1.0 Purpose

1.1 To test for active respiratory tuberculosis (TB) disease in street-involved populations.

2.0 Scope and Goal

2.1 TB sputum testing for acid-fast bacilli (AFB) staining and *Mycobacterium tuberculosis* (MTB) cultures and communicating test results to tested clients may be offered to street involved clients who meet **Tuberculosis Sputum Testing Eligibility Criteria** by Public Health Nurses with the Healthy Sexuality and Harm Reduction team who have the competency to perform these practices.

3.0 Background

3.1 Early detection of active respiratory TB disease decreases transmission of MTB to others. Sputum collection for AFB smear and MTB culture is the best method to detect active respiratory TB disease. Definitive diagnosis is made by isolation of MTB on culture. Ideally, three consecutive morning sputum samples and a chest x-ray provide more accurate results to rule-out active TB disease.

3.2 In keeping with low-threshold accessible services, one on-the-spot sputum sample taken at any time in symptomatic clients is better than no sample and may detect active TB disease.

3.3 These guidelines and standard operating procedures are based on shared competencies and collaboration between the Medical Officer of Health and PHNs with the knowledge and skill to perform these practices.

3.4 The guideline outlines the standard operating procedure for sending sputum for testing, communication of results and facilitation of follow-up care.

4.0 Procedure

4.1 Determination of Eligibility

4.1.1 During a Street Connections outreach visit, note if any clients have or complain of any of the following symptoms: cough, hemoptysis, fatigue, fever, anorexia, weight loss, night sweats, or chest pain made worse by breathing.

4.1.2 Encourage and support clients with symptoms to access primary care services.

4.1.3 Assess eligibility with **Tuberculosis Sputum Testing Eligibility Criteria**.

4.1.3.1 If it is unclear if the individual meets eligibility criteria, or if client may already be a case or contact of TB, consider consultation with
HSHR Communicable Disease Coordinator and/or the Population and Public Health (PPH) TB team before proceeding.

4.2 Informed Consent and Plan for Sharing of Results.
   4.2.1 Obtain informed consent ensuring client has capacity and necessary information.

4.2.2 Discuss with client the importance of getting results back to the client and follow-up care. Plan with client how and where results will be shared and potential follow-up as necessary. Obtain the best locating information that the client is able to give.

4.2.3 Ask client if they are being followed or are supposed to see other Health Care Providers for health care. Facilitate communication and collaboration of care with Health Care Providers as appropriate.

4.2.4 Inform client that a negative test result may take up to six weeks to become available, but that a positive result may be available sooner; either will be communicated to the client as soon as it is available. Refer to Management of Results section below.

4.3 Specimen Collection
   4.3.1 Specimens should be collected in a sterile, leak-proof, screw-capped, translucent, disposable, appropriately labeled, laboratory-approved container free of fixatives, preservatives or transport media.

4.3.2 Collect specimens only when it is safe to do so with respect to infection control precautions; sputum should ideally be collected outside or in an airborne infection isolation room (AIIR; “negative pressure room”).

4.3.3 Inform client about (and provide education sheets as appropriate):
   - How to collect a sputum sample
   - Questions and answers on sputum collection (Appendix A)

4.3.4 A quantity of 15 ml (1 tablespoon) of sputum should be collected. If the client is not able to produce sputum, or if sputum cannot be collected safely, encourage and support client to access a primary care practitioner who can arrange to have specimens obtained at a centre with the necessary facilities.

4.3.5 Label specimen only with
   - Name
   - Personal Health Identification Number (PHIN)
   - Date of collection
Unlabeled or incorrectly labeled specimens will not be processed. Tightly seal and place container in a biohazard specimen bag that can be appropriately sealed with the specimen requisition present in the side pouch of the bag. Collection of insufficient quantity of specimen may result in false negative results or rejection of the sample by the laboratory. If only client name, date of birth (and not the PHIN) and date of collection can be labeled on the specimen container, a follow-up call to Cadham lab is useful to request that specimen still be processed.

4.3.6 Complete a Diagnostic Services of Manitoba (DSM) clinical microbiology test requisition for each sample with the information below. Include:

- Client last name, given name
- Date of birth
- PHIN
- Test requested: AFB smear and TB culture
- Specimen type: Sputum
- Antibiotics used within the last 48 hours
- Collection date and time
- Ordering practitioner: Dr. Pierre Plourde
- WRHA Healthy Sexuality and Harm Reduction Team, 496 Hargrave, tel. 204-940-8504, fax. 204-940-2007

4.3.7 Collected specimens must be refrigerated between 2 and 8°C (do not freeze) within one hour of collection. If feasible during outreach operation, specimen may be dropped off immediately at Cadham Provincial Laboratory (CPL); specimens may be delivered at any time, 24 hours a day. Otherwise, specimen should be sent to the CPL on the next available transport.

