MINISTRY OF HEALTH
MANATŪ HAUORA

New Zealand Government

# Tuberculosis Case Management for People in Correctional Facilities

Joint protocol for corrections facilities and tuberculosis treatment supervising services in New Zealand

Released 2018

Citation: Ministry of Health. 2018. *Tuberculosis Case Management for People in Correctional Facilities: Joint protocol for corrections facilities and tuberculosis treatment supervising services in New Zealand*. Wellington: Ministry of Health.

Published in November 2018 by the Ministry of Health
PO Box 5013, Wellington 6140, New Zealand

ISBN 978-1-98-856827-0 (online)
HP 6987

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This document is available at health.govt.nz

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# 1 Introduction

Tuberculosis (TB) is an important and complex public health issue. When people in correctional facilities are diagnosed with TB, Department of Corrections health services, along with public health services, play an essential role in its control. This protocol provides general information about TB, as well as more specific guidance on the practical aspects of TB case management for people in New Zealand correctional facilities.

## 1.1 Scope

This protocol provides guidance for the staff working for Department of Corrections health services, and public health services, to enable them to carry out tasks relating to the case management of people with active TB disease or with latent TB infection (LTBI) in Department of Corrections facilities (corrections facilities).

## 1.2 Aim

The aim of the protocol is to provide guidance to enable:

- an appropriate public health and clinical response to notified TB cases in people in corrections facilities
- the complete treatment of TB cases
- follow-up and management of contacts of TB cases in corrections facilities
- LTBI management in infected contacts.

## 1.3 Relevant legislation

The following legislation is relevant to this protocol:

- Health Act 1956
- Health and Safety at Work Act 2015
- Health (Protection) Amendment Act 2016
- Corrections Act 2004
- Corrections Regulations 2005.

## 1.4 Abbreviations

The following abbreviations are used in this protocol

| | |
|---|---|
| AIDS | acquired immune deficiency syndrome |
| BCG | Bacillus Calmette-Guérin (an anti-tuberculosis vaccine) |
| CDC | Centers for Disease Control and Prevention |
| DOT | directly observed therapy |
| EpiSurv | ESR Public Health Surveillance |
| ESR | Institute of Environmental Science and Research Limited |
| HIV | human immunodeficiency virus |
| HSIR | Health Services Incident Report |
| HSWA | Health and Safety at Work Act 2015 |
| IGRA | interferon gamma release assay |
| IOM | integrated offender management |
| LTBI | latent tuberculosis infection |
| MDR-TB | multidrug-resistant tuberculosis |
| PHN | public health nurse |
| PHU | public health unit |
| PPE | personal protective equipment |
| SDG | Sustainable Development Goal |
| TB | tuberculosis |
| WHO | World Health Organization. |

# 2 About TB

TB is a bacterial infection, usually caused by *Mycobacterium tuberculosis* and occasionally by *Mycobacterium bovis*. TB disease usually affects the lungs (pulmonary TB) but can also affect other parts of the body, such as lymph nodes, brain, kidneys, bowel or bones (extrapulmonary TB). TB disease is usually curable but usually requires 6–12 months of multi-drug therapy to achieve a cure. In cases of multidrug-resistant TB (MDR-TB), treatment can be up to two years.

The initial infection with TB bacteria is called latent TB infection (LTBI). People with LTBI have dormant or inactive TB bacteria in their bodies. Only 10 percent or people who have LTBI go on to develop active TB disease at some stage in their lives. It must be noted that this figure applies to healthy, human immunodeficiency virus (HIV) negative adults. The risk of progression to active TB disease is much higher for children; adults with certain medical risk factors (eg, people who have cancer, kidney disease, diabetes, or who are taking chemotherapy of long-term steroid treatment); and immunocompromised people (eg, people with HIV or acquired immune deficiency syndrome, AIDS).

People with LTBI are not infectious and do not have symptoms of TB disease. However, LTBI may be treated to reduce the risk of a person developing TB disease. This risk is higher within the first two years of becoming infected with LTBI.

Bacillus Calmette-Guérin (BCG) is the only available TB vaccine. BCG does not prevent infection with TB, but it has been shown to be effective at preventing serious extrapulmonary TB disease (miliary TB and TB meningitis) in young children. BCG vaccination is only offered to newborn infants (and children under five years of age who missed vaccination at birth) from families or population groups at high risk of TB disease. BCG vaccination of adults (including people and staff working in correctional facilities) is not recommended because the value of such vaccination is unclear.

In New Zealand correction facilities, a symptom-based approach is used to identify people with active TB. All new people entering a correctional facility are screened for symptoms of active TB via a symptom questionnaire and then clinically managed as required.

