Guidelines for Tuberculosis Control in New Zealand 2010
Chapter 10: Tuberculosis Control in People from Countries with a High Incidence of Tuberculosis
Acknowledgements

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Summary

Tuberculosis is a global problem. In New Zealand, as in other countries with a low-incidence, tuberculosis rates are strongly influenced by migration from high-incidence countries. About 65% of TB cases in New Zealand are foreign-born, and most cases occur in the first five years after arrival. While this may place costs on the New Zealand healthcare system, it does not act as an important source of TB for most New Zealand-born populations.

This chapter summarises the:

- current rates of TB in people from high incidence countries
- immigration screening requirements for TB disease
- current screening and management recommendations for people from high incidence countries with LTBI
- initial steps in investigation of an abnormal immigration CXR
- considerations when deporting people with who may have TB
- recommendations for travellers planning to spend extended time in high-incidence countries.

Finally, the importance of early detection of TB disease is emphasised. General practitioners, particularly those with patients from high-incidence countries, are aware of the need for early detection of tuberculosis, to improve clinical outcomes and limit the spread to others. They should inform new patients from high incidence countries about:

- the need for early investigation of signs and symptoms of TB
- TB is a treatable disease
- treatment of TB in New Zealand is free.

This chapter is intended as a reference for clinicians, public health practitioners and immigration officials who work with people from high-incidence countries.
Introduction

Internationally, migration has a huge impact on the global distribution of tuberculosis. In many low-incidence countries, TB among the foreign-born contributes a substantial proportion of the total number of cases.\textsuperscript{1,2} This chapter briefly summarises the effect of migration on TB in New Zealand and summarises the measures that are used to minimise the impact on New Zealand’s health care system. New Zealand also has a responsibility to contribute to global TB control but this is not covered in this chapter.
1 Influence of Immigration on Tuberculosis in New Zealand

1.1 Tuberculosis in foreign-born people in New Zealand

A review of TB notification data from 1995 to 2004 found that TB incidence is not decreasing in New Zealand mainly due to infection of TB infected people from high-incidence countries. During this time, of cases for whom country of birth was known, 64% were born overseas. The numbers of TB notifications were highest within the first year of arrival and decreased substantially in the subsequent years.

Between 2000 and 2004, incidence of TB in New Zealand were over 100 per 100,000 in people born in:
- Ethiopia, Somalia, Zimbabwe
- Afghanistan, Pakistan, India, Cambodia, Laos, Vietnam, Philippines
- Tuvalu.

While this may place costs on the New Zealand healthcare system, it does not act as an important source of TB for most New Zealand-born populations.

1.2 Tuberculosis rates in the Pacific region

From 2000–2004, TB incidence in the people born in the Pacific Islands was 42.2 (per 100,000). This compares with the rate in New Zealand born people of 3.9.

New Zealand has a strong interest in the control of TB in Pacific nations because of the increasing Pacific population in New Zealand as well as our proximity, social and economic links, and commitment to development in the region.

1.3 Multi-drug resistant tuberculosis (MDR-TB)

From 1995–2004 there were 19 cases recorded of MDR-TB. Eighteen of the 19 cases identified were in people born overseas who were presumed to have acquired the MDR-TB overseas. Although the incidence of MDR-TB is currently low in New Zealand, increasing numbers of MDR-TB cases are likely to be diagnosed in the future, as many migrants to New Zealand come from countries where MDR-TB is much more prevalent than in New Zealand. See Chapters 1 and 3 for more information.
2 Immigration Screening for TB

2.1 Purpose of tuberculosis screening

People intending to travel to New Zealand and stay for a period of more than 6–12 months and people wishing to extend their stay (to more than 6–12 months) (see Table 2.1) in New Zealand are screened to detect active TB disease, so early, effective medical intervention can be offered.\(^5\) This provides a public health benefit of improved TB control. The application for a temporary visa or residence provides a unique opportunity for screening and may represent one of the few reliable points of contacts for new arrivals.\(^1\)

2.2 Immigration New Zealand tuberculosis requirements

Immigration New Zealand requires people intending to stay in New Zealand for more than 12 months to have a medical examination and a chest X-ray (CXR) before they arrive in New Zealand (see Table 2.1). If they are already in New Zealand when they decide to extend their stay, this process is done in New Zealand.

