Programmatic management of LTBI in the Netherlands

Gerard de Vries, MD MSc PhD
Coordinator TB control the Netherlands
KNCV Tuberculosis Foundation/RIVM-CIb

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Number of TB patients in the Netherlands

Total
Born in the Netherlands
Foreign-born
• Main new intervention is to screen immigrants and asylum seekers from high-risk countries for latent TB infection and provide preventive treatment.
Organisational structure: 25 GGDs with TB departments – organised now in 4 regional expert centres

Activities
• Notification TB/LTBI
• Contact investigation
• Screening risk groups
  • Immigrants
  • Asylum seekers
  • Prisoners
  • HCWs
• Patient support
• Other
## Monitoring screening interventions, 2014

<table>
<thead>
<tr>
<th>Intervention</th>
<th># screened</th>
<th>Prevalence</th>
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</thead>
<tbody>
<tr>
<td>Contact investigation (LTBI and CXR) 2013 data</td>
<td>7,158</td>
<td>44 TB (614/100k)</td>
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<tr>
<td></td>
<td>(86% for LTBI)</td>
<td>652 LTBI (10.6%)</td>
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<tr>
<td>Regular immigrants (CXR)</td>
<td>25,302</td>
<td>21 TB (83/100k)</td>
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<tr>
<td>Asylum seekers (CXR)</td>
<td>27,212</td>
<td>23 TB (85/100k)</td>
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<tr>
<td>Prisoners (CXR)</td>
<td>15,309</td>
<td>13 TB (85/100k)</td>
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Which at-risk populations are targeted for the management of LTBI and how are they selected?

1. Contacts of TB patients
2. Clinical risk groups
   a. People Living with HIV (PLHIV)
   b. Patients initiating anti-TNF-alpha therapy
   c. Patients preparing for organ transplantation
   d. Persons with fibrotic lesions
   e. Not targeted: dialysis and silicosis patients
3. Health care workers (HCWs) and other professionals
4. Travellers to TB endemic countries
5. Homeless persons/drug users (local policy)

Note: all TB guidelines are compiled in a Manual
Contacts of TB patients

- **Who**: Based on the interview with the patient, the TB nurse of the Municipal Public Health Services (GGDs) decides which contacts needs to be examined. Priority to **close and high-risk contacts** (children, PLHIV, patients on anti-TNF-alpha therapy, etc.)
- **Screening method**: TST followed by IGRA if TST ≥5 mm. (Close contacts are also examined with a chest X-ray)
- Some GGDs also use contact and source investigation to target LTBI screening for contacts with a high-risk of infection because of their ethnic or social background.

*Until 2010, BCG-vaccinated contacts and contacts born <1/1/1945 were examined only with chest X-ray in contact investigation.*
People living with HIV

• **Who**: Priority to newly diagnosed HIV patients who lived substantial time in high TB incidence countries.
• **By whom**: HIV-specialists.
• **Screening method**: TST and IGRA if CD4 count < 200/mm$^3$. Either one of the tests if CD4 count > 200/mm$^3$.

Note: Change in recommendation from LTBI testing all HIV patients towards prioritization to high TB-risk HIV patients was made due to poor implementation of previous recommendation “screen all new HIV patients for LTBI” (2008) and the revision of literature on that topic.
Patients initiating anti-TNF-alpha therapy

- **Who**: Prior to anti-TNF-alpha treatment.
- **By whom**: Different specialists in the hospital, e.g. rheumatologists, gastroenterologists, dermatologists. In many hospitals screening and treatment is coordinated by pulmonologist.
- **Screening method**: TST and IGRA.

Advise is identical for patients preparing for solid organ transplantation (no specific guideline).
Fibrotic lesions

- **Who**: Immigrants and asylum seekers with chest X-ray abnormalities at ‘entry’ screening that are suggestive for TB in the past, who received inadequate TB treatment, and in whom active TB is excluded.
- **By whom**: GGDs.
- **Screening method**: TST (or IGRA).
Health care workers (HCW)

• **Who:**
  • **Pre-employment** screening of HCWs from high incidence country (<2 years in the Netherlands) and HCWs who worked >1 month in a hospital in a high incidence country (in previous 2 years)
  • **Periodical screening** of HCWs at high-risk departments in hospitals with >5 TB patients annually.
• **By whom:** Occupational specialists, GGDs.
• **Screening method:** TST followed by IGRA if TST ≥5 mm or IGRA.