## 2.1 Incubation period, transmission and communicability

People with active TB have replicating TB bacteria in their bodies. They usually have symptoms of TB disease, although these may be mild and difficult to define in the early stages. Only people with TB disease of the lungs (pulmonary TB) or larynx are capable of spreading the bacteria through the production of aerosol droplets, mainly through coughing, and therefore can pass on the infection to others. People with TB disease outside the lungs (extrapulmonary TB) are not generally infectious.

The period from initial infection to showing a primary lesion or a significant tuberculin reaction is between 4 and 12 weeks. As noted above, only about 10 percent of healthy adults with LTBI will then go on to develop active TB disease at some stage during their lifetime. The risk of progression to active TB is higher within the first two years following infection and in people who are immunocompromised.

Transmission of TB is via aerosol droplets. Aerosols containing TB bacteria are expelled into the air when a person with infectious TB disease of the lung or larynx coughs, sneezes, speaks or sings. The aerosols produced by a person with TB can remain in the air for several hours, especially in enclosed spaces. People breathing in air containing TB aerosols can become infected. However, TB is not easy to catch: it usually takes many hours of close contact with a person who has infectious TB, such as occurs among household members.

People with TB who are on anti-TB drug treatment are generally not considered infectious after the first two weeks of treatment because their infectivity is markedly reduced after this period. However, in some circumstances, even if they are being treated, a person with TB can be infectious for longer than two weeks. In this situation, the TB specialist physician and the medical officer of health can provide appropriate advice on infection control.

## 2.2 Clinical picture

People with LTBI are well and have no symptoms.

The symptoms of TB disease include:

- unexplained weight loss
- unexplained fever
- loss of appetite
- sweating (especially at night)
- feeling tired or weak all the time.

In addition to these general symptoms, symptoms of pulmonary TB may also include:

- prolonged coughing (a persistent cough lasting three weeks or more and not getting better)
- haemoptysis (coughing up blood)
- chest pain and shortness of breath.

The symptoms of TB disease elsewhere in the body depend on the part of the body affected (eg, enlarged lymph nodes in lymph node TB or hoarseness, sore throat and cough in the rare but very infectious cases of laryngeal TB). People with TB may have no symptoms early on in the course of the disease but usually develop one or more of the symptoms listed above as the disease progresses.

## 2.3 Diagnosis, treatment, supervision and follow-up

TB is a notifiable disease. Any doctor who strongly suspects or who has diagnosed a case of TB must notify the medical officer of health at their local public health unit (PHU). Direct laboratory notification of positive diagnostic tests for TB has occurred since 2007.

Diagnosis of active TB disease is made on the basis of some or all of:

- clinical findings on history and examination
- chest X-rays
- sputum tests (TB bacteria or acid-fast bacilli in the sputum)
- urine tests
- blood tests
- histologies.

The major role of tuberculin skin tests (Mantoux tests) and interferon gamma release assays (IGRAs – blood tests) is to diagnose LTBI, not active TB disease.

TB treatment is prescribed by a TB specialist (a respiratory physician or infectious diseases physician). The medical officer of health at each local PHU has legal duties under the Health Act 1956 to ensure that:

- appropriate examinations are carried out on people suspected of suffering from TB
- contact tracing is carried out
- people who are found to have TB disease obtain medical treatment
- action is taken to prevent the spread of TB.

In most regions of New Zealand, the responsibility for supervising and assisting all patients with TB to complete their treatment and for following up any contacts who may need testing, usually falls to the local public health service. However, other arrangements are also possible; for example, the TB specialist from the clinical TB service or a clinical TB service outreach team may be responsible for the overall supervision of a person's TB treatment.

# 2.4 Epidemiology

## 2.4.1 Status of TB internationally

TB has existed for millennia and remains a major global health problem. It causes ill-health in millions of people each year and, in 2015, was one of the top-10 causes of death worldwide and the leading cause of death from an infectious disease (WHO 2016).

The Sustainable Development Goals (SDGs) for 2030 were adopted by the United Nations in 2015. One SDG is to end the global TB epidemic. The 'WHO End TB Strategy', approved by the World Health Assembly in 2014, calls for a 90 percent reduction in TB deaths and an 80 percent reduction in the TB incidence rate by 2030 from 2015 rates. This requires all countries to play their part, including those with a lower TB burden. Six countries account for 60 percent of new cases of TB disease: India, Indonesia, China, Nigeria, Pakistan and South Africa. Low-burden countries like New Zealand are encouraged to focus on risk groups, including people in correctional facilities.

