E-DETECT TB
early detection & treatment of tuberculosis in europe

Early Detection and Integrated Management of Tuberculosis in Europe

PJ-03-2015
Early diagnosis of tuberculosis

D7.3
Expert meeting to develop a framework for TB action plans

WP 7 – Strengthening national TB programmes

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1. Introduction

On Wednesday 24th October 2018, Public Health England, leaders for Work Package 7 (WP7) for the E-DETECT TB research project hosted an Expert Stakeholder meeting to populate core components underpinning national TB Action Plan or TB Strategy for prevention and control. The event brought together representatives from TB programmes and services from across EU and EEA member states, academics, civil society organisations, World Health Organisation (WHO) Europe, European Centre for Disease Control (ECDC) and the European Commission / CHAFEA.

This report summarises process and outcomes of the Expert Stakeholder meeting. The event was divided into a series of presentations on up-to-date evidence on core components for national TB strategies and utilised a modified Delphi method to attain expert consensus on priority intervention areas and a targeted priority-based approach to overcome barriers. The agenda for this meeting can be found in Appendix 1.

The outputs from this meeting will be utilised to develop a TB Strategy Toolkit to support national TB programme representatives and focal points to develop or refine their national TB action plans or TB strategies.

1.1.   General context

TB incidence continues to decline across the EU and EEA and this can in part be attributed to timely diagnosis and rapid treatment of infectious TB cases. However despite this, projected trends indicate an intensification of TB control efforts are needed to accelerate the decline if the WHO goal to eliminate TB by 2035 is to be met by EU/EEA member states. Given the heterogeneity of epidemiology in low incidence countries, programmes to eliminate TB in this context are targeted at vulnerable and high-risk populations alongside wider health system efforts to improve treatment, prevent resistance and implement new technologies (Lönnroth *et al*; 2015).

In response to a need for robust trans-national evidence-based projects, the European Commission-funded E-DETECT TB (Early Detection and Integrated Management of Tuberculosis in Europe) project was formed. It unites leading TB experts spanning national public health agencies with major academic institutions and industry to utilise evidence-based approaches to reach high risk marginalised populations across EU and EEA settings (Abubakar et al; 2018).

1.2.   Deliverable objectives

The objective of this deliverable (D7.3) was to host an Expert Stakeholder meeting to assist EU and EEA member states to develop or refine their TB Strategies or TB Action Plans by:

1.   Summarising up-to-date evidence on core components for national TB Strategies and barriers and enablers to facilitate TB strategy implementation
2.   Building consensus on priority components of national TB plans and activities or solutions to mitigate barriers in key intervention areas
3.   Developing a TB Strategy Toolkit (Prioritisation Document on TB action plans and toolkit production) (D7.4)

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2. Expert Stakeholder Meeting content

2.1   Summary of the presentations on evidence base

Survey of up-to-date national picture of national TB control plans and strategies

Dr Dominik Zenner, Consultant Epidemiologist and Honorary Senior Clinical Lecturer and Lead for E-DETECT TB work package 7, UCL Institute of Global Health, University College London, UK

The WHO End TB Strategy recommends that all countries develop a national TB plan or strategy and implementation guidelines. A previous survey of European countries in 2014 found that only 15 EU/EEA countries had a national TB control plan (ECDC); 2016.

The aim of this survey, in 2017 was to provide an up-to-date picture of national plans and strategies, including prioritisation of action areas and barriers to implementation of interventions for TB control and prevention.

The response rate was 100% (31 countries). 55% of countries reported having a national TB strategy, all of which were in implementation; five were preparing a strategy. 74% have a defined organisational TB control structure with central coordination, and 19% have a costed programme budget; few organisational structures included patient/civil society representation. The most frequently mentioned priority TB control actions were: reaching vulnerable population groups (80%); screening for active TB in high-risk groups (63%); implementing electronic registries (60%); contact tracing and outbreak investigation (60%); and tackling MDR-TB (60%). Undocumented migrants were the most commonly (46%) identified priority population. Perceived obstacles to implementation included barriers related to care recipients (lack of TB knowledge, treatment seeking/adherence), care providers (including need for specialist training of nurses and doctors) and health system constraints (funding, communication between health and social care systems).

Effectiveness of interventions for TB control and prevention in countries of low and medium TB incidence: a systematic review of reviews

Dr Simon Collin, Senior Scientist, TB Unit, National Infection Service, Public Health England, UK

This systematic review of reviews aimed to review TB control and prevention interventions to provide an evidence base upon which to inform the development and implementation of national TB plans.

Existing TB clinical care is already based on a high-quality evidence base spanning diagnostic testing and treatment.

Findings show there was review-level evidence that BCG vaccination, LTBI treatment (to prevent progression to active TB and in combination with ART to prevent active TB in HIV-infected individuals) had a direct effect in preventing cases or reducing TB incidence. There was also review-level evidence that the use of molecular drug susceptibility testing and sub-optimal treatment of isoniazid-resistant TB with standardised regimens of first-line drugs had an indirect effect in preventing TB cases or reducing TB incidence. A limitation of the systematic review of systematic reviews approach is its reliance on reviews. Findings recommend that choices of interventions for TB plans and programmes will need to be pragmatic, supported by evidence from individual studies and based on local and national epidemiology, experience and expert opinion. Societal, socio-economic and wider healthcare improvements and investments in a robust evidence base and research efforts are needed to strengthen cascades of care will contribute to reductions in TB incidence.

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Barriers and facilitators to implementation of policies, strategies and guidelines for TB control and prevention

Ms Fatima Wurie, Senior Scientist, TB Unit, National Infection Service, Public Health England, UK

This systematic review aimed to contextualise the gaps in strategy development as identified in the survey of national plans (D7.1) and identify barriers and facilitators to implementation of interventions, guidelines and strategies for TB control and prevention in EU/EEA settings.