4.4 Management of Results as follows:

4.4.1 In each of the following situations, share results with client and continue to facilitate primary care access as appropriate and according to client readiness.

4.4.2 Specimen that is smear positive for AFB and/or culture positive for MTB is considered a case of suspect or confirmed TB disease, respectively. Positive specimens are reported to Manitoba Health and then provided to the ordering clinician as well as the WRHA Population and Public Health (PPH) TB team. Each case of TB is assigned to a TB Public Health Nurse who will follow the client. As necessary, assist the TB PHN.
4.4.3 Specimen that is smear positive for AFB but which eventually grows nontuberculous mycobacteria (NTM) is not considered a case of TB disease; once this culture result is available the client will no longer be followed by the PPH TB team.

4.4.4 Specimen that is smear positive for AFB and culture negative for MTB and NTM is an unusual finding for a client not already being treated for TB disease; discuss findings with the TB PHN.

4.4.5 Specimen that is smear negative for AFB and culture negative for MTB is not considered a case of TB disease. Note that the sensitivity of a single sample is lower than multiple samples, and false negative results are more likely; reassess if client eligible for TB sputum testing for up to three sputum samples.

4.4.6 Insufficient sputum: Reassess if additional sputum collection is still required.

**Standards of Care**

The PHN will:

- Use Routine Practices
- Be aware of the Protocol for Exposure to Blood or Body Fluids in Community Services (Healthy Sexuality and Harm Reduction staff) Workers Exposed to Blood or Body Fluids
- Offer TB sputum testing as per the **Tuberculosis Sputum Testing Eligibility Criteria**
- Review risks and benefits of testing including the value of primary care for health needs
- Provide pretest education and counseling including review of the process for sputum collection and testing for TB
- Obtain informed consent for sputum testing
- Provide information regarding risk/harm reduction, prevention and available resources
- Explain procedures related to positive and negative results
- Keep original results in client record
- Arrange and refer for primary care follow-up, with client’s consent
- Results will not be given to third parties except as required by law or with the informed consent of the client in accordance with the Personal Health Information Act (PHIA)
- Document on the WRHA Client Record as per WRHA policy
**Tuberculosis Sputum Testing Eligibility Criteria**

- Persistent productive cough for three or more weeks
- OR
- At least two of the following symptoms: cough, fever, weight loss, hemoptysis, fatigue, night sweats, or chest pain with breathing.

**AND ALL OF THE FOLLOWING:**

- Client able to produce sputum sample without assistance
- AND
- Client has challenges in the areas of health, social or economic inequities
- AND
- Client is able to understand the information, benefits and risks that are relevant to making a decision to be tested. If there are any doubts about the individual’s capacity to consent, the testing should not be performed by the PHN, and the client should be referred to a physician/nurse practitioner for assessment
- AND
- Client is 16 years of age or older. Note: For those clients between the ages of 13 and 15, a reasonable attempt must be made by the nurse to obtain parental/legal guardian consent prior to testing. For street involved youth, the persistent refusal to disclose guardianship will be considered a reasonable attempt to locate parents/guardians, and the mature minor provision will be followed.

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### 5.0 Recommended Reading


### 6.0 References

**Acknowledgment of Shared Competency and Collaborative Practice for TB sputum testing and communication of results.**

Tuberculosis Sputum Testing:

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How to Collect a Sputum Sample

Please follow these steps carefully:

1. The cup is very clean. Don’t open it until you are ready to use it.

2. If possible, go outside, or open a window before collecting the sputum sample. This helps protect other people from germs when you cough.

3. Take a very deep breath and hold the air for 5 seconds. Slowly breathe out. Do this again. Now, take another deep breath and cough hard until some sputum comes up into your mouth.

4. Spit the sputum into the plastic cup. Keep doing this, breathing and coughing, until you have a tablespoon of sputum.

5. Screw the cap on the cup tightly so it doesn’t leak. If the outside of the cup is dirty, rinse it off and dry it.

6. Write on the cup the date you collected the sputum. Put the cup into the bag the nurse gave you. Wash your hands with soap and water.

7. If you can’t produce sputum, please let us know. We will arrange with you to get your sputum another way.