



## Interventions in vulnerable groups are the key to eliminating tuberculosis in Europe

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### Summary

Tuberculosis (TB) is a serious infectious disease that although treatable, can be fatal. In 2014, it affected around 58 000 people in the European Union/ European Economic Area (EU/EEA). The number of new TB cases is slowly decreasing by around 5% each year, but at this pace, the disease will not be eliminated in the near future. One challenge for elimination is the existence of pockets of TB in society, concentrated among the most vulnerable, such as the homeless, drug users, alcoholics and some migrant populations, who may be at higher risk of exposure, live in poor conditions or do not have access to healthcare services.

If TB is not tackled in these vulnerable groups, it will not be eliminated. In addition, there is a risk that the disease will spread to a wider population, and that more drug-resistant cases will occur, meaning the occurrence of more severe or even incurable cases, with high costs for healthcare systems and society.

Therefore, it is crucial to make sure that all cases in vulnerable groups are diagnosed and treatment is completed. Since prevention and control of TB in these groups is not efficient when using standardised models of healthcare, tailored interventions need to be deployed.

ECDC has identified a series of options that are effective to improve early diagnosis and treatment completion. Public health authorities can adapt them to their particular needs and implement them according to their specificities and resources.

### The issue

Tuberculosis continues to affect vulnerable groups who do not recognise the symptoms of the disease, have poor access to healthcare services or face difficulties when following treatment.

Public health authorities have to be aware that in these groups, people with symptoms will not necessarily seek medical care and will not always follow their treatment once diagnosed. Therefore, specific measures are needed to tackle these challenges.

### What can be done?

Tailored interventions facilitating early diagnosis, completion of treatment and supporting the management of cases are the most important elements for effective TB prevention and control.

Specific options for TB prevention and control in vulnerable groups can be:

### 1. Outreach teams and mobile units

Outreach teams that are able to go directly to the patients, in hospitals, shelters or on the streets can be an efficient and effective way to identify and to treat TB patients from vulnerable groups.

Mobile chest X-ray units can help detect TB sooner in vulnerable groups which reduces transmission and is cost effective.

### 2. Incentives

Incentives can be offered to motivate people, particularly homeless patients, to go through screening and to follow their treatment once diagnosed with TB. Incentives could be monetary or of material value such as tickets for public transport, food vouchers, prepaid phone cards, clothes and temporary accommodation.

Funding incentives are a worthwhile investment as improved diagnosis and treatment outcomes, particularly the prevention of the development of antibiotic-resistant TB, will avoid the high costs often associated with failed treatment.

### 3. Involvement of key partners

Involving key partners such as peers from the same community as the patient, or healthcare and social workers, can help to reach those people who are potentially infected but who might be reluctant to get tested. Key partners can also support people with following their treatment, and are crucial to help identify and find contacts of each TB patient. This contact tracing is essential to stop transmission of the disease.

### 4. Directly Observed Treatment (DOT)

Directly observed treatment supports patients with taking their medication. It requires patients to take their medication under the supervision of medical staff. More flexible options such as DOT outside healthcare settings or by non-medical staff, or Video Observed Treatment (VOT), are options that can also be considered.

Adding incentives such as grocery coupons, or mobile phone and data packages for the VOT option, increases the chance that patients complete their treatment and so avoids potentially costly complications, such as the development of antibiotic-resistant TB.

### 5. Reminders

Using reminders (phone calls, text messages) can improve patient attendance at medical appointments and the uptake of medication.

### 6. Integrating services

Close collaboration between TB services and existing services for vulnerable groups, such as homeless services, drug and alcohol services, community workers, street outreach teams, and social care professionals, can improve early diagnosis and treatment uptake. In addition, integrating services can help to address and resolve the factors that put individuals at risk of getting infected.

### 7. Promoting awareness and education

Awareness raising among vulnerable groups can help to tackle stigma and misconceptions. Awareness raising campaigns can also target frontline healthcare and social workers working with these groups to improve their interactions with vulnerable groups.

Representatives from TB-affected groups, including former patients, can be closely involved in developing and disseminating information.

## Examples of effective interventions

The examples below illustrate how some of the interventions work in practice and the results<sup>1</sup> they have achieved.

#### Video Observed Treatment in the UK

In order to offer patients more flexibility so they do not have to go to healthcare facilities to take their medication under supervision, the London-based Find&Treat team has implemented Video Observed Treatment (VOT) instead of Directly Observed Treatment (DOT). As an incentive, they give some patients a smartphone. With this device, patients film themselves while taking the medicines and the medical staff monitors the film and ensures follow-up when patients need additional support.

The advantages of VOT compared to DOT are:

For the patient: more flexibility on when and where to take medication, saves time, improves confidentiality, and gives people a more active role in their own treatment.

For healthcare services: saves money (travel costs and salaries of staff), increases productivity (staff can cover more than 25 patients per day instead of on average 5 per day with DOT), reduces exposure of healthcare workers to TB.

As a result, more patients successfully finish their treatment when on VOT compared to standard unsupervised treatment or to DOT.