Forty-seven papers were included in the final analysis. Findings highlighted prominent barriers to TB control and prevention policy options. These included: the variability of knowledge, skills and adherence to clinical guidelines for the use of LTBI diagnostics and treatment, management of MDR-TB treatment and inadequate facilities available to carry out adequate implementation of the guidelines ; a variation in the supply and distribution of specialist TB staff; the need for specialist TB training in primary care; insufficient surveillance and monitoring systems for data capture of migratory and under-served groups and the need for strengthened collaborations at different healthcare levels.

Draft outline of TB Strategy Toolkit

Ms Fatima Wurie, Senior Scientist, TB Unit, National Infection Service, Public Health England, UK

A presentation on the draft outline of the TB Strategy Toolkit (prioritisation document on TB action plans and toolkit production) (D7.4) was delivered to experts. The aims, objectives, target audience and outlines for best practice and core components of a national TB strategy (as shown in Figure 1) and proposed plans for integrating the evidence gather for these core components were also presented.

Figure 1: shows a diagrammatic representation of the core components for consideration as part of country-specific national plan and strategies.

Figure 1: Core components of national TB strategy

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2.2. Breakout sessions and panel discussion

There were two breakout sessions, which focused on the following:
   a) prioritising core components of a national TB plan or TB strategy
   b) identifying key barriers to the implementation of prioritised core components and any activities or solutions that could be considered

A **modified Delphi method** was used to identify and rank policy options by priority based on their respective EU/EEA country setting.

For breakout session (a): to assist in the development and refinement of national TB plans or strategies, the options were as follows:

Intervention area number	Intervention area description
1	BCG vaccination
2	Contact tracing and outbreak investigation
3	Raising awareness of TB in the community and primary care
4	Establishing and managing local TB control boards
5	HIV-TB co-infection in high risk groups
6	Multidrug-resistant TB in high risk groups
7	TB control in prisons
8	Reaching under-served groups
9	Screening for active TB in migrant from high incidence settings
10	Targeted screening for active TB in high risk groups
11	Latent TB infection screening in high risk groups
12	Training and developing a specialist TB workforce
13	Staffing and expertise for national TB surveillance
14	Publishing and disseminating clinical guidelines
15	Ensuring continuity of TB drug supplies
16	External quality assurance for laboratory services
17	Introducing and implementing new tools for TB control
18	Implementing electronic TB case registries

Table 1: Possible intervention areas for core components of national TB action plan or TB strategy for TB control and prevention in EU/EEA settings

A Delphi method is recommended as a means of determining consensus. It is an iterative process that uses systematic progression of repeated rounds of voting and is an effective process for determining expert group consensus where opinion is important. The modified Delphi method included two rounds and a final face-to-face meeting, which allowed for expert interaction and provide any further clarification and present any arguments to justify their viewpoints. Our modified Delphi method included the following steps:

1. **Round 1:** A comprehensive list of intervention areas were included in a survey of national TB control plans and strategies. Participants included National TB programme representatives and national focal points. We received a 100% response rate, with all 31 member states participating, published here (Simon M. Collin 2018).
2. **Round 2:** Participants were asked to rank the same intervention areas by priority and provide feedback using Select Survey (SelectSurvey.NETv4, ClassApps LLC, Kansas City, MO, USA). The survey questions can be found in the Appendix 1.
3. **Round 3:** Consolidation of scores for intervention areas, discussion at Expert Stakeholder meeting, review by panel participants and securing consensus

