diagnosis <input type="checkbox"/> Inmate # _____ <input type="checkbox"/> Resident of a long-term care facility at diagnosis <input type="checkbox"/> Name of Facility _____	In the past year, does the patient have a history of: <input type="checkbox"/> Alcohol abuse <input type="checkbox"/> Non-IV drug use <input type="checkbox"/> IV drug use	HIV Status <input type="checkbox"/> Negative (Date) _____ <input type="checkbox"/> Positive (Date) _____ <input type="checkbox"/> Indeterminate <input type="checkbox"/> Test Done, Results Unknown <input type="checkbox"/> Patient Refused Test <input type="checkbox"/> Unknown <input type="checkbox"/> Test Not Offered
--	--	--

MEDICAL HISTORY (Mark all that apply) <input type="checkbox"/> Asthma <input type="checkbox"/> Pneumonia <input type="checkbox"/> Bronchitis <input type="checkbox"/> Hypertension <input type="checkbox"/> Cancer, current disease <input type="checkbox"/> Cancer, previous episode <input type="checkbox"/> Diabetes <input type="checkbox"/> Hepatitis <input type="checkbox"/> Cardiac Disease <input type="checkbox"/> Tobacco Use <input type="checkbox"/> Other _____	SYMPTOMOLOGY of TB Disease (Mark all that apply) <input type="checkbox"/> Productive Cough Date of Onset: ____/____/____ <input type="checkbox"/> Weight Loss <input type="checkbox"/> Fever <input type="checkbox"/> Night Sweats <input type="checkbox"/> Fatigue <input type="checkbox"/> Chest Pain <input type="checkbox"/> Shortness of Breath <input type="checkbox"/> Lymphadenopathy <input type="checkbox"/> Hemoptysis <input type="checkbox"/> Hematuria
--	--

X-Ray Date: ____/____/____ Month Day Year	<input type="checkbox"/> Normal, Negative, or NEAD <input type="checkbox"/> Abnormal
---	--

If Abnormal, please attach radiological interpretation, or describe abnormality below

Current PPD Skin Test Reading: Date Planted: ____/____/____ Date Read: ____/____/____ Induration (mm): ____ Positive ____ Month Day Year Month Day Year Negative ____

Previous PPD Reading: Date Planted: ____/____/____ Date Read: ____/____/____ Induration (mm): ____ Positive ____ Month Day Year Month Day Year Negative ____
--

RISK CRITERIA USED IN ESTABLISHING THE SIGNIFICANCE OF THE PPD SKIN TEST REACTION
Local Health authorities may determine that certain groups are at an increased risk for TB. Usually health care workers are considered positive at 10mm induration. Contact KDHE, or your local health department for more information.

5 mm or more	10 mm or more	15 mm or more
<input type="checkbox"/> HIV Infection <input type="checkbox"/> Close Contact to a TB case <input type="checkbox"/> Fibrotic changes on CXR consistent with old TB <input type="checkbox"/> Organ Transplant <input type="checkbox"/> Other immunosuppressed patients	<input type="checkbox"/> Recent arrivals from high prevalence countries <input type="checkbox"/> Injection Drug Users <input type="checkbox"/> Residents and employees of high-risk congregate settings* <input type="checkbox"/> Mycobacteriology laboratory personnel <input type="checkbox"/> Persons with clinical conditions that make them high-risk** <input type="checkbox"/> Children <4 years of age, or children and adolescents exposed to adults in high-risk categories	<input type="checkbox"/> No known risk factors

*Health Occupations, or residential settings that increase the risk of TB include:
 Health Care Worker Child care worker Homeless Shelter Rehabilitation Center
 Long Term Care Facility Correctional Facility Mycobacteriology Lab Other _____

**Medical conditions that increase the risk of TB include:
 diabetes mellitus corticosteroid therapy cancer of the head and neck
 silicosis immunosuppressive therapy chronic malabsorption.
 end-stage renal disease hematologic and reticuloendothelial diseases intestinal bypass or gastrectomy

Contact investigations should be performed for positive reactions in children under 10. This is strongly recommended to determine if an undiagnosed, active case of TB was responsible for the child's infection and/or disease. The contact investigation should focus on adults with frequent contact to the child.