A doctor in New Zealand or, if the examination is conducted in another country, an approved Immigration New Zealand panel doctor must complete the medical and CXR certificate. Completed forms must not be more than three months old when the person lodges their application for entry. If the certificate is more than three months old, the applicant is usually required to submit another examination and CXR. However, once an application for temporary entry has been lodged, the certificate can be used for any entry within two years. A physician in New Zealand examines abnormal CXRs and provides comment on whether or not the person has an acceptable standard of health for entry into New Zealand.

If they are intending to stay more than six months but less than 12 months, people assessed as having risk factors for TB must have a CXR and have a temporary X-ray certificate completed by a radiologist. Risk factors for TB are:

- holding a passport of a country not on the list of low TB prevalence countries
- having spent a total of three months or more in the past five years in a country which is not on the list of low TB prevalence countries.\(^6\)

Immigration New Zealand cannot require TB screening in:

- people with New Zealand or Australian passports
- people from the Cook Islands, Tokelau and Niue (who hold New Zealand passports)
- children involved in overseas adoptions (who have been granted New Zealand citizenship before arrival).

This is because people travelling on New Zealand passports have an unfettered right of entry to New Zealand and cannot be subjected to immigration screening or controls. People travelling on Australian passports are not subject to normal immigration controls, as they have the right to travel to New Zealand without a visa and remain in New Zealand indefinitely.
Immigration New Zealand does not require TB screening in:

- people who hold Australian permanent residence (who are treated for immigration purposes as though they have New Zealand permanent residence)
- asylum seekers (who are however strongly encouraged to undertake (free) screening, through information provided with the letter sent advising that their asylum claim has been received)
- children under 11 years of age, and pregnant women (unless a CXR is requested by Immigration New Zealand).

Quota refugees are screened for TB offshore and again after arrival in New Zealand (see section 2.4).

**Table 2.1: Questions in the Immigration New Zealand Medical and Chest X-ray Certificate (INZ 1007), May 2010**

<table>
<thead>
<tr>
<th>Section</th>
<th>Question asked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section B: Medical history of person having the medical examination</td>
<td>B10: Do you have or have you ever had tuberculosis (TB), an abnormal chest X-ray, chronic cough, coughed up blood, or had close contact with a person with TB?</td>
</tr>
<tr>
<td>Section D: Medical examination and findings</td>
<td>D6: Are there any abnormalities in the respiratory system (including nose and lungs)? D11: Are there any abnormalities in the lymph nodes?</td>
</tr>
<tr>
<td>Section F: Medical examiner’s summary of findings</td>
<td>Please provide your comments on the history and health of this applicant, especially any areas where you consider follow-up is required. Please note any further tests or investigations that you would recommend.</td>
</tr>
<tr>
<td>Section K: Results of chest X-ray examination</td>
<td>K4: Hilar and lymphatic glands Normal Abnormal K6: Lung fields Normal Abnormal K7: Evidence of TB No Yes K8: Evidence of old, healed TB No Yes K9: Evidence suspicious of active TB No Yes</td>
</tr>
</tbody>
</table>

Source: Immigration New Zealand (2010).7

### 2.3 New Zealand entry requirements

Table 2.2 summarises the medical requirements for the various visas and permits for people entering New Zealand. Immigration New Zealand also reserves the right to ask any person applying for a visa to enter New Zealand to undertake a medical examination and CXR before the visa is issued, even if their stay is for less than 12 months.
### Table 2.2: Current Immigration New Zealand visas and medical requirements