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Scoring: For rounds one and two each option was ranked 'low', 'medium' and 'high' priority by respondents and were assigned scores: low=0, medium=1 and high=2. We converted the total score for each area into a percentage by dividing the total by the maximum possible score (=62 if participants indicated 'high' priority. We calculated the average scores for both rounds and these are shown in Figure 2.
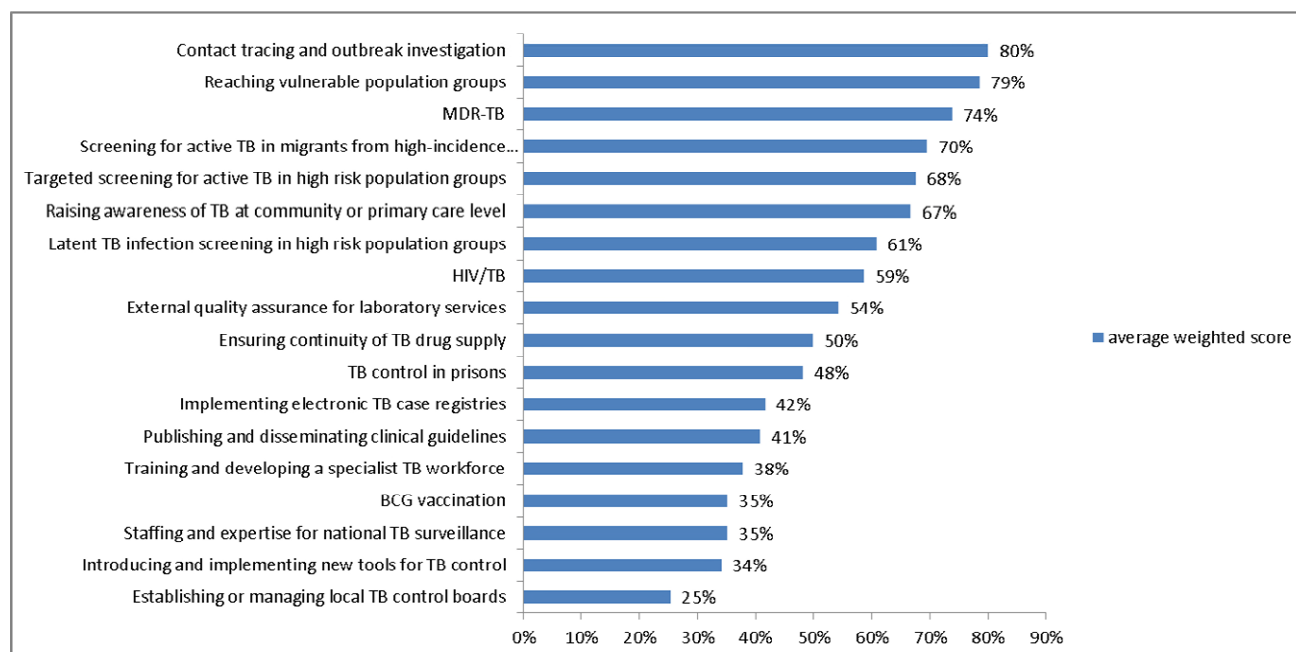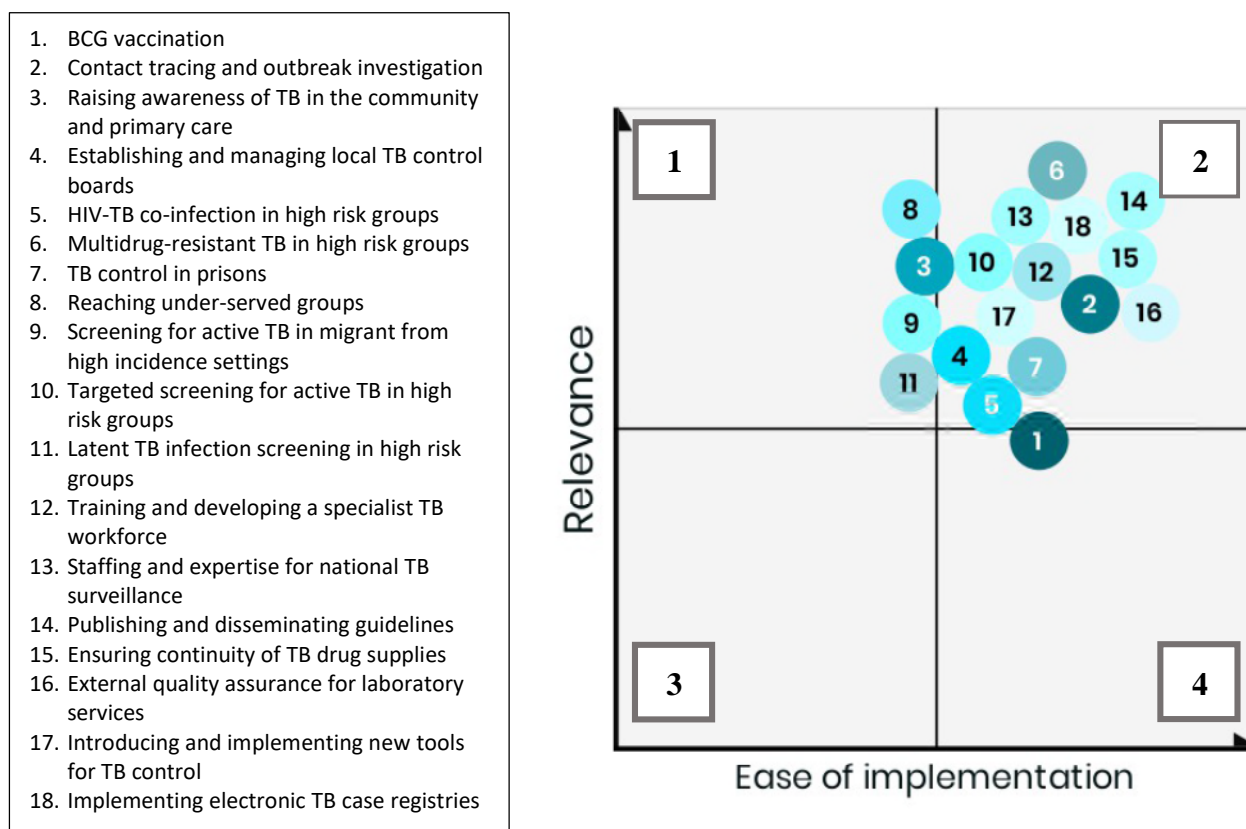

Figure 2: Interventions and their weighted scores considered as possible core components of a national TB action plan or TB strategy

Results of the previous two modified Delphi rounds were fed back to attendees (Figure 2) and national TB programme representatives were allocated to sub-groups. Sub-groups were stratified by whether participants were from high and low TB incidence settings, high and low MDR-TB incidence settings, whether their national programme had a TB Action Plan or TB Strategy and whether their settings were in Eastern or Western Europe. Sub-group discussions were facilitated by E-DETECT TB work package 7 co-investigators.

After discussion in sub-groups, the groups re-convened and a nominated rapporteur from each sub-group summarised each their discussion on intervention areas which were as priorities. After reflection and with the opportunity to change their minds, participants took part in a third Delphi round to seek consensus on priority areas for intervention. Participants were asked to rank each intervention area by 'relevance' i.e. based on its importance and suitability for addressing TB control and prevention in their EU/EEA setting (0 = not relevant at all and 10 = extremely relevant) and by 'ease of implementation' i.e. ease with which constraints to implement relevant intervention area(s) could be minimised or overcome (0 = very difficult to implement and 10 = very easy to implement). Figure 5 shows the ranked average scores for each intervention area. A full list of participants can be found in Appendix 3.

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Figure 3: Priority areas for TB Action Plans or TB Strategies. The option numbers relate to those described in Table 1 and are described alongside this Figure. This plotted options which are relevant to TB control and prevention and ease of implementation on a continuous scale

1. BCG vaccination
2. Contact tracing and outbreak investigation
3. Raising awareness of TB in the community and primary care
4. Establishing and managing local TB control boards
5. HIV-TB co-infection in high risk groups
6. Multidrug-resistant TB in high risk groups
7. TB control in prisons
8. Reaching under-served groups
9. Screening for active TB in migrant from high incidence settings
10. Targeted screening for active TB in high risk groups
11. Latent TB infection screening in high risk groups
12. Training and developing a specialist TB workforce
13. Staffing and expertise for national TB surveillance
14. Publishing and disseminating guidelines
15. Ensuring continuity of TB drug supplies
16. External quality assurance for laboratory services
17. Introducing and implementing new tools for TB control
18. Implementing electronic TB case registries

Expert consensus showed against a continuous scale the majority of options were considered relevant to TB control and prevention action plans and strategies and were considered to be relatively easier to implement. Publishing and disseminating guidelines, ensuring the continuity of TB drug supplies and implementing electronic TB case registries were considered to be highly relevant and easier to implement. Comparatively, establishing and managing local TB control boards and manging HIV-TB coinfection in high risk groups were less so. Despite this, all options appear in the upper right quadrant.