Name: _____

Date of Birth: _____

Patient's Wt. _____ lbs. _____ kg. Drug Allergies: ___ No ___ Yes _____

Current Medications: _____

Discussed TB FACTS: ___ Yes ___ No Discussed medication's potential side effects or adverse effects ___ Yes ___ No

Drug Precautions/Contraindications: ___ None ___ Alcohol or drug abuse in past year ___ Currently on medication that may cause an interaction
 ___ History of Chronic Liver Disease ___ At risk for peripheral neuropathy
 ___ Pregnant or breast feeding ___ History of adv. reaction to TB medications

Birth Control (Females only) ___ No ___ Yes (Method) _____

Medications have been prescribed by: _____
 _____ (Physician's Name) _____ (Telephone Number)

Physician monitoring progress of client: _____
 _____ (Physician's Name) _____ (Telephone Number)

MEDICATIONS PRESCRIBED FOR LTBI: ___ 6 months ___ 9 months ___ 12 months ___ No meds prescribed (detail in notes)

Date Started: _____ / _____ / _____ Month Day Year	Date Ended: _____ / _____ / _____ Month Day Year	End of Therapy Reason _____
INH dosage: _____ Mg	B6 dosage: _____ Mg	___ Daily ___ Twice Weekly ___ Thrice Weekly

Notes: _____

Patients on therapy for Latent TB Infection (LTBI) should be monitored monthly for adverse reactions. Under no circumstances should more than one month of medicine be dispensed to the patient. (Complete additional form: Guidelines for Monitoring Patients on INH)

MEDICATIONS PRESCRIBED FOR SUSPECT OR ACTIVE TB DISEASE:

Date Started: _____ / _____ / _____			Date Started: _____ / _____ / _____			Date Started: _____ / _____ / _____		
Drug	Dosage*	Frequency**	Drug	Dosage*	Frequency**	Drug	Dosage*	Frequency**
Isoniazid			Isoniazid			Isoniazid		
Rifampin			Rifampin			Rifampin		
Pyrazinamide			Pyrazinamide			Pyrazinamide		
Ethambutol			Ethambutol			Ethambutol		
Vitamin B6			Vitamin B6			Vitamin B6		
Date Ended: _____ / _____ / _____			Date Ended: _____ / _____ / _____			Date Ended: _____ / _____ / _____		

Notes: _____

*Total dosage in milligrams **Frequency of medication dosages (daily, twice weekly, thrice weekly) (Document doses given on a Medication Administration Record)
Patients on therapy for TB disease should be monitored daily for adverse reactions and medications are given by directly observed therapy (DOT).

Location of Direct Observed Therapy ___ Health Department ___ Client's home ___ Other _____

Name of person(s) providing DOT _____

This form completed by: _____ Phone: _____
 (Print clearly)

Agency: _____ Today's Date: _____

Send Form to:
 Kansas Department of Health and Environment
 Tuberculosis Control Program
 1000 SW Jackson, Ste. 210
 Topeka, KS 66612-1274

Contact Information:
 Phone: 785-296-5589
 Fax: 785-291-3732

TUBERCULOSIS CONTACT INVESTIGATION FORM

Source Case: _____ Date of Birth: ___/___/___ Hawk # _____
Smear Positive 9 Yes 9 No
Productive Cough 9 Yes 9 No, If yes, onset date: ___/___/___
Pulmonary or Cavitory Disease 9 Yes 9 No Laryngeal TB 9 Yes 9 No
Extrapulmonary TB 9 Yes 9 No Site _____
Place of Employment: _____

Interviewer: _____
Date of Interview: ___/___/___
Agency: _____
Referred from: _____

Name Information of the person exposed

Last Name _____ First Name _____ MI _____

Date of Birth ___/___/___ (If this person is less than 5 years of age, chemotherapy may need to be initiated promptly)

Sex: 9 Male 9 Female

Occupation _____

Day Phone (_____) _____ Ext. _____

Evening Phone (_____) _____ Ext. _____

Contacting Information

Parent/Guardian/Other

Last Name _____ First Name _____ MI _____

Day Phone (_____) _____ Ext. _____

Evening Phone (_____) _____ Ext. _____

Latest Address Information

Address 1 _____

Address 2 _____

Zip Code _____

City _____

County _____

Race ___ American Indian or Alaskan Native ___ Native Hawaiian or Other Pacific Islander
___ Asian ___ Race, not otherwise specified
___ Black or African American ___ White

Ethnicity ___ Ethnicity not otherwise specified
___ Hispanic or Latino
___ Not Hispanic or Latino

Type of Contact

- Household
Other _____

Risk Status

- Close
Casual

Client's Name: _____

Date of Birth: ____/____/____

Status of Patient Notification

- ___ All attempts to notify were unsuccessful
- ___ Left jurisdiction, information forwarded
- ___ Left jurisdiction, new address unknown
- ___ Notice by phone or in person by Local Health Department