## 2.4.2 Status of TB in correctional facilities internationally

In many countries around the world, there are disproportionately high rates of TB in correctional facilities compared with in the civilian population (TB is reported to be up to 100 times more common in correctional facilities than in civilian populations). In New Zealand, between 2011 and 2016, 15 notified TB cases were recorded as having currently or previously been in a correctional facility in this country. A further two cases were correctional facility workers, and another two were in New Zealanders in overseas correctional facilities.

## 2.4.3 Status of TB in New Zealand

Approximately 300 cases of active TB are notified annually to public health services in New Zealand, with the majority of all notified cases occurring in the greater Auckland region. There are marked ethnic and socioeconomic differences in TB rates in New Zealand. People who were born or have lived more than three to six months of their lives in an overseas country that has a high incidence of TB are at increased risk of contracting TB. Over 80 percent of TB cases in New Zealand occur in people born outside New Zealand. MDR-TB cases are rare in New Zealand.

Annual reports summarising the descriptive epidemiology of TB notification in New Zealand are prepared by the Institute of Environmental Science and Research Limited (ESR) and available on the Public Health Surveillance website at: **www.surv.esr.cri.nz**

In New Zealand, the rates of TB are small, and cases are isolated; however, an outbreak of TB in a correctional facility could have a significant impact on the health of large numbers of people and staff working within that environment.

# 3 Managing TB in correctional facilities

Active TB disease is treated with multiple anti-TB medications for a minimum of six months. Successful adherence to and completion of a TB treatment course is essential but challenging for any person with the disease and for staff managing their treatment. Corrections health services face additional challenges, including dealing with people with active TB who are in a correctional facility for a short duration and people who are hard to reach once they have been released from a correctional facility into the community.

Continuity of care is important for people in correctional facilities who are receiving TB treatment. It is ideal to have the same clinical service and TB treatment supervising service (public health service and/or clinical TB service) involved throughout the treatment course while the person is infectious.

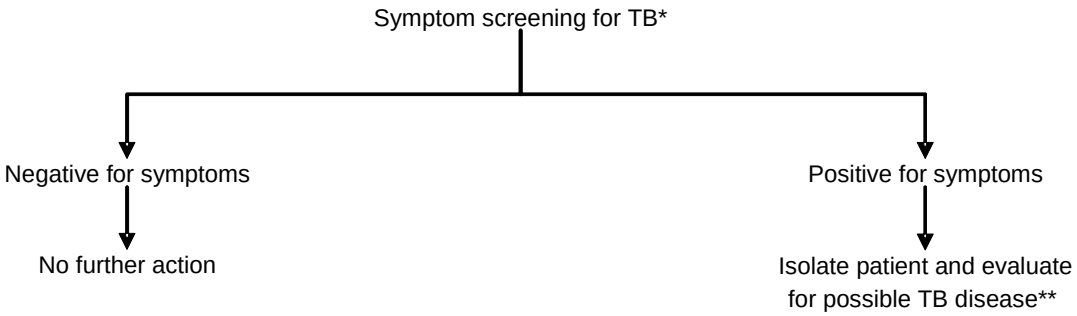
People in correctional facilities with active TB where aerosol droplets can lead to infection (lung, larynx, laryngeal) **must not** be transferred to another facility until the infectious phase has been eliminated.

People in correctional facilities with active TB of types that are not infectious by aerosol droplet may only be transferred if the reason for the transfer outweighs continuity of care at the existing facility. The regional clinical director must be notified of any decision to transfer the person before the transfer takes place. If the transfer is to proceed, the original Corrections health service must give a verbal and written handover to the receiving facility. The local PHU must also be notified of the transfer.

# 3.1 Symptom-based screening

The purpose of screening is to identify people who have active TB disease. Figure 1 shows a recommended minimum process for screening patients on their entry into a correctional facility to identify active TB. The Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO) guidelines recommend that all people be screened for active TB on entry into a correctional facility (CDC 2006 and Bone et al 2000 respectively).

**Figure 1: Recommended minimum TB screening people on entry into a correctional facility**




* Cough for more than three weeks, haemoptysis, fever, sweats.

** History, physical examination and chest X-ray.

As part of their initial health assessment, people are asked questions to ascertain:

- whether they have any symptoms that could be indicative of TB
- if they have active TB disease
- if anyone close to them has had TB
- their family history of TB and other contact history
- whether they have had a previous diagnosis of TB or LTBI.

Active screening for LTBI is not undertaken.

## 3.1.1 Physical examination

A thorough medical examination, including checking for lymph nodes, should be undertaken if the initial health assessment suggests possible TB disease.

### 3.1.2 Chest X-ray

People suspected of possible TB must have a chest X-ray. If the chest X-ray is normal, consideration must be given to determining the most appropriate course of action. This may involve treatment for LTBI where there is a positive Mantoux or IGRA test.