The following four options were selected expert consensus as they are both relevant to TB control and prevention action plans and strategies but difficult to implement:

- 3. Raising awareness of TB in the community and primary care
- 8. Reaching under-served groups
- 9. Screening for active TB in migrant from high incidence settings
- 11. Latent TB infection screening in high risk groups

Barriers to implementation of interventions for priority areas

For breakout session (b) further discussion of these areas was undertaken at the Expert Stakeholder meeting. Participants were asked to discuss the barriers in these areas, any major activities or proposed solutions to address these barriers and identify the key implementers who would need to be involved in developing any proposed solutions. The key points noted in these discussions are provided in Table 2.

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Table 2: Barriers to implementation of priority intervention areas and proposed solutions for consideration as part of national TB Action Plans and TB Strategies

Intervention area	Barriers to implementation	Major activities and proposed solution(s)	Key implementers: who needs to be involved
	Amongst recipients of care		
Reaching under-served groups	Distrust in healthcare system Stigmatisation Negative societal attitudes Cultural and language barriers (for example amongst undocumented migrants) Poor access and engagement with health services Lack of dedicated legal services Limited outreach activities Poor treatment adherence attributable to chaotic lifestyles	Development or refinement of a dedicated community-based service, which is tailored to engender trust and build access, provide full health screening and seeks support treatment follow-up. Extensions of this service may also include mobile clinics, which can bring services to under-served groups in urban areas. Development of a network of stakeholders including intermediaries and statutory and voluntary health and social care services, such as NGOs, shelters and legal services	• Outreach services (for example NGOs) • Link support workers • Specialist TB nurses • Social services • Interpreters and cultural mediation • Legal services support to access care and treatment • Pharmacy
	Amongst healthcare professionals		
	Lack of dedicated time and human resources Reluctance to treat due to discriminatory attitudes to under-served groups		
	Complex multi-morbidity	Strengthening surveillance systems to enable tracking, referral and	• Interpreters

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Intervention area	Barriers to implementation	Major activities and proposed solution(s)	Key implementers: who needs to be involved
Screening for latent TB infection and active TB in new entrants	High mobility of migrants within and across countries Absence of unique identifier in surveillance systems Lack of resources that are responsive to the impact of variable and unpredictable mobile populations High mobility of migrants within and across countries Absence of unique identifier in surveillance systems Lack of evidence for impact of screening Identification of eligible population Variable levels of motivation in healthcare providers and people Lack of LTBI detection tool Lack of more effective treatment	communication with migration authorities Provision of incentives for patients with negative TST and/or IGRA tests to maintain follow-up and engagement with health services. The provision of incentives to recipients of care can be used as an opportunity to raise awareness of TB and offer full health assessments, rather than focussing only on TB screening. This could minimise stigmatisation.	• Migration authorities and services • Local community support groups • Public health system for information transfer
Raising awareness of TB in the community and primary care	**Community:** Stigma in some communities; some groups do not want to engage issue of TB Lack of awareness of TB in high risk groups, for example in migrants from high to low burden settings, individuals with LTBI (particularly if undiagnosed) and in those who have undergone	Development of a communication strategy to reach primary care and community audiences with basic / minimum information. Clarity on the type of knowledge these groups would need and why could be included.	• National TB programme representatives • Ministry of Health • Public health teams/institutions related to TB or TB programmes

DETECTTB

Intervention area	Barriers to implementation	Major activities and proposed solution(s)	Key implementers: who needs to be involved
	a pre-entry x-ray for pulmonary TB as a visa condition. Many migrants to EU/EEA settings, for example the UK do not register with primary care in the first two years of arrival (when risk of reactivation is heightened). By virtue of being external to the healthcare system, these migrants may only present to hospitals when symptoms have advanced. Community-based organisations working with affected communities are themselves not aware of TB issues and have minimal resource to dedicate to the issue. **Primary Care:** Primary care organisations are under pressure, TB cases rarely present to primary care practitioners. As a result, they may feel as though TB awareness sessions are not worth their time due to small caseloads. TB is a rare (particularly in low-incidence settings) and treatable infectious disease. As a result, other issues compete for the attention of primary care and community care workers. Decreasing number of experts who have an impact on medical training curriculums TB is not an immediate emergency (as compared to Ebola) and so interest in the topic area is low	Introduction of TB-related topics to postgraduate training programmes of primary care specialists. TB-related communication through: - Circular letters to primary care institution s - Social media - Public transport networks (digital screens, paper leaflets distributed in primary care organisations). Use of E-learning tools for medical students, nurses and public health staff Continuing medical education articles on peer-reviewed medical journals with wide readership. Specialist TB training for TB coordinators in general hospitals **Community-targeted:** Free TB symposia for public health and medical professionals Exchange programmes between low- and high-incidence settings Nationally-driven social media campaigns can effectively reach affected communities.	• Universities, medical and postgraduate education institutions • Community-based organisations • Medical societies (including paediatricians, gynaecologists/ obstetricians) • 'GP TB Champions' • NGOs with expertise in TB case management • Providers of healthcare for undocumented migrants and under-served groups without health insurance coverage • Immigration authorities and organisations with responsibility for supporting integration of immigrants and asylum seekers into communities • Media organisations