<sup>1</sup> Numbers and percentages provided by the organisations in charge of the interventions

### Outreach team and integrated services in France

The outreach team Equipe Mobile de Lutte contre la Tuberculose (EMLT) finds and helps TB patients to complete their treatment. The team is able to ensure a thorough follow-up of patients wherever they are, whether it is in hospitals, shelters or on the streets.

EMLT has an extensive network of partners and other support agencies in the social, health, legal, and immigration sectors, which allow them to support patients beyond just the treatment of the disease, by covering their basic needs for food, clothing and shelter. This contributes to improving the life situation of patients and reduces the risk of them getting TB again.

Prior to EMLT, over 50% of homeless and undocumented migrant TB patients were lost to follow-up after discharge from acute hospitals in Paris. Since EMLT was started in 2000, lost to follow-up rates have dropped to less than 10%.

### Involving key partners in Slovakia

There have been many cases of TB among the Roma population living in disadvantaged settlements in eastern and south central Slovakia. In 2014, 25% of all TB cases in Slovakia and 84% of cases in children were from the Roma communities.

To better engage with the Roma community, the Roma Health Assistants programme was designed to identify key people in the community to serve as mediators. Roma Health assistants are community workers, living in the settlement they cover. They monitor patients' treatment, do contact tracing, accompany patients to doctor's appointments, ensure that the patients get their TB drugs, and keep a record of all activities and interventions.

As a result of the Roma assistant programme, more than 80% of adult Roma people with TB have been successfully treated in Slovakia. In addition, TB outbreaks have been promptly identified and contained, and all index cases for children's TB cases have been identified.

## What studies show

### 1. TB has the second highest burden of disease of all infectious diseases

**Measurement of the impact of disease on population health; Disability-adjusted life years (DALY) per 100 000 population in the EU/EEA, annual median 2009-2013**

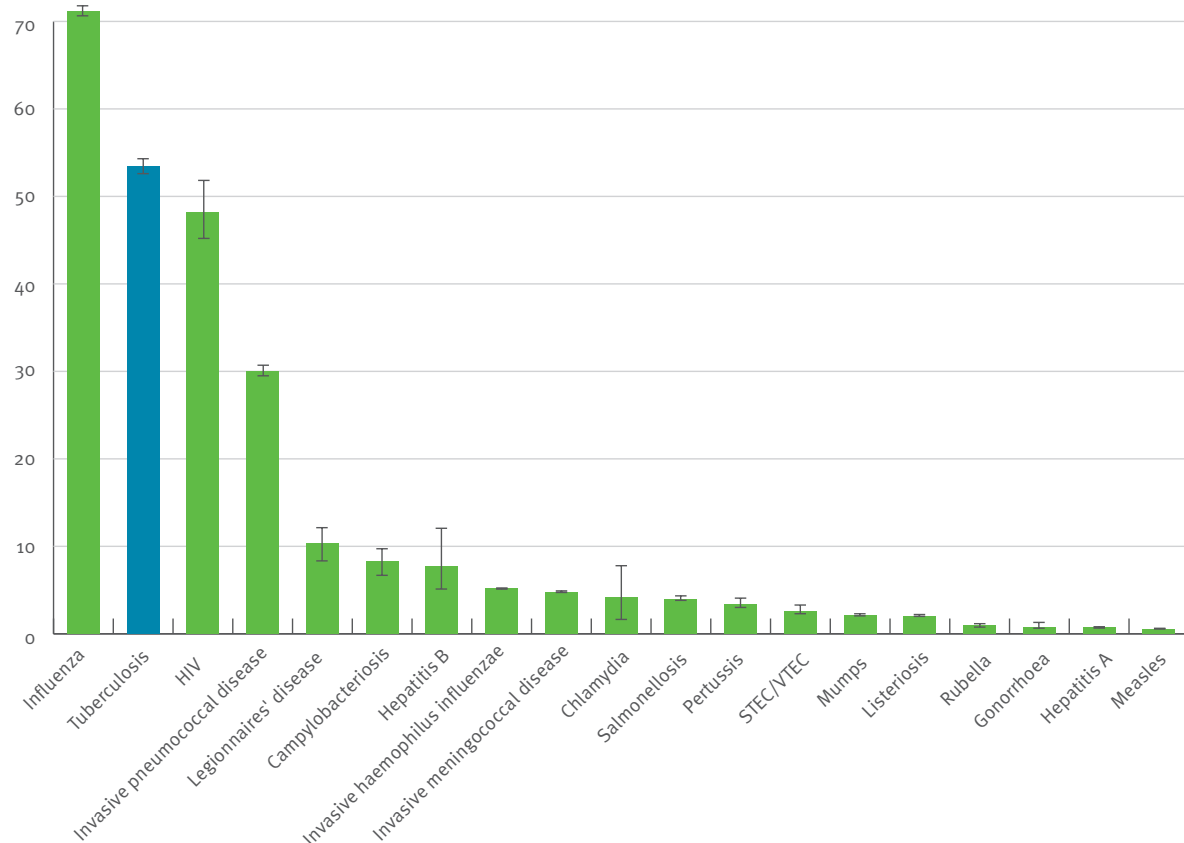


Chart based on a study conducted by ECDC: Burden of Communicable Diseases in Europe 2015 (unpublished study) (source 4).