<table>
<thead>
<tr>
<th>Visa type</th>
<th>Description</th>
<th>Permitted length of stay</th>
<th>Medical exam and X-ray*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitor visa</td>
<td>Required for visits to New Zealand unless from a visa waiver country</td>
<td>Nine months in an 18-month period (may be extended for three extra months)</td>
<td>Required if applicant is intending to stay in New Zealand longer than 12 months (medical exam and X-ray) +</td>
</tr>
<tr>
<td>Work visa</td>
<td>Required for those offered employment in New Zealand</td>
<td>Up to three years</td>
<td></td>
</tr>
<tr>
<td>Student visa</td>
<td>Required for study in New Zealand of over three months’ duration</td>
<td>Three months or longer</td>
<td></td>
</tr>
<tr>
<td>Limited purpose visa</td>
<td>Required if entering New Zealand for a specific purpose</td>
<td>No maximum applied – depends on the purpose of visit but is usually brief</td>
<td></td>
</tr>
<tr>
<td>Recognised seasonal employer limited purpose visa</td>
<td>Required if entering New Zealand under the recognised seasonal employer scheme</td>
<td>Up to nine months</td>
<td>Required, regardless of intended length of stay in New Zealand, if the applicant has risk factors for TB (X-ray) +</td>
</tr>
<tr>
<td>Residence visa</td>
<td>Required if wanting to live in New Zealand indefinitely</td>
<td>Indefinite</td>
<td>Required†</td>
</tr>
<tr>
<td>Asylum seeker</td>
<td></td>
<td></td>
<td>Required on application for residence (encouraged beforehand)</td>
</tr>
<tr>
<td>Quota refugee (residence)</td>
<td></td>
<td></td>
<td>Screened before travel and on arrival</td>
</tr>
<tr>
<td>Samoan Quota (residence)</td>
<td></td>
<td></td>
<td>Required before arrival†</td>
</tr>
</tbody>
</table>

* Must be completed before arriving in New Zealand if stay is intended to be at least 12 months, and must be completed in New Zealand if stay is extended to longer than 12 months.

† Applicants must:
- not be likely to be a danger to public health
- not be likely to cause excessive demand on health or special education services
- be fit for the purposes of entry.

Source: Immigration New Zealand (2010). 8

### 2.4 Offshore screening of quota refugees

The goal of offshore screening is to diagnose and treat refugees before their travel to and resettlement in another country. An annual quota of refugees is accepted for permanent resettlement in New Zealand, mandated by the United Nations High Commissioner for Refugees (UNHCR). Since 2005, Immigration New Zealand has screened quota refugees for TB and human immunodeficiency virus (HIV) in approved offshore facilities. If found to have infectious TB, entry to New Zealand is delayed while they receive treatment. Quota refugees must still undergo medical examination (including a further CXR) on arrival, at the National Refugee Health Screening Centre, Mangere Refugee Reception Centre.
2.5 **Communication between countries**

Communication between national health authorities and between healthcare providers in different countries is important in the international control of TB.

Under the International Health Regulations 2005, the Ministry of Health in each participating country has a nominated ‘national focal point’. Information on people with tuberculosis who are travelling between countries, or about international contact tracing for people exposed to tuberculosis, should be transferred through this mechanism. In addition it may be necessary for clinicians to communicate directly with treating clinicians in other countries around case management.

2.6 **TB in people being removed or deported**

People who are not entitled to stay in New Zealand may be removed or deported at short notice. Immigration New Zealand officials involved in this process should check whether the person is under investigation or receiving treatment for TB, and should liaise early with the person’s doctor and the local medical officer of health if this is a possibility.

This is for two reasons:

- People with tuberculosis must not travel if they are infectious.
- Arrangements will need to be made between the clinicians and public health services locally and at the destination to ensure continuity of treatment for TB.
3 Investigation of Abnormal Immigration CXRs

Physicians are often asked to investigate a person in whom TB is suspected as a result of a CXR taken for immigration purposes.

3.1 ‘Immigration clearance’ for tuberculosis

An ‘immigration clearance’ is often requested for non-New Zealand residents after an abnormality is found on a CXR when a person applies for residence or a temporary entry visa. If the person has had previous multi-drug resistant TB, they should be reviewed by a specialist TB clinician.