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Intervention area	Barriers to implementation	Major activities and proposed solution(s)	Key implementers: who needs to be involved
	There is a lack of interest in TB, particularly if there do not become a contact and do not feel direct threat.	Integrate TB awareness raising activities with other health issues, such as sexual health, diabetes, healthy eating. Broker relationships between health and local government stakeholders with larger community-based organisations who have potential to be commissioner to deliver focused local awareness campaigns. **Primary care targeted:** Provide training resources for TB nurses to deliver training to GPs during 'protected learning time.' Please follow this link: TB Specialist Nurse Resource Pack Any example of online training is provided here Royal College of GPs Develop animations that can be screened in primary care practices	

3. Conclusions and future steps

This deliverable (D7.3) aimed to deliver an Expert Stakeholder meeting to support the further development of a TB Strategy Toolkit (deliverable D7.4). To do so, the meeting:

a) Summarised up-to-date evidence on potential core components for national TB strategies and barriers and enablers to facilitate TB strategy implementation
b) Utilised a modified Delphi method to build consensus on priority components of national TB plans
c) Identified key barriers to implementation of key priority intervention areas and potential activities or solutions for consideration as part of National TB Plans or TB Strategies

Expert opinion highlighted that raising awareness of TB in the community and primary care; reaching under-served groups; screening for latent and active TB in high risk groups should be prioritised core components of national TB plans or TB Strategies. Experts also identified key barriers to the implementation of policy options for each of these priority intervention areas and provided a range of patient-level and community-level activities and solutions.

The outputs and discussions from this meeting have led to further development of the TB Strategy Toolkit (deliverable D7.4) which aims to support development or refinement of national TB action plans or TB strategies. resource allocation for locally-relevant solutions, stakeholder engagement, and mobilisation of high-level political commitment.

Figure 4: Group picture of Expert Stakeholder meeting participants. A full list of participants is provided in Appendix 3

4. Bibliographical references

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Appendix 1

Expert Stakeholder Meeting

Representatives from TB programmes and services, civil society organisations, non-governmental organisations, charities and services linked to social support systems are welcome

Wednesday 24th October 2018

City Resort Leiden, The Netherlands
(Map here 10 mins from The Hague, host to this year's World Union Conference)

Aim: to assist EU/EEA member states to develop or refine their TB strategies or TB action plans
Objectives:
1. Summarising up-to-date evidence on
   a. core components for national TB strategies
   b. barriers and enablers to facilitate TB strategy implementation
2. Building consensus on
   a. priority components of national TB plans
   b. potential implementation steps for these plans
3. Input into a draft proposal for the TB strategy toolkit

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Agenda

10:00 – 10:10	Welcome and introductions	
Session A: Summary of evidence portfolio in order to identify cross-cutting themes to guide implementation of policy options		
10:10 – 11:30	**Present evidence :** 1. Survey of up-to-date national picture of national TB control plans and strategies – Dominik Zenner 2. Effectiveness of interventions for TB control and prevention in countries of low and medium TB incidence: a systematic review of reviews – Simon Collin 3. Barriers and facilitators to implementation of policies, strategies and guidelines for TB control and prevention – Fatima Wurie	
11:30 – 11:50	**Coffee break**	
11:50 – 12:30	**Draft TB strategy toolkit: contents and expectations** 1. Presentation on TB strategy toolkit components 2. Presentation on perspectives from EU/EAA member states and stakeholder groups based on pre-meeting survey on priority areas for intervention and expectations of TB toolkit	WP7 team
12:30 – 13:15	**Lunch**	
Session B: Break-out sessions / facilitated peer review: Implementation steps for policy options		
13:15 – 14:15	**What could be in your national TB plan?** Facilitated small group exercise to discuss: What are the core components of a national plan? How would this differ depending on the setting – high incidence/ low incidence – high MDR/low MDR?	All
14:15 – 14:45	**Coffee break**	
14:45 – 16:30	**How do we implement interventions and strategies as part of a national plan?** Facilitated small group exercise to discuss: barriers to implementation of interventions for priority areas and how to overcome them How would this differ depending on the setting – high incidence/ low incidence – high MDR/low MDR?	All
Session C: Next steps and what to expect		
16:30 – 17:00	Timescales for consultation , translation of meeting proceedings into TB strategy toolkit and dissemination plans	WP7 team
17:00	Meeting close Networking drinks reception	

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Appendix 2

Pre- expert meeting survey: National TB plans and TB strategies - identifying and ranking priority options

A year ago you kindly participated in a survey which asked you for information about your national TB control plans and strategies. This survey was part of the EU-funded E-DETECT TB project.

We would like to thank you again for your participation, and invite you to answer questions in a short follow-up survey.

Our aim is to develop a TB strategy toolkit which will provide up-to-date evidence on core components of TB control and prevention in Europe. The toolkit will help EU/EEA countries develop and refine their national TB plans/strategies, and recommend steps for their implementation.