All cases where there is the possibility of TB disease should be discussed promptly with an appropriate hospital specialist, without awaiting results of sputum culture for TB.

### 3.1.3 Mantoux test or interferon gamma release assay (IGRA)

Mantoux or IGRA testing is not normally conducted in the correctional facility environment, but either a Mantoux test *or* an IGRA should be completed following consultation with the medical officer of health as soon as an abnormal chest X-ray has been reported and taking into account the patient's previous history and current symptomology.

Following a positive Mantoux or IGRA test *and* an abnormal chest X-ray, the patient must be isolated until further investigations have been completed.

Mantoux or IGRA test results must be recorded in the electronic clinical file, which will be accessible to subsequent health care services on any transfer. Test results must be highlighted in the patient's electronic clinical file to ensure that a high index of suspicion is always maintained for the development of active TB disease. People who have emigrated from high-prevalence TB countries should be screened for LTBI according to the latest Ministry of Health guidelines for TB control.

## 3.2 Infection control

New arrivals to a correctional facility may, during their reception health screen or initial health assessment, give a history of being on current treatment for active TB disease (diagnosed in the community), past treatment for active TB disease or LTBI, or past diagnosis of LTBI without treatment. Infectious TB may also be suspected and diagnosed for the first time in a person while that person is in custody.

Any information of current treatment must be shared with the local PHU.

People who have been treated in the past for active TB disease or diagnosed with LTBI (treated or untreated) do not pose an infection risk to others unless they have current symptoms and/or signs suggestive of active pulmonary TB disease.

In all the above situations, Department of Corrections health staff, regional public health service staff and district health board (DHB) specialist clinicians caring for the TB case (if the person currently has active TB) must communicate promptly and liaise closely regarding whether or not any infection control precautions are needed, as well as regarding case management (if relevant).

As a general rule, where an infectious pulmonary or laryngeal TB case has been diagnosed for the first time in a person already being held in a correctional facility, the patient should be managed as agreed by the medical officer of health. Depending on the extent of their disease, some TB cases can be infectious for a longer period even if they are being treated, and so the period of isolation might be longer than two weeks in some cases.

At all times, correctional facility staff and public health services / clinical TB services must take adequate precautions to prevent the spread of infectious TB disease to themselves or others while investigating and managing TB cases in a correctional facility.

These precautions include: education for the use, if appropriate, of various forms of personal protective equipment (PPE), such as N95 respirator masks; the safe management of clinical samples, such as sputum; and providing advice to others to reduce the risk of transmission. Corrections Health Services' Infection Prevention Manual include advice on outbreak management.

Corrections health services must seek, liaise with and follow the advice of public health services when there is a suspected or confirmed case of TB in a correctional facility.

## 3.3 Health and Safety at Work Act 2015

The Health and Safety at Work Act 2015 (HSWA) is New Zealand's workplace health and safety law. Under HSWA, the Department of Corrections is responsible for ensuring that it is meeting its health and safety responsibilities for all staff. This is done through understanding and managing the key risks at work.

TB in a correctional facility is a key risk to the facility's staff that can be mitigated through infection control procedures. The risk of contracting pulmonary TB is highest for people who are in close contact with those who have TB.

The Department of Corrections has health and safety advisors and health services staff who will be able to provide initial advice on outbreak management as per their infection control manuals.

If you require more information regarding the HSWA talk to your manager. You can also seek advice from the Department of Corrections' legal services in national office.

## 3.4 Directly observed therapy

Directly observed therapy (DOT) is where a person is given prescribed anti-TB medication by a nominated health care worker and is 'observed' (watched) while swallowing the medication. The observer must remain until all the medication has been swallowed and ensure that no medication has been concealed.

In general, people with TB should be prescribed daily anti-TB medication, to be given by daily DOT. If anti-TB medication is prescribed as intermittent DOT, DOT should be three times per week, as recommended by the WHO. Each DOT dose must be documented (given/not given), both on the patient's normal drug administration form and on a purpose-designed manual (paper) DOT record.

## 3.5 Adherence

It is essential that adherence to anti-TB medication is closely monitored throughout the course of TB treatment, which has a minimum duration of six months (but, in some circumstances, needs to continue for up to 12 months or longer). Adherence is defined as reliable consumption of anti-TB medication according to a predetermined plan. Health care workers should seek guidance from Regional Public Health regarding DOT administration of TB medication (see section 3.6 for further details).

Adherence is particularly important in treating TB in order to:

- increase the likelihood of curing patients
- prevent the spread of TB to others in the community (both within and outside the correctional facility)
- prevent the development of MDR-TB.