Non-residents who are currently in New Zealand and elect to undergo private medical assessment for CXR abnormalities must pay for the ensuing costs, including TB-related costs. However, if the medical officer of health considers the health care services to be compulsory (as defined in the Minister of Health’s gazetted notice 2003 Direction of the Minister of Health regarding eligibility for publicly-funded health and disability services in New Zealand), the cost of investigating and treating TB disease in non-residents is borne by the New Zealand taxpayer.9

‘Compulsory’ services are defined as services the medical officer of health requires a person to undergo under section 9 of the Tuberculosis Act 1948 (for example, if a non-resident with an abnormal CXR suggestive of active TB disease refused to undergo medical assessment and/or further investigations due to inability to pay).

3.2 Role of the clinician in an immigration medical

The clinician needs to exclude or diagnose active TB disease, and must also decide if treatment is required for latent TB infection (LTBI) or inactive disease (requiring full preventive treatment).

The clinician must also consider other possible diagnoses (eg, lung cancer, chronic obstructive pulmonary disease or bronchiectasis).

In addition to obtaining the applicant’s history, a recent CXR and physical examination, the investigation may include:

- a Mantoux test or IGRA
- mycobacterial sputum testing
- mycobacterial tests on bronchial specimens.
- other investigations such as a CT scan of the chest.

See Chapter 2 for the more details on investigation of active and inactive TB disease.
3.3 Notifying the medical officer of health of cases of active TB

Under the Tuberculosis Act 1948, section 3(1), every medical practitioner is required to notify the medical officer of health if they have reason to believe that a person consulting them may have (or has been confirmed to have) active TB. Therefore if active TB is suspected, for example because the person has symptoms of TB and/or the CXR shows evidence suggestive of active TB, the medical practitioner concerned must notify the medical officer of health at the local Public Health Unit. This applies to all medical practitioners, including radiologists reporting CXR results for X-ray certificates for temporary entry, as well as physicians undertaking immigration medical examinations or examining people referred for further investigation because of an abnormal temporary entry CXR. A list of contact details for all Public Health Units is available on the Ministry of Health website.\(^\text{10}\)
4 Screening and Management of LTBI in People from High-incidence Countries

At a population level, the treatment of people recently infected with LTBI is more effective than treatment of people infected in the remote past.

Currently, screening and treatment for LTBI in people from high incidence countries is limited to refugee children aged under 16 years.

Adults who are recent immigrants from high-incidence countries should be screened and considered for LTBI treatment if they have:

- a known history of exposure to an infectious case within the preceding two years
- immune-suppression or a predisposing medical condition
- a fibrotic lesion on CXR and disease requiring full multi-drug treatment has been excluded.

Management of treatment for LTBI should be under the supervision of an appropriate medical, occupational health or public health specialist.

In view of advances in the diagnosis and treatment regimes for LTBI, it is timely to consider extending LTBI screening programmes for other children and adults from high-incidence countries. However any new programme needs to be adequately planned and resourced, to ensure adequate follow-up of medication side effects and adherence.
5   Travel to High-incidence Countries

The risk for travellers to high-incidence countries will relate to the length of stay, activity while overseas and prevalence of TB within the country visited.

BCG vaccination (if not previously administered) should be offered to children aged under five if travel to a high prevalence country is likely to exceed three months.

BCG vaccination is unnecessary in most adult travellers.

A two-step Mantoux or IGRA (see Chapter 8) should be done before visits of more than three months to a high-prevalence country, if there has not been a previous positive test.

Those travelling to undertake healthcare work and other high-risk activities should have pre-travel testing even if they are travelling for shorter durations. The test should be repeated eight weeks after return. If conversion has occurred, investigations for TB disease should be undertaken. If these are negative, but risk factors exist, treatment of LTBI should be considered.

A high index of suspicion and early investigation are required, if a returning traveller presents with symptoms suggestive of active TB.
6 The Importance of Early Detection

It is important that general practitioners with patients from high-incidence countries, are aware of the increased rate of TB in these patients and the importance of early detection. They should inform new patients from high incidence countries about tuberculosis, including:

- the need for early investigation of signs and symptoms of TB
- TB is most likely in the first year after arrival in New Zealand, but can also occur many years later
- TB is a treatable disease
- treatment of TB in New Zealand is free.
References