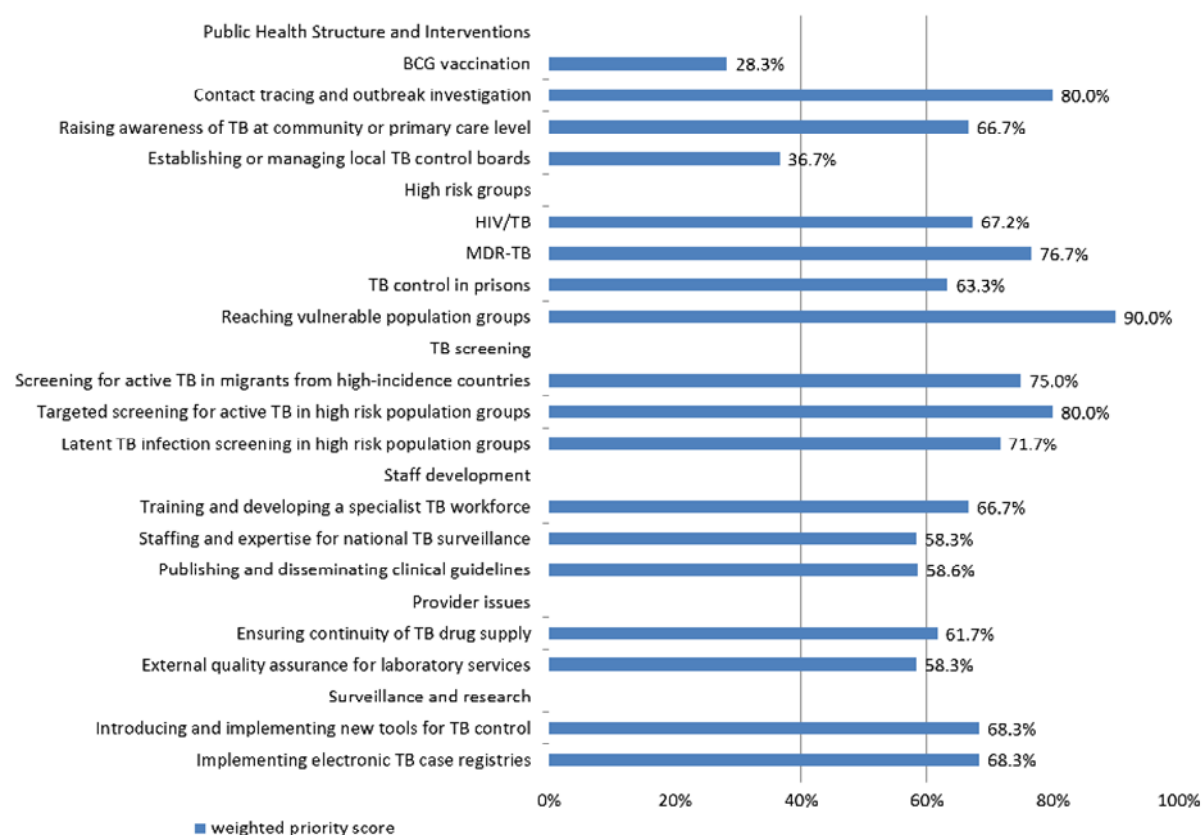We are using a modified Delphi exercise to identify, rank and reach consensus on policy options.

We would be very grateful if you could answer 5 short questions on the factors that are relevant to your setting. Your contribution will aid decision-making as part of an 'Expert Stakeholder Meeting' to inform development of the toolkit. This meeting will be held in Leiden, The Netherlands on Wednesday 24th October 2018, for which a lead NTP representative has been cordially invited.

We thank you in advance for taking time to complete this survey (20 minutes) by Monday 6th August 17:00 (UK time).

For any queries or issues about this survey or the Expert Stakeholder Meeting please contact the survey administrator: Fatima.Wurie@phe.gov.uk

Question 1. Please select your country (list of 31 EU/EEA member states provided)

Question 2. In the previous survey we asked about your views on priority actions which should be included in TB strategies or plans. The summary findings (using weighted priority scores) for potential intervention areas are shown in the graph above

Public Health Structure and Interventions
- BCG vaccination — 28.3%
- Contact tracing and outbreak investigation — 80.0%
- Raising awareness of TB at community or primary care level — 66.7%
- Establishing or managing local TB control boards — 36.7%

High risk groups
- HIV/TB — 67.2%
- MDR-TB — 76.7%
- TB control in prisons — 63.3%
- Reaching vulnerable population groups — 90.0%

TB screening
- Screening for active TB in migrants from high-incidence countries — 75.0%
- Targeted screening for active TB in high risk population groups — 80.0%
- Latent TB infection screening in high risk population groups — 71.7%

Staff development
- Training and developing a specialist TB workforce — 66.7%
- Staffing and expertise for national TB surveillance — 58.3%
- Publishing and disseminating clinical guidelines — 58.6%

Provider issues
- Ensuring continuity of TB drug supply — 61.7%
- External quality assurance for laboratory services — 58.3%

Surveillance and research
- Introducing and implementing new tools for TB control — 68.3%
- Implementing electronic TB case registries — 68.3%

■ weighted priority score

From the drop-down list of possible intervention areas, please rank the FIVE highest priority areas for inclusion in a national TB plan FOR YOUR COUNTRY (regardless of whether a plan currently exists).

1st (top) priority
2nd priority
3rd priority
4th priority
5th priority

Public health interventions
-BCG vaccination
-Contact tracing and outbreak investigation
-Raising awareness of TB at community or primary care level
-Establishing or managing local TB control boards

High risk groups
-HIV/TB
-MDR-TB
-TB control in prisons
-Reaching vulnerable population groups

TB screening
-Screening for active TB in migrants from high-incidence countries
-Targeted screening for active TB in high risk population groups
-Latent TB infection screening in high risk population groups

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Staff development
-Training and developing a specialist TB workforce
-Staffing and expertise for national TB surveillance
-Publishing and disseminating clinical guidelines