# 3.6 Shared-care management of patients with TB in correctional facilities

**Note on terminology used in this protocol**

This protocol generally refers to public health nurses (PHNs) in the overall supervisory role, because in most regions of New Zealand, the PHN, acting for the local public health service's medical officer of health, has overall responsibility for managing a TB case. However, as noted in section 2.3: Diagnosis, treatment, supervision and follow-up, a few regions around New Zealand have other arrangements for the supervision of TB treatment. Therefore, throughout this protocol, if necessary, the terms 'PHN' and 'public health service' should be replaced by the relevant TB treatment supervising service or staff member's designation (the TB specialist for the clinical TB service or a clinical TB service outreach team member), as appropriate for the local arrangement, and tasks should be adapted accordingly.

A PHN from the local public health service maintains overall responsibility for the case management of TB cases, including people in correctional facilities with TB. Arrangements for DOT for each new TB case must be made on a case-by-case basis, considering the individual clinical circumstance of each case. Usually a registered nurse employed by the Department of Corrections will administer DOT to people with TB in a correctional facility but, in some circumstances, a PHN may administer DOT. In general, once the following conditions have been met, daily DOT should be given by a correctional facility nurse, with ongoing training, support and supervision provided by a PHN.

- The person with TB has accepted the need for treatment.
- The person has been stabilised on treatment.
- The person has already had a period of at least a month on DOT (administered by hospital staff if still in hospital, and administered by the PHN, or under close supervision of the PHN, following discharge from hospital) and has displayed no side effects.

The PHN must provide training to the correctional facility nurse, including:

- education about TB disease and LTBI
- the definition of DOT and instructions on its delivery and documentation
- information about the prescribed medication (including side effects)
- clear guidance to contact the PHN immediately if there are any problems or issues (all deviations and exceptions to the straightforward administration of DOT must be documented by the correctional facility nurse and communicated immediately by phone to the PHN).

# 3.7 Responsibilities and tasks in TB case management of patients in custody

## 3.7.1 PHN responsibilities and tasks

The PHN works for the local public health service and is responsible for the overall case management of each person with TB who is assigned to them. The PHN is responsible for:

- facilitating or providing ongoing training, support and supervision, preferably on site at the correctional facility, to the facility's nursing staff who will be administering DOT to the patient with TB
- maintaining regular communication with the facility's nursing staff regarding the patient with TB
- becoming familiar and adhering to the necessary Department of Corrections rules/regulations (including entry/search procedures, escort, photo ID, bringing minimum equipment necessary, no cell phones)
- making weekly visits to the correctional facility to:
  - meet with the facility's nurse(s)
  - give, or observe, the DOT dose for that day
  - discuss and review the patient's TB management, including adherence, medication side effects, medication safety issues, laboratory test results, forthcoming outpatient appointments, etc
  - any other issue arising (if the weekly visits are not possible in some certain circumstances, weekly telephone discussions/reviews are strongly recommended, with visits when possible)
- obtaining the prescription from the prescribing clinician, checking that the prescription is correct and, if not, alerting the prescribing clinician to potential errors
- ensuring an uninterrupted supply of medication is available, with a minimum of one-to-two weeks supply of blister-packed medication always available on site
- checking drug sensitivities to ensure the medication for the person with TB is changed appropriately by the responsible clinician as soon as possible (eg, as soon as the laboratory reports mono- or multi-drug resistance or, conversely, as soon as the organism is found to be fully sensitive, at which point ethambutol can be stopped if recommended by the physician) and delivering the appropriately changed medication supply to the correctional facility
- supplying the correctional facility with a copy of the current prescription, list of medication side effects and any other necessary documentation
- immediately reporting any concerns regarding medication side effects to the prescribing clinician
- immediately reporting any TB medication administration errors to the prescribing clinician and to the medical officer of health

- immediately reporting any missed clinic or chest X-ray appointments to the prescribing clinician and the medical officer of health (eg, if the person refuses to attend)
- notifying or reminding the correctional facility nurse of pending/due outpatient appointments, laboratory tests (eg, liver function tests), changes to the medication regimen, changes to the expected duration of TB treatment, etc.
- keeping accurate documentation at the public health service relating to each interaction with the person with TB and/or the correctional facility nursing staff (all telephone calls and visits must be documented accurately, whether or not the patient with TB was spoken to or seen)
- keeping up-to-date documentation relating to the patient with TB (ie, ensuring that, in order to collect accurate surveillance data for TB, all necessary changes/updates are made to the patient's TB case report form in the national notifiable diseases surveillance system (ESR Public Health Surveillance – EpiSurv), including a final update at the end of the TB treatment).