## 2. Vulnerable groups are more affected by TB than the rest of the population

### TB cases per 100 000 population

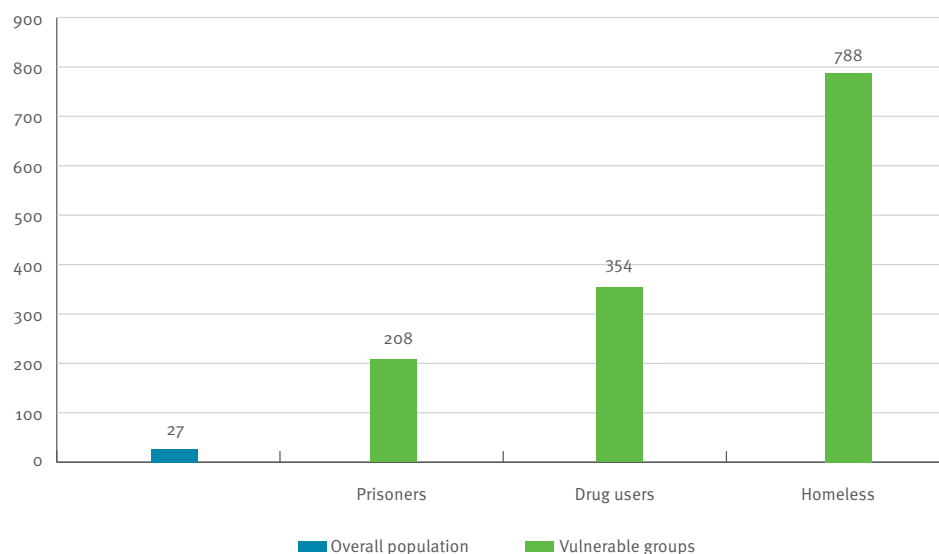


Chart based on the data from a study conducted in 2011 on the population of London (source 3).

## 3. Treatment costs for drug-resistant TB are nearly 17 times higher than for drug-susceptible TB cases

### Costs for treating one TB case (EUR)

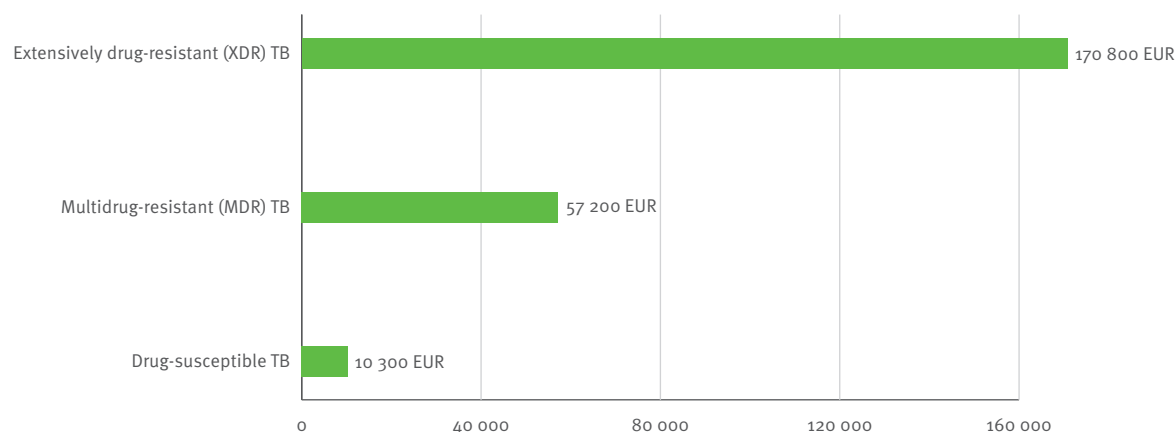


Chart based on a study on the costs of tuberculosis disease in the European Union (average costs in 2012, for 18 EU countries) (source 5)

The costs of specific public health measures addressing vulnerable groups might be higher than for standard measures. However, preventing the development of drug resistant TB can result in substantial cost savings in the future.

## Sources

This paper drew from the following reports, articles and literature:

1. European Centre for Disease Prevention and Control. Guidance on tuberculosis control in vulnerable and hard-to-reach populations. Stockholm: ECDC; 2016.
2. European Centre for Disease Prevention and Control. Tuberculosis surveillance and monitoring in Europe 2016. Stockholm: ECDC; 2016.
3. Jit M, Stagg H, Aldridge R, White P, Abubakar I. Dedicated outreach service for hard to reach patients with tuberculosis in London: observational study and economic evaluation. *BMJ* 2011; 343: d5376.
4. European Centre for Disease Prevention and Control. Burden of Communicable Disease in Europe. (unpublished study). 2015.
5. Diel R, Vandeputte J, de Vries G, Stillo J, Wanlin M, Nienhaus A. Costs of tuberculosis disease in the European Union: a systematic analysis and cost calculation. *Eur Respir J*. 2014 Feb;43(2):554-65.

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