Provider issues
-Ensuring continuity of TB drug supply
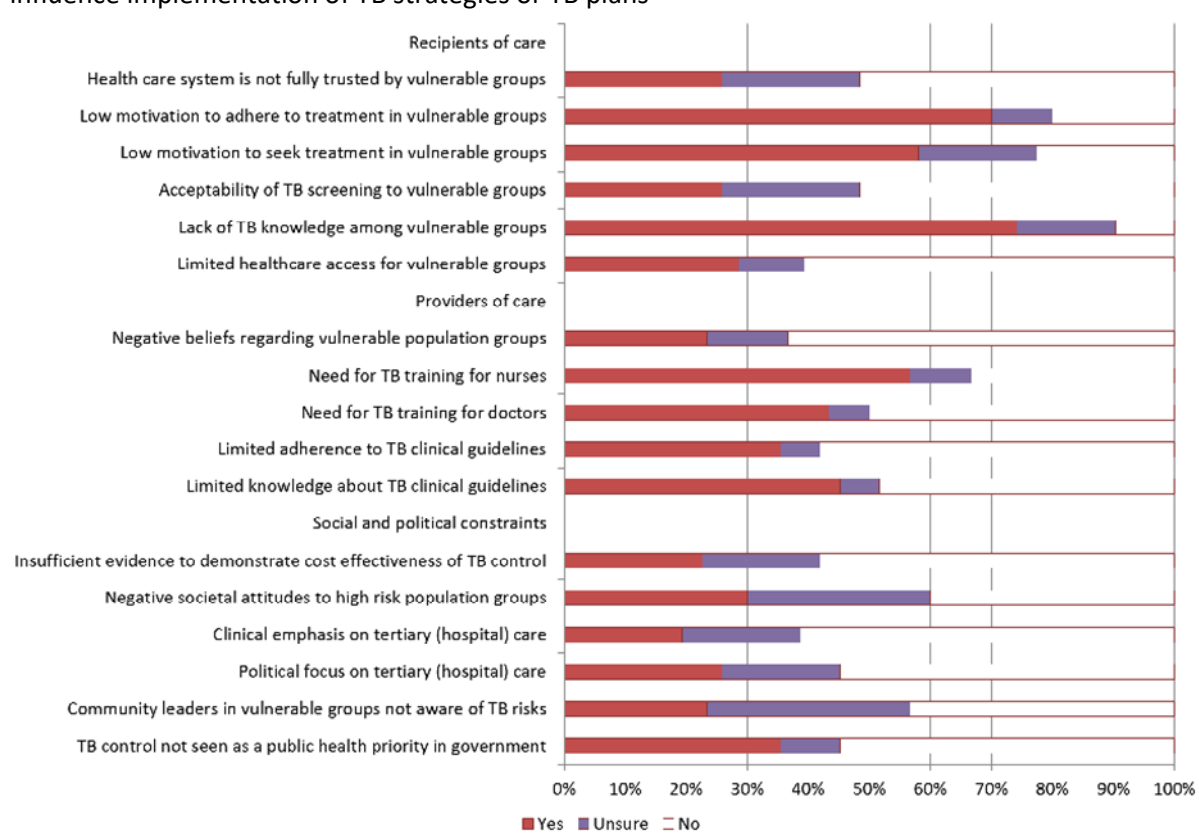-External quality assurance for laboratory services

Surveillance and research
-Introducing and implementing new tools for TB control
-Implementing electronic TB case registries

If it was possible for all resource needs in your country to be met, please select an additional FIVE priorities (in any order) that you would include in your country's national TB plan
1.
2.
3.
4.
5.

Question 3. In the previous survey we asked about your views on important barriers or enablers which may influence implementation of TB strategies or TB plans

The summary findings (using weighted priority scores) for potential barriers are shown in the graph above

In relation to RECIPIENTS OF CARE, please select the most relevant barriers to improving TB control in your country (those that make it harder for you to implement your selected top priority areas for intervention in Question 2).

Recipients of care [drop-down list of barriers]
-Health care system is not fully trusted by vulnerable groups
-Low motivation to adhere to treatment in vulnerable groups
-Low motivation to seek treatment in vulnerable groups
-Acceptability of TB screening to vulnerable groups
-Lack of TB knowledge among vulnerable groups
-Limited healthcare access for vulnerable groups

In relation to PROVIDERS OF CARE, please select the most relevant barriers to improving TB control in your country (those that make it harder for you to implement your selected top priority areas for intervention in Question 2).

Providers of care [drop-down list of barriers]
-Negative beliefs regarding vulnerable population groups
-Need for TB training for nurses
-Need for TB training for doctors
-Limited adherence to TB clinical guidelines

In relation to SOCIAL AND POLITICAL CONSTRAINTS, please select the most relevant barriers to improving TB control in your country (those that make it harder for you to implement your selected top priority areas for intervention in Question 2).

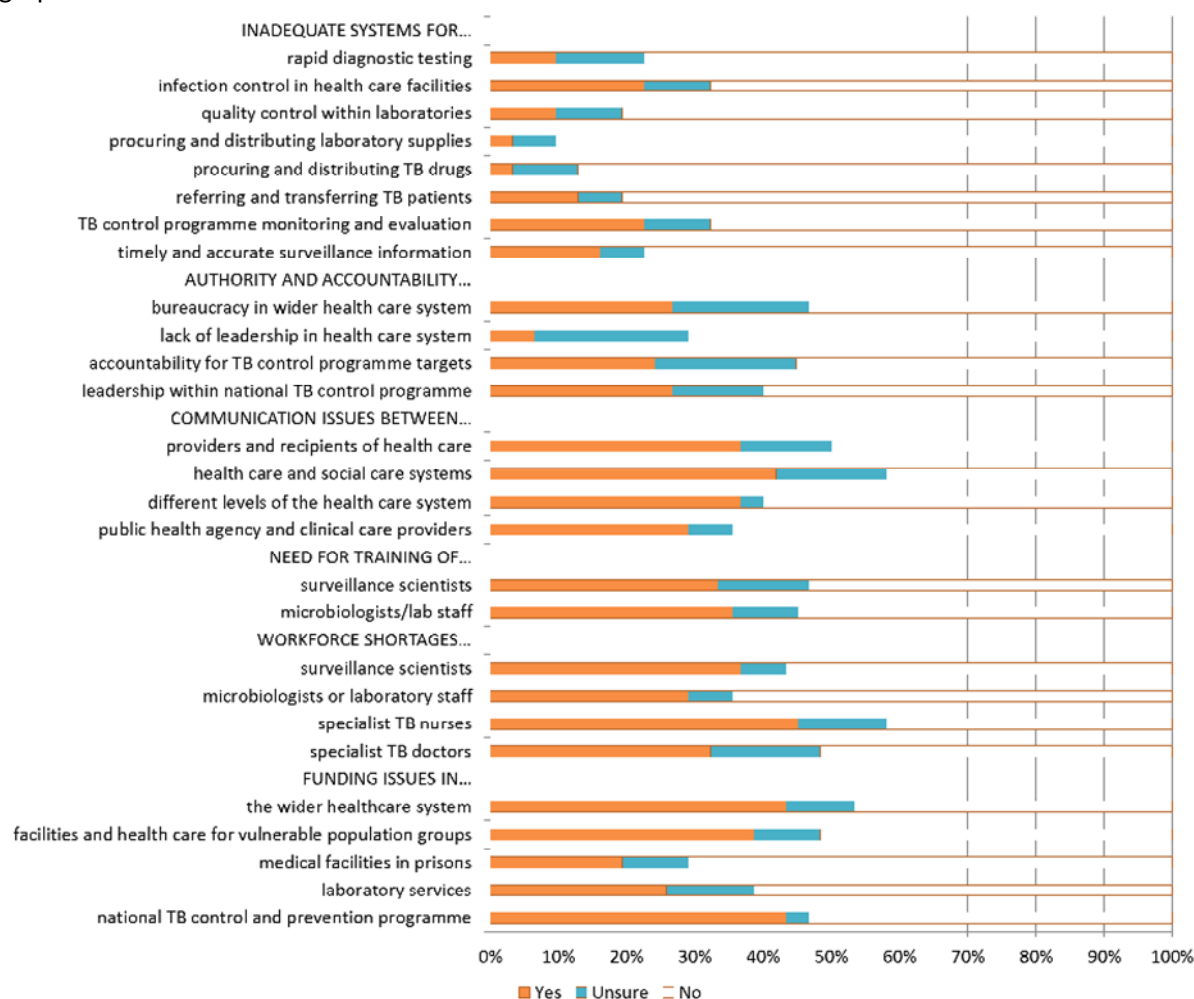Social and political constraints [drop-down list of barriers]
-Insufficient evidence to demonstrate cost-effectiveness of TB control
-Negative societal attitudes to high risk population groups
-Clinical emphasis on tertiary (hospital) care
-Political focus on tertiary (hospital) care
-Community leaders in vulnerable groups not aware of TB risks
-TB control not seen as a public health priority in government