### 3.7.2 Correctional facility nurse responsibilities and tasks

The flowchart in the appendix outlines the Department of Corrections health services nurse's day-to-day responsibilities and tasks relating to TB case management. The correctional facility's registered nurse is responsible for:

- placing a transferability constraint on offenders of integrated offender management (IOM) to retain the patient at the current correctional facility for the duration of their treatment, where possible
- undertaking ongoing TB training / training updates as necessary and accepting training by and support and supervision from the PHN, who is responsible for overall case management of the patient with TB
- maintaining regular communication with the PHN regarding the patient with TB
- meeting with the PHN weekly at the correctional facility:
  - to enable the PHN to give or observe the daily DOT dose being given
  - to discuss and review the person's TB management, including adherence, medication side effects, medication safety issues, laboratory test results, forthcoming outpatient appointments
  - to discuss any other issue arising (if the weekly visits are not possible in certain circumstances, weekly telephone discussions/reviews are strongly recommended, with visits when possible)
- administering the correct DOT doses to people with TB
- immediately reporting to the PHN by phone if any DOT dose is not given (eg, the patient refuses the dose, the patient is in hospital, the patient misses their dose due to court attendance)

- accurately documenting each DOT dose give / not given; both on the patient's normal drug administration form and on a purpose-designed manual (paper) DOT record
- supplying a copy of the DOT record to the PHN during the PHN's weekly visit
- documenting the PHN's visits and all phone calls / emails to and from the PHN in the patient's electronic clinical file (Medtech)
- immediately reporting any concerns about medication side effects to the PHN by phone and documenting this phone conversation in the patient's electronic clinical file
- immediately reporting any TB medication administration errors:
  - to the PHN by phone
  - in writing as a Health Services Incident Report (HSIR), and
  - documenting this error in the patient's electronic clinical file
- arranging for the patient to be escorted to any outpatient appointments as necessary
- immediately reporting to the PHN by phone if the patient misses or will miss a clinic or chest X-ray appointment (eg, if the patient refuses to attend the appointment)
- immediately reporting to the PHN by phone, with as much advance warning as possible (minimum of 24 hours), if the patient is due to appear in court, is being transferred to another facility or is due to be released from the correctional facility
- arranging for the collection or delivery of laboratory specimens
- informing the PHU if the patient is about to be released from custody and where they are being released to (if known).

## 3.8 Screening health care workers in correctional facilities

Custodial officers escorting patients with known or suspected TB must wear a suitable mask, for example, N95, at all times when in close proximity (1 metre) of the patient.

## 3.9 TB contact investigation

TB contact investigation is a specialised task. In addition to having responsibility for the overall case management of each patient with TB assigned to them, the PHN working for the local public health service is responsible for investigating and managing all associated exposed contacts of the TB case, both inside and outside the correctional facility.

The aim is to minimise current or further ill health in individuals and transmission of TB to others by:

- educating all contacts of a person in a correctional facility about TB disease and LTBI
- identifying infected contacts who require treatment of active TB disease, or management of LTBI (including, as appropriate, treatment of LTBI, follow-up with chest X-rays or education and discharge).

## 3.10 LTBI case management for people in correctional facilities

People may have been found to have LTBI:

- as a result of screening the contacts of an infectious pulmonary disease in another person
- have been imprisoned after having been diagnosed with LTBI in the community.

The aim of treating LTBI is to reduce the risk of the future development of active TB disease in a person with LTBI. People with LTBI should be evaluated for treatment by a specialist.

People with LTBI do not have symptoms and are not infectious to others. Therefore, infection control precautions in correctional facilities are not required. However, LTBI can progress to active TB disease, therefore Corrections Health Services nurses and PHNs should be alert to the development of signs and symptoms of active TB disease in a person with LTBI, even if the person is currently on LTBI treatment or has been treated for LTBI in the past.

If the decision is made to treat LTBI in a person who is held in a correctional facility, anti-TB medication must be given via DOT, and this protocol must be followed.

## 3.11 Communication

Regular communication is essential for the successful shared case management of people in correctional facilities with TB or LTBI. A communication plan between the facility, public health services and the local infectious diseases unit should be established. Prompt communication of issues and information is integral to many of the responsibilities and tasks of the PHN and correctional facility nurses. The public health services and the PHN or clinical TB service (depending on local arrangements) allocated to each correctional facility should have contact details for the following people at each correctional facility in the public health service's geographic area:

- regional clinical director
- health centre manager
- team leader
- nurses.

The health centre staff at each correctional facility should have contact details for the following people (or their equivalent) at the regional public health service or clinical TB service (depending on local arrangements) that covers the geographic area in which the correctional facility is situated:

- manager, communicable disease team
- PHN(s) allocated to that correctional facility
- medical officer of health
- after-hours public health service staff phone contact details or the TB specialist (respiratory physician or infectious diseases physician) for the TB case
- clinical TB service staff member or outreach team member allocated to the TB case.