- ___ Notice mailed by Local Health Department
- ___ Notice mailed by Private MD
- ___ Notified by phone or in person by private MD
- ___ Notified by source case or other contact
- ___ Reported self to local health department

Evaluation by

- ___ Local Health Department
- ___ No evaluation to date

- ___ Other _____
- ___ Private Physician's office

Evaluation Status

- ___ Evaluation completed
- ___ Evaluation in progress
- ___ Evaluation initiated, never completed, chart closed
- ___ Evaluation not initiated, no response by patient

- ___ Evaluation not initiated, patient refused
- ___ Evaluation not initiated, unable to locate
- ___ No evaluation required for this disease

Infection/Disease Status

- ___ Disease confirmed
- ___ Infection confirmed

- ___ Not infected/diseased to date
- ___ Status can not be determined

Prophylactic treatment or Post-exposure Prophylaxis Status (PT/PEP)

- ___ No PT/PEP to date
- ___ Not applicable
- ___ PT/PEP completed
- ___ PT/PEP Rx'd and treatment continues
- ___ PT/PEP Rx'd discontinued by physician
- ___ PT/PEP Rx'd discontinued, pregnancy

- ___ PT/PEP Rx'd, discontinued, adverse reaction to medications
- ___ PT/PEP Rx'd, discontinued, patient non-compliance
- ___ PT/PEP Rx'd, patient died during treatment
- ___ PT/PEP Rx'd, patient moved during treatment
- ___ PT/PEP Rx'd, patient refused treatment

First TB Skin Test

Date Planted _____ Date Read _____ MM _____
 ___/___/___ ___/___/___ _____

10-12 weeks TB Skin Test

Date Planted _____ Date Read _____ MM _____
 ___/___/___ ___/___/___ _____

Other Comments:

Tuberculosis Investigation and Documentation Checklist

TASK	DATE	INITIALS
Report Received:	___/___/___	_____
Assigned to Investigator:	___/___/___	_____
Reported to State Surveillance System:	___/___/___	_____
Met Case Definition: <input type="checkbox"/> Yes <input type="checkbox"/> No	___/___/___	_____
Biologic Sample to State Laboratory: <input type="checkbox"/> Yes <input type="checkbox"/> No	___/___/___	_____
Case Interviewed: MOGE: <input type="checkbox"/> Yes <input type="checkbox"/> No Reason: _____	___/___/___	_____
Contacts Identified and/or Interviewed: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None If Yes, Name(s): _____	___/___/___	_____

1 st TST Administered (Contacts): <input type="checkbox"/> Yes #: _____ <input type="checkbox"/> No #: _____	___/___/___	_____
TST Read: <input type="checkbox"/> Yes #: _____ <input type="checkbox"/> No #: _____	___/___/___	_____
Pos: # _____ Neg: # _____		
Positive Result Names: _____		
Missed TST Reading Names: _____		

2 nd TST Administered (Contacts): <input type="checkbox"/> Yes #: _____ <input type="checkbox"/> No #: _____	___/___/___	_____
TST Read: <input type="checkbox"/> Yes #: _____ <input type="checkbox"/> No #: _____	___/___/___	_____
Pos: # _____ Neg: # _____		
Positive Result Names: _____		
Missed TST Reading Names: _____		

Letter and Information Sheet Sent:	___/___/___	_____
Completed Investigation Worksheet:	___/___/___	_____
Case Closed and Filed:	___/___/___	_____

Case Name: _____ **Number:** _____

Principal Investigator: _____ **Date:** ___/___/___

Date:

Dear Parent:

A person who works at _____ has been recently diagnosed as having tuberculosis (TB). Tuberculosis is a serious bacterial infection of the lungs that is spread through the air when a person with TB coughs, sneezes, shouts, talks, or sings. It can be effectively treated with antibiotics.

Public Health Nurses from the health department will be giving tuberculosis skin tests to students identified as having close contact with the person diagnosed with TB. This will be done on _____ from __ a.m. to __ p.m. The Public Health Nurses will return to the school on _____ from __ a.m. to __ p.m. to check the results of the testing. This check must be done to determine whether your child is positive or negative for TB infection. If you prefer to have your child tested by your own medical provider, this must be done the week of _____ with the results of this test provided to the health department the week of _____. If your child is not tested and/or the results are not provided, your child may be excluded from school. To allow your child to be tested by the Public Health Nurses you must sign this letter and return it to the school by _____.

If your child has had a positive TB skin test or has been treated for TB in the past, please provide us with that information and arrangements will need to be made for further examinations, which may include a chest x-ray.