Please include any possible facilitators or enablers which may make it easier to implement the top priority areas for intervention in Question 2
1.
2.
3.
4
If you have any further comments, suggestions or best practice examples with respect to factors that enable or impede the implementation of TB interventions and control measures in your country, please write these in the space provided below

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Question 4. In the previous survey you participated in we asked about your views on health system constraints which impede TB control across EU/EEA settings. Your summarised responses are shown in the graph below

In relation to INADEQUATE SYSTEMS, please select the most relevant health system constraints to TB control in your country (those that make it harder for you to implement your selected top priority areas for intervention in Q3).

Inadequate systems for: [drop-down list of health system constraints]
- rapid diagnostic testing
- infection control in health care facilities
- quality control within laboratories
- procuring and distributing TB drugs
- referring and transferring TB patients
- TB control programme monitoring and evaluation
- timely and accurate surveillance information

In relation to AUTHORITY AND ACCOUNTABILITY, please select the most relevant health system constraints to TB control in your country (those that make it harder for you to implement your selected top priority areas for intervention in Q3).

- bureaucracy in wider health care system
- lack of leadership in health care system
- accountability for TB control programme targets
- leadership within national Tb control programme

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In relation to COMMUNICATION ISSUES, please select the most relevant health system constraints to TB control in your country (those that make it harder for you to implement your selected top priority areas for intervention in Q3).

- providers and recipients of health care
- health care and social care systems
- different levels of the health care system
- public health agency and clinical care providers

In relation to TRAINING NEEDS, please select the most relevant health system constraints to TB control in your country (those that make it harder for you to implement your selected top priority areas for intervention in Q3).

- surveillance scientists
- microbiologists or laboratory staff
- specialist TB nurses

In relation to FUNDING ISSUES, please select the most relevant health system constraints to TB control in your country (those that make it harder for you to implement your selected top priority areas for intervention in Q3).

- the wider healthcare system
- facilities and health care for vulnerable population groups
- medical facilities in prisons
- laboratory services
- national TB control and prevention programme

Please include any possible facilitators or enablers which may ease health system constraints to implement your chosen top priority areas for intervention in Q3

1.
2.
3.
4

Comments on above

Question 5: A TB strategy toolkit aims to aid national plan development or refinement by providing up-to-date evidence on core components of national TB plans/ strategies and potential steps for implementation. We using your expert views and cumulative EU/EEA member state experience and consulting with the European Commission, WHO and ECDC to support the toolkit's development.

Please provide some guidance by providing brief answers to these THREE sub-sections on the target audience, format of TB strategy toolkit and how it should be disseminated

Target audience

Layout/Format

Dissemination

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Appendix 3

Expert meeting attendee	Country
Ana Maria Duca	NTP representative for Romania
Maryse Wanlin	NTP representative Belgium
Sarah Anderson	NTP representative for United Kingdom & E-DETECT TB Work Package 7 co-investigator
Nita Perumal	NTP representative for Germany
Thierry M. Comolet	NTP representative for France
Kevin Kelleher	NTP representative for Ireland
Peter Henrik Andersen	NTP representative for Denmark
Trude Margrete Arnesen	NTP representative for Norway
Gerard de Vries	NTP representative for Netherlands & E-DETECT TB Work Package 7 co-investigator
Cindy Schenk	NTP representative for Netherlands
Ivan Solovic	NTP representative for Slovakia
Stamatoula Tsikrika	NTP representative for Greece
Jurgita Pakalniškienė	NTP representative for Lithuania
Bernhard Benka	NTP representative for Austria
Petra Svetina	NTP representative for Slovenia
Ibrahim Abubakar	E-DETECT TB Lead Coordinator
Dominik Zenner	E-DETECT TB Work Package 7 Lead
Knut Lönnroth	E-DETECT TB Work Package 7 co-investigator
Fatima Wurie	E-DETECT TB Senior Scientist
Simon Collin	E-DETECT TB Senior Scientist