## 3.12 Issues that might require managing/reporting after hours

Some TB-related issues can arise with people in correctional facilities with TB outside normal working hours. The following examples are intended as a general guide for Department of Corrections health services nurses regarding the issues that need to be managed and/or reported to the public health service's on-call staff after hours and the issues that can wait until normal business hours.

### 3.12.1 Person refuses to take the Saturday or Sunday daily DOT dose

After documenting the missed DOT dose, the correctional facility's nurse should contact the PHN on the next working day to report a person's missed DOT dose. However, if the person has missed more than two DOT doses (eg, over a long weekend), the correctional facility's nurse should contact the public health service's on-call staff after hours to report the missed doses in addition to contacting the PHN on the next working day.

### 3.12.2 Anti-TB drug side-effects or adverse drug reactions

If the person is having a significant adverse drug reaction, with serious systemic symptoms, such as swelling of the lips or difficulty breathing, they must receive emergency medical attention immediately.

Urgent action is necessary and cannot wait until the next day where the person is experiencing signs and symptoms that could indicate potentially severe adverse reactions of hepatotoxicity, such as:

- jaundice
- dark urine
- vomiting
- abdominal pain
- fever
- visual changes
- marked clinical rash.

The correctional facility's nurse should phone the relevant clinical department (respiratory or infectious diseases) at the treating hospital immediately for advice (and, if relevant in that region, should inform the public health service's on-call staff regarding the severe adverse reaction or inform the usual PHN at the public health service on the next working day). Advice in this situation would be that the anti-TB medication be stopped immediately and urgent medical assessment and liver function testing be arranged.

The person may experience less severe signs and symptoms, for example:

- anorexia (this may be an early indication of abnormal liver function)
- nausea
- malaise
- tingling
- burning sensation in hands or feet
- rashes and/or skin itching.

These do not usually necessitate stopping the anti-TB drugs (especially early during the course of treatment). Patients are frequently given antihistamines to take for rash and/or itching.

If in doubt, the facility's nurse should phone the relevant clinical department (respiratory or infectious diseases) at the treating hospital for advice.

### 3.12.3 Transfer to another correctional facility

If the person is transferred to another correctional facility unexpectedly, the original correctional facility's nurse should phone the public health service's on-call staff to report the transfer as the case will need to be referred to the relevant PHU.

# 3.13 Legal aspects of TB control[1]

Under the Health Act 1956 (the Act), the medical officer of health is given wide powers to investigate and control all TB cases and their contacts. A medical officer of health has a legal duty to ensure that:

- people suspected of suffering from TB are examined appropriately
- contact tracing is carried out
- people who are found to have TB disease obtain medical treatment
- action is taken to prevent the spread of TB.

Part 3A of the Act focuses on the public health risk and how PHUs manage that risk.

The Act provides for the medical officer of health to authorise a direction or an order. Directions cannot be used to force people to comply. Where there is non-compliance, the medical officer of health can consider applying for a court order to achieve the desired public health outcome.

Any person who is subject to a direction can appeal to the District Court against the direction. However the person who is subject to the direction is still under obligation to comply with the direction until the court sets aside that direction.

The Act also authorises the medical officer of health to apply the following types of court order.

- Public health orders (including orders contingent on medical examinations establishing infectious disease)
- Medical examination orders
- Orders for contacts.

In New Zealand, although a person can be isolated, they cannot be forced to take medication of any kind (including anti-TB medication) against their will.