*Note: Same applies to other professional groups in high-risk settings (e.g. reception centre for asylum seekers).*
**Travellers to high incidence countries**

- **Who:** 8 weeks after return (in few situations also pre-travel TST/IGRA screening)
- **By whom:** GGDs, travel health advisory bureaus
- **Screening method:** TST or IGRA
- **When:**
  - Low-risk settings:
    - >3 months in countries with TB incidence >400/100,000;
    - >6 months in countries with TB incidence >200/100,000;
    - >12 months in countries with TB incidence >100/100,000.
  - High-risk settings (hospitals, prisons): >1 month in countries with TB incidence >50/100,000.
What are the national recommendations on the managements of LTBI (e.g. diagnostic procedure and treatment)?

- **IGRA guideline**, 2010, under revision and will be combined with TST advise into **LTBI diagnostics guideline**.

- **LTBI treatment guideline**, 2015:
  - Non-immunocompromised LTBI patients: 6H, 3HR, 4R or 3HP
  - Immunocompromised LTBI patients: 9H, 4HR, 4R or 3HP
  - Fibrotic lesions: 4HR (or 9H) *(Rifapentine not yet available in European countries)*
How is the management of LTBI recorded and reported?

**LTBI case definition in the Netherlands**

Cases eligible for preventive treatment according to the national guidelines are to be reported (voluntary), i.e. 
1. a high likelihood of recent infection (<2 years ago);
2. pulmonary fibrotic lesions consistent with active TB in the past and without adequate treatment;
3. severe immunosuppressive disorders (e.g. HIV infection);
4. planned immunosuppressive therapy (anti-TNF-alpha therapy/organ transplantation).
How is the management of LTBI recorded and reported?

LTBI register in place since 1993, web-based since 2005. Data include:

- patients’ demographic characteristics
- target group
- diagnostic method
- patient management (preventive treatment regimen or radiological follow-up)
- completion of preventive treatment
- reason for interrupting preventive treatment (adverse events, development of active TB or nonadherence).
How is the management of LTBI recorded and reported?

1993-2013:

- 37,729 LTBI cases reported
- 28,931 (77%) started preventive treatment
- 85% completed treatment
- Increase in LTBI cases in foreign-born (49% of total in 2013)
- 61% of LTBI cases identified in contact investigation.
- 79% of notified LTBI cases in 2013 had confirmation with IGRA.
FIGURE 1 Number of cases with latent tuberculosis infection by target group for screening, and percentage screened with interferon-γ release assay (IGRA) and preventive treatment initiation (1993–2013). #: reported since 2005.
### Abbreviations and definitions

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### LTBI management policy

- All LTBI's  
- LTBI's receiving preventive therapy

### Select 1 or 2 variables:

- **Age**: 3 age categories, 7 age categories, 10 age categories
- **Gender**: Male, Female, Unknown
- **Region**: North, East, Utrecht, Noord-Holland and Flevoland, Zuid-Holland, Zeeland and Noord-Brabant, Limburg
- **Ethnicity**: Native, First generation immigrant (Foreign born), Second generation immigrant, Unknown
- **Continent**: Africa, Latin and South America, Asia, Europe, Oceania, North America, Unknown
- **Reason for LTBI examination**: Contact investigation, Risk group screening, Immune suppression, Other, Professional contact group screening, Traveler, Unknown
- **Treatment outcome**: X-ray follow-up, Completed, Default, Died, Transferred out or unknown
- **Defaulted because**: Side effects, Patient withdrawal, Developed active TB, Not applicable, Unknown
- **LTBI management policy**: Preventive therapy, X-ray follow-up, Other or unknown

**Output:**

- Number
- Percentage
- Table
- Gaph
What are specific bottlenecks and challenges in the implementation of LTBI management and recording and reporting system and how are they addressed?

Bottlenecks in implementation:

- **Availability of tests** (TST-SSI not available anymore, TST now procured from Bulgaria).
- **Availability of drugs** (isoniazid is not produced anymore in the Netherlands; rifapentine is not yet registered in Europe).

Challenges in recording and reporting:

- Capture information on numbers needed to screen and numbers screened.
- Capture information on LTBI screening and treatment of clinical risk groups in hospital.
What are further opportunities for the implementation of the programmatic management of LTBI?

• In December 2015 the Tuberculosis Committee for Practical TB Control decided to screen immigrants <18 years only for LTBI and asylum seekers <18 years after initial chest X-ray screening upon arrival also for LTBI.

• A 4-year research project started in December 2015 to study optimization of LTBI screening and treatment of immigrants and asylum seekers from high TB incidence countries. The project also includes a cost-effectiveness study and modelling.
What are further opportunities for the implementation of the programmatic management of LTBI?

- Programme-based implementation of LTBI screening and treatment of asylum seekers from high TB incidence countries is anticipated as a response to the high TB incidence noted in 2015 among high-risk populations.
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