Sincerely,

Investigator Name, Title
Phone #
Address Line 1
Address Line 2
City, State Zip Code

I have read the above letter and understand the information provided. I give my consent for my child _____ to be skin tested for tuberculosis infection by the Public Health Nurses from the health department.

Date: _____

Dear: _____,

I am writing in regards to some recent laboratory test results that you should have received. I work with the Local Health Department and as part of my job I provide information and answer questions about certain diseases that are reportable to us. * I would like to speak to you about your laboratory tests and provide information to you as well as to obtain some additional information about your results. Everything we receive from you or your healthcare provider is **STRICTLY CONFIDENTIAL**. The purpose for collecting this information is to educate patients and to collect information for public health planning and support our disease prevention activities.

Please contact me at your earliest convenience so that we may discuss this matter further. If your health care provider has not yet discussed this with you, I would encourage you to make an appointment or call them as soon as possible.

I look forward to discussing this matter with you and will be happy to answer any questions that you may have regarding this investigation at that time. My telephone number is _____. Thank you in advance for your assistance.

Sincerely,

Investigator Name, Title

Phone #

Address Line 1

Address Line 2

City, State Zip Code

*The Kansas Department of Health and Environment (KDHE) has the authority to define what diseases are of public health importance and to require the reporting of such diseases. Under this authority KDHE has established regulations making certain diseases reportable (K.S.A. 65-118 and K.S.A. 65-128, and amendments thereto). These regulations outline reporting requirements and control measures that apply to both confirmed cases of such diseases and contacts of confirmed cases. Local health departments are required to collect information for the KDHE and implement control measures.

	Public Health Fact Sheet Tuberculosis (TB)
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What is tuberculosis?

Tuberculosis (TB) is an infectious disease caused by the bacteria *Mycobacterium tuberculosis*. It most often affects the lungs (known as pulmonary tuberculosis), but may occur anywhere in the body (known as extrapulmonary tuberculosis). TB is often classified as active TB disease or latent TB infection (LTBI). Active TB cases occur when the *M. tuberculosis* overcomes a person's immune system and begin to multiply; this usually results in symptoms consistent with TB. Persons that are infected with *M. tuberculosis* but do not have active TB are referred to as having a latent TB infection (LTBI). Individuals with LTBI cannot spread TB to other people. This fact sheet focuses on active TB disease.

What are the symptoms?

Symptoms associated with active TB include: feeling sick or weak, weight loss, fever, and/or night sweats. The symptoms of pulmonary TB include: a productive cough, chest pain, and/or coughing up blood. Symptoms of extrapulmonary TB depend on the part of the body that is affected.

How is tuberculosis spread?

TB is spread from person-to-person through the air. The bacteria must be inhaled in order for infection to occur. Examples of persons most likely to become infected with TB include: those who are living, working or spending a lot of time with a person who has active TB. It is not spread by casual contact such as kissing or sharing food or eating utensils.

Who gets tuberculosis?

Anyone can get TB infection if they inhale air that contains *M. tuberculosis*; however, individuals that have HIV, use immunosuppressive drugs or abuse intravenous drugs or have certain medical conditions including: Hodgkin's disease, lymphoma, diabetes mellitus, renal failure and malnutrition may be at increase risk of acquiring TB.

How is it diagnosed?

The Mantoux Tuberculin Skin Test (TST) detects TB infection. A healthcare worker administers the TST on a person's arm. Within 2-3 days after the test, a healthcare worker checks the tested area for a reaction. The test outcome (positive or negative) depends the size of the reaction and the person's risk factors for TB. Additional tests, such as a chest X-ray and sputum sample are needed to see whether the person has TB.

How is tuberculosis treated?

Both active TB and LTBI can be cured. Active TB It is usually treated for 6-9 months with multiple drugs. Local health department staff meets regularly with people who have active TB to ensure that they take their medications. This is called directly observed therapy or DOT and it is the recommended treatment method in the United States.

How can you prevent tuberculosis?

If you think you have been around someone who has active TB, you should go to your health care provider or local health department for an evaluation. If you are prescribed preventative medications, it is very important that they are taken exactly as prescribed. The best way to prevent TB is to completely treat people who have active disease.

Where can I get more information?

- Your Local Health Department
- Kansas Department of Health and Environment, Epidemiologic Services Section (877) 427-7317
- <http://www.cdc.gov/health/default.htm>
- Your doctor, nurse, or local health center

This fact sheet is for information only and is not intended for self-diagnosis or as a substitute for consultation. If you have any questions about the disease described above or think that you may have an infection, consult with your healthcare provider. This fact sheet is based on the Centers for Disease Control and Prevention's Health and Safety topic fact sheets.