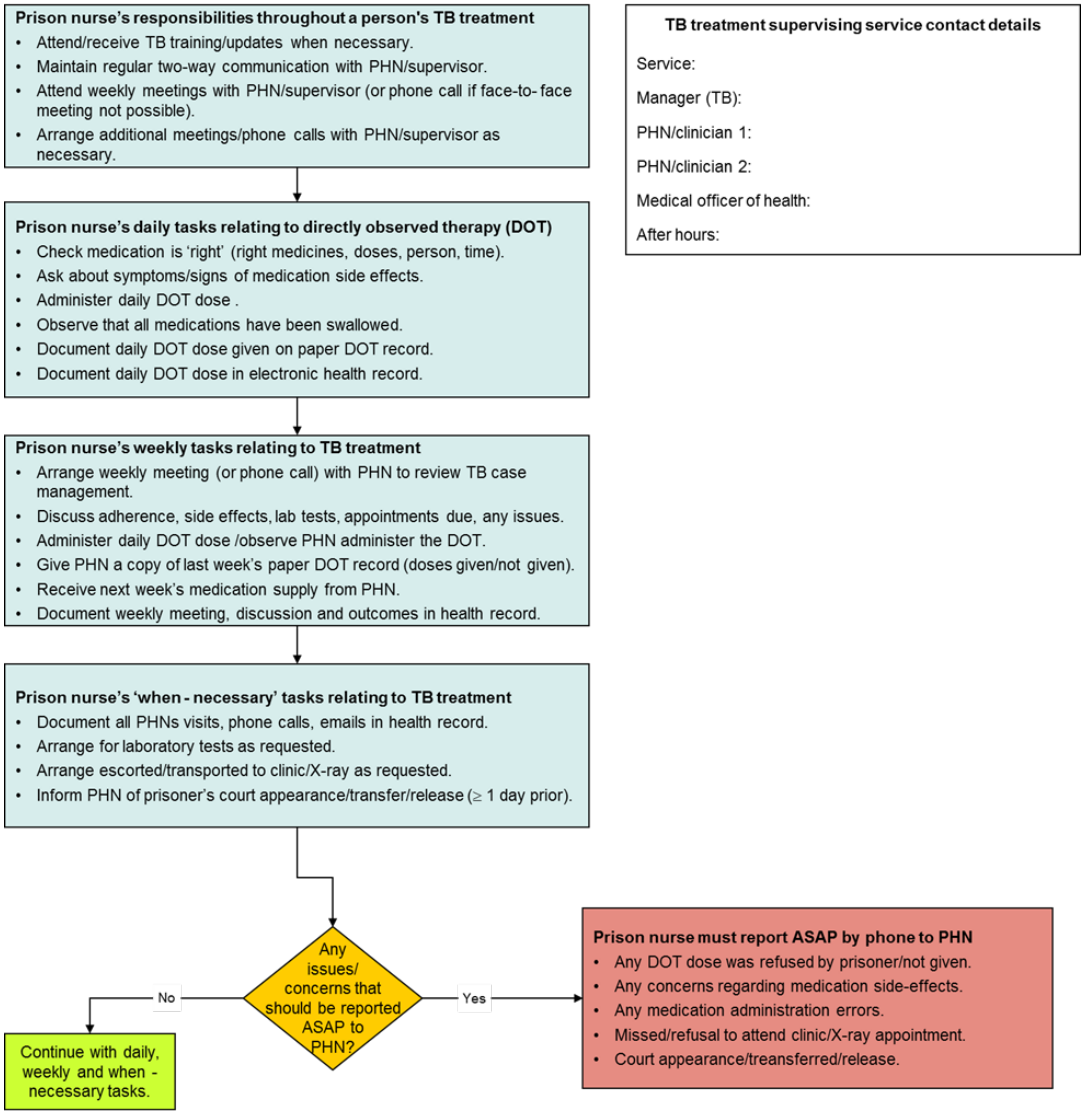
If the medical officer of health is concerned about a person who might have or does have TB, the officer has a duty to ensure that the person is appropriately managed and does not spread TB infection. The medical officer of health must issue the relevant order if necessary. Department of Corrections health staff must inform the medical officer of health at the local public health service if:

- a person in a correctional facility who is suspected of having TB because they have the signs and symptoms suggestive of active TB disease refuses to be examined or to have a chest X-ray or other tests related to the diagnosis of TB
- a person in a correctional facility with already diagnosed TB disease refuses to attend clinic or to have a chest X-ray or other tests related to progress monitoring of their TB disease treatment.

[1] See Bone et al 2000.

# Appendix: Correctional facilities nurse's responsibilities and tasks relating to TB case management in people in the correctional facility

(With overall supervision / case management by PHN/TB treatment supervisor.)



# References

Bone, A, Aerts, A, Grzemska, M, et al. 2000. *Tuberculosis Control in Prisons: A manual for programme managers.* Geneva: World Health Organization. URL: **http://apps.who.int/iris/bitstream/10665/66823/1/WHO_CDS_2008.281.pdf (accessed 15 November 2018).**

CDC. 2006. Prevention and control of tuberculosis in correctional and detention facilities: Recommendations from CDC. *MMWR* 55(RR-9). URL: **https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5509a1.htm (**accessed 15 November 2018).

WHO. 2016. *Global Tuberculosis Report 2016*. Geneva: World Health Organization. URL: **www.who.int/tb/publications/global_report/en/ (accessed 15 November 2018).**

# Further information

Department of Corrections. Health care. URL: **www.corrections.govt.nz/working_with_offenders/prison_sentences/being_in_prison/health_care.html**

Ministry of Health. 2006. *Results from the Prisoner Health Survey 2005*. Wellington: Ministry of Health. URL: **www.health.govt.nz/publication/results-prisoner-health-survey-2005** (accessed 15 November 2018).