European Consensus Statement on TB in big cities:

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Tuberculosis Control Department, Municipal Public Health Service Rotterdam-Rijnmond
European Consensus Statement on TB in big cities: the making of......

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Physician/Epidemiologist

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TB in big cities in the European Union

Informal contacts

Formal start

The Consensus Statement

Further output of the working group
TB in big cities in the European Union

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TB in big cities in the European Union
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TB incidence rates in big cities in low-incidence countries in Europe are often 2 – 4 times higher compared to the national notification rates or rural area notification rates.
TB in big cities in the European Union

TB incidence in Rotterdam City and surrounding municipalities in 2011

City TB incidence
Region TB incidence
TB in big cities in the European Union

Amsterdam

Region

Amsterdam City
TB in big cities in the European Union

Tuberculosis notification rate (NOIDS)
England & Wales, 1982 - 2001

Olympic motto:
"Citius, Altius, Fortius"
"Swifter, Higher, Stronger"
TB incidence in selected EU big cities in 2009
TB in big cities in the European Union

Tuberculosis and social exclusion

*Developed countries need new strategies for controlling tuberculosis*

In developed countries most patients with tuberculosis are not infectious, can readily access health services, and complete treatment successfully with minimal supervision from a health worker. As a result they make only limited demands on services and pose little public health risk. By contrast, many socially excluded patients are at risk of delayed presentation, poor adherence, and loss to follow-up. A recent persistent outbreak in London including over 220 drug resistant cases and disproportionately affecting homeless people, prisoners, and problem drug users clearly illustrates the urgent need to strengthen tuberculosis control among socially excluded groups.

*Mycobacterium tuberculosis* can infect anyone but predominantly affects the poor. Globally, 98% of deaths from tuberculosis are in the poorest countries.

Spatial analysis of tuberculosis rates by postal district 2001

Legend

TB Rate / 100,000
TIN Cell Size 0.5 sq km

- 100%
- 75%
- 50%
- 25%
- 0%

Hostel Bed Spaces

- 100 to 400 (31)
- 50 to 100 (34)
- 21 to 50 (63)

Hospital TB Cases 2001

- 95 to 142 (11)
- 54 to 94 (11)
- 16 to 54 (15)

Prisons

Strategic Health Authority Boundary
Local Authority Boundary

Source: London Hostels Directory 2003, RIS
Source: Notifying centre
Enhanced TB Surveillance CDSC

GIS mapping by Chris Lane CDSC 2003
Spatial analysis of tuberculosis rates by postal district 2001
IMD contains 6 'domains':

- income
- employment
- health & disability
- education, skills & training
- housing
- geographical access to services
TB in big cities in the European Union

In big cities we find the metropolitan risk groups for TB (often vulnerable and socially excluded groups):

- Immigrants from high-endemic countries (recent, illegal)
- Asylum seekers
- (Ex-)prisoners
- Alcoholics
- Psychiatric street-dwellers
- Illicit drug addicts
- Homeless people
Prison Homeless Problem drug use
Trend TB incidence in Barcelona
Trend TB incidence in Stockholm
Trend TB incidence in Brussels
Trend TB incidence in Birmingham, London
The white plague returns to London—with a vengeance

In 1665, John Bryce (1638-1708), an English Dissenting writer and journalist, identified tuberculosis as “The blackened arrow issuing from the ground” when observing the instrument of death at the gates of death in London. During the 20th century, the white plague, as it became known, was a modern epidemic that brought death to millions of people worldwide. By the 1980s, tuberculosis was considered a disease of the past in most Western countries, and the World Health Organization declared it a disease of the 20th century, as living standards (better housing, nutrition, and medical care) increased. However, tuberculosis was not eradicated and was not controlled by the introduction of antibiotics. In the early 1990s, antibiotics were developed, improved health services, and control measures. Between 1985 and 2000, tuberculosis cases decreased to a low compared to the past. However, tuberculosis is still a major health problem in many countries, and the disease is on the rise in some areas.

Number of TB cases in selected EU big cities in 2009

<table>
<thead>
<tr>
<th>City</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berlin</td>
<td>500</td>
</tr>
<tr>
<td>Stockholm</td>
<td>500</td>
</tr>
<tr>
<td>Milan</td>
<td>500</td>
</tr>
<tr>
<td>Amsterdam</td>
<td>2000</td>
</tr>
<tr>
<td>Rotterdam</td>
<td>2000</td>
</tr>
<tr>
<td>Paris</td>
<td>500</td>
</tr>
<tr>
<td>Brussels</td>
<td>500</td>
</tr>
<tr>
<td>Birmingham</td>
<td>500</td>
</tr>
<tr>
<td>London</td>
<td>4000</td>
</tr>
<tr>
<td>Barcelona</td>
<td>500</td>
</tr>
</tbody>
</table>

London—2012

The increase in the number of tuberculosis cases in the UK has largely been in non-white groups. In 2009, these were Black African (20%), Indian (17%), and white (17%). Interestingly, many of these cases were not new reports. 10% of individuals who were not UK-born had lived in the UK for 2 or more years, and tuberculosis was more common in London boroughs that are relatively deprived. Poor housing, inadequate ventilation, and overcrowding conditions, common in Victorian London, have always been a major cause of the spread of tuberculosis. The spread of tuberculosis in poor urban areas has been exacerbated by the increase in drug resistance. The spread of tuberculosis in poor urban areas, and the development of drug resistance, has led to the emergence of multidrug-resistant tuberculosis (MDR-TB) in London. A retrospective study of 275 prisoners with newly diagnosed tuberculosis showed that prisoners were more likely to be HVR born than people who were not prisoners, and that prisoners with MDR-TB were more likely to be HVR born than those with drug-susceptible tuberculosis.
TB in big cities in the European Union

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The Consensus Statement

Further output of the working group
TB in big cities in the European Union

In 2002 in Rotterdam 1 out of six TB patients was homeless or illicit drug user


In 2003 in London 1 out of six TB patients was homeless, illicit drug user or prisoner

Rotterdam homeless and drugs screening
TB among drug users and homeless persons in Rotterdam
Mobile digital targeted TB screening: a challenge for London?
Also at a Metropolitan TB conference in Paris in 2006 several present members of the working group met informally.
TB in big cities in the European Union

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The Consensus Statement

Further output of the working group
Title of the session: Intensified TB case-finding and TB control in Big Cities.

Date: 3rd June 2010

Time: 9.00 – 12.30 (plenary, parallel sessions)

Coördinators: Ibrahim Abubakar / Gerard de Vries

Chairperson: Ibrahim Abubakar

Reporter(s): Delphine Antoine, Rob van Hest, Barbara Hauer
<table>
<thead>
<tr>
<th>Time</th>
<th>Title of talk</th>
<th>Speaker</th>
<th>e-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 – 09:15</td>
<td>TB Control in Tashkent city</td>
<td>Dilrabo Ulmasova</td>
<td></td>
</tr>
<tr>
<td>09:15 – 09:30</td>
<td>Factors contributing to the high TB case rate in an urban area</td>
<td>Gerard de Vries</td>
<td><a href="mailto:devriesG@kncvttbc.nl">devriesG@kncvttbc.nl</a></td>
</tr>
<tr>
<td>09:30 – 10:30</td>
<td>Parallel sessions in working groups: 1: Epidemiology of TB in big cities 2: Specific TB control efforts in big cities 3: Innovative approaches</td>
<td>Delphine Antoine Rob van Hest Barbara Hauer</td>
<td><a href="mailto:d.antoine@invs.sante.fr">d.antoine@invs.sante.fr</a> <a href="mailto:vanhestr@ggd.rotterdam.nl">vanhestr@ggd.rotterdam.nl</a> <a href="mailto:HauerB@rki.de">HauerB@rki.de</a></td>
</tr>
<tr>
<td>11.00 – 12.30</td>
<td>Reporting back of parallel sessions on intensified case finding and TB control in big cities</td>
<td>Ibrahim Abubakar</td>
<td><a href="mailto:ibrahim.abubakar@HPA.org.uk">ibrahim.abubakar@HPA.org.uk</a></td>
</tr>
</tbody>
</table>
Objectives:

• To review the latest updates on urban TB epidemiology and control: what has been done, what has been achieved, why are achievements not implemented elsewhere and which tools and interventions can been added.

• To elaborate on innovative approaches (tools and interventions for enhanced TB control efforts in big cities), resulting in a list of ideas of recommendations.

• To elaborate on establishment of an urban TB expert working group with representatives of big cities of the member states.

• To elaborate on future urban TB research priorities.

• To elaborate on sources of funding for a European urban TB working group and research activities; European or from member states/national programmes.
At the Wolfheze Conference ECDC announced to facilitate a meeting for the group in Stockholm.

In consultation with ECDC, members were proposed from 8 low-incidence EU countries, aiming to invite 1 NTP manager and 1 “big city” TB controller from each city.
• Maryse Wanlin, Brussels
• Fadi Antoun & Delphine Antoine, Paris
• Levke Quabeck & Walter Haas, Berlin
• Luidi Codecasa, Milan
• Henk van Deutecom, Amsterdam
• Rob van Hest, Rotterdam
• Gerard de Vries, the Hague
• Àngels Orcau & Anna Rodés, Barcelona
• Jerker Johnson, Stockholm
• Martin Dedicoat, Birmingham
• Ibrahim Abubakar, London
• Peter Williams, ARCHIVE (London)
• Andreas Gori, TB PANNET (Milan)
• Andreas Sandgren & Emma Huitric, ECDC
A questionnaire was distributed and each city was asked to provide some epidemiological data and to mention their major achievements and their major constraints, and these were presented and discussed.
Results questionnaire meeting Urban TB Control, 10th December 2010, Stockholm

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Many of the problems faced were remarkably similar!!

Cooperation and exchange of experience!!
Three areas of interest were defined:

1) Research

2) Network and website

3) Consensus document of TB Control in Big Cities and Urban Risk Groups in the European Union
• Gerard de Vries started a survey on the epidemiology of TB in all cities with > 500,000 inhabitants in Europe and presented the preliminary results at the 2011 Wolfheze conference, where TB Control in Big Cities was given a slot again.

• Wouter Arrazola de Oñate presented the process and progress of the working group at the 2011 Wolfheze Conference.
Later in 2011 Walter Haas and Barbara Hauer announced to facilitate a second meeting in Berlin at the Robert Koch Institute to discuss the Consensus Document.
December 2011

Robert Koch Institute Berlin

• Wouter Arrazola de Oñate, Brussels
• Delphine Antoine, Paris
• Barbara Hauer & Walter Haas, Berlin
• Luigi Codecasa & Andrea Gori, Milan
• Rob van Hest, Rotterdam
• Gerard de Vries, the Hague
• Joan Caylà, Barcelona
• Ibrahim Abubakar & Rob Aldridge, London
TB in big cities in the European Union

Informal contacts

Formal start

The Consensus Statement

Further output of the working group
Structural determinants
Health System Issues
Political Determinants (immigration, national /city-wide strategy and board of control)

**Factors / Determinants**

- Contact
  - TB prevalence
  - Population density
  - Overcrowding:
    - Congregate setting
- Social disadvantage:
  - Diagnostic delay of index case(s)

- Contact:
  - Duration
  - Nature
- Susceptibility:
  - HIV/comorbidity
  - Undernutrition

- Diagnostic delay of latent infection
- Treatment completion

**Factors / Determinants**

- Social determinants: housing, immigration, inequalities and socioeconomic deprivation
- Awareness: information and education
- Infection control
- Case finding
- Case holding and treatment
- Latent TB infection (LTBI)
- DNA fingerprinting and molecular epidemiology
- General policy, legal framework and organisation of services
- Monitoring and Evaluation

**Pre exposure**

- Awareness
  - Targeted active case finding:
    - symptom screening
    - questionnaire screening
    - x-ray screening
    - sputum screening
    - microscopy
    - culture
    - molecular
    - GenXpert

- Access to health care
- One stop shop TB clinic
- DNA fingerprinting

**Exposure**

- Awareness
  - Targeted identification and treatment of latent infection
  - TST
  - IGRA
  - One stop shop TB clinic

**Latent infection**

- Treatment
  - DOT/VOT
  - Community DOT
  - Mobile phone reminders
  - Incentives
  - One stop shop TB clinic
  - Modern day sanatoria
  - Outreach team
  - Monitoring and Evaluation (cohort review)
1. Social determinants: housing, immigration, inequalities and socioeconomic deprivation

2. Awareness: information and education

3. Infection control

4. Case finding

5. Case holding and treatment

6. Latent TB infection (LTBI)

7. DNA fingerprinting and molecular epidemiology

8. General policy, legal framework and organisation of services

9. Monitoring and Evaluation
Each intervention has:

- **General aspects**
  
  e.g. general aspects of infection prevention such as in health care settings

- **Aspects specific to urban TB control**
  
  e.g. infection prevention in congregate settings such as shelters for homeless persons
<table>
<thead>
<tr>
<th>Rating</th>
<th>Study design</th>
<th>special conditions</th>
<th>Level of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1++</td>
<td><strong>High quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias</strong></td>
<td>if directly applicable to target population</td>
<td>A</td>
</tr>
<tr>
<td>1+</td>
<td><strong>Well-conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias</strong></td>
<td>if directly applicable to target population and overall consistency of results</td>
<td></td>
</tr>
<tr>
<td>1++ or 1+</td>
<td><strong>High quality systematic reviews of case control or cohort studies</strong></td>
<td>if directed applicable to target population and overall consistency of results</td>
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<tr>
<td>2++</td>
<td><strong>High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal</strong></td>
<td>if directly applicable to target population and overall consistency of results</td>
<td>B</td>
</tr>
<tr>
<td>2+</td>
<td><strong>Well-conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal</strong></td>
<td>if directly applicable to target population and overall consistency of results</td>
<td>C</td>
</tr>
<tr>
<td>3</td>
<td><strong>Non-analytic studies, e.g., case reports, case series</strong></td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>4</td>
<td><strong>Expert opinion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-</td>
<td><strong>Meta-analyses, systematic reviews, or RCTs with a high risk of bias</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-</td>
<td><strong>Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal</strong></td>
<td>no supporting evidence</td>
<td></td>
</tr>
</tbody>
</table>
**Recommendations:**

Big city TB programmes should:

1. Implement and monitor contact-tracing according to national guidelines and international best practice consensus (B) [103, 104, 124].

2. Implement screening of immigrants according to the national guidelines (D) [89].

3. Consider targeted radiographic screening (e.g. mobile digital X-ray units) of urban risk groups, especially drug users, homeless persons, alcohol abusers and prisoners (C) [18-21, 94, 96].

4. Implement measures to ensure cases suspected of having TB from urban high-risk groups are supported through to confirmation or exclusion of disease (D).
TB in big cities in the European Union

Informal contacts

Formal start

The Consensus Statement

Further output of the working group
Expected output of the Tuberculosis control in big cities and urban risk groups in the European Union working group in 2012:

- An (short) opinion paper introducing our work

- A paper on the most updated epidemiology of TB in big cities in the European Union based upon the survey by Gerard de Vries
Tuberculosis control in big cities and urban risk groups in the European Union: a consensus statement

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4. European Centre for Disease Prevention and Control, Stockholm, Sweden
5. Robert Koch Institute, Berlin, Germany
6. Belgian Lung and Tuberculosis Association, Brussels, Belgium
7. Regional TB Reference Centre, Milan, Italy
8. Public Health Agency of Barcelona, Barcelona, Spain
9. Find & Treat, London, United Kingdom
10. Institut de Veille Sanitaire, Paris, France
11. TB PANNET, San Gerardo Hospital, University of Milan, Italy
12. Senate Department for Health, Berlin, Germany
13. Swedish Institute for Infectious Disease Control, Stockholm, Sweden
14. New affiliation
15. Health Protection Agency and University College London, London, United Kingdom
In 2013 we hope to further develop our website:

www.metropolitantb.org

Apart from the documents already mentioned we are developing an TB in big cities in the EU Guidance and Reference document, based upon the Consensus Statement but with additional Case Studies and Training Material.
Case Study
Since 2006, the Dutch Government, together with the four major cities (Amsterdam, Rotterdam, The Hague and Utrecht) have strategically funded an ambitious programme to guide all homeless persons into temporary care and social rehabilitation and, from there, to clustered or individual supported housing projects, with social education training and employment guidance. In February 2010, the Counsellor for Health and Social Care in Rotterdam announced that almost all of the homeless persons in Rotterdam were in care, with about half of them in a more or less stable situation, abstinent or with their addiction controlled and having a job or participating in other day-time activities. In Rotterdam, these extra investments in “care” resulted in reduced costs of “cure”, and greatly reduced costs for law reinforcement, courts and prison. According to the Rotterdam Municipal Public Health Service, one Euro spent on “care” prevents between 2 and 3 Euros being spent on judicial costs.[10]
Case Study: Awareness and Information: the National Knowledge Service project in the United Kingdom

Within the context of increasing TB rates in major cities in the UK, the National Knowledge Service – TB (NKS – TB) was set up to provide information that would be directly relevant to people who need to be aware of, and take actions about, the treatment, prevention and management of TB. The target audiences are healthcare professionals, others with a duty of care, patients and members of the public. This programme of work targeted the development of resources specifically for hard to reach groups, homeless persons, problem drug users and prisoners as well as health and other staff working with these groups. All materials developed by the group are subject to systematic evaluation. In addition, the group engages on frequent re-evaluation of its awareness raising strategies, and actively collaborates with voluntary organisations such as TB Alert, which has a substantial national programme of awareness raising in all TB risk groups.[1,5]
Thank you
Danke schon
Bedankt
Gracias
Ciao
Tot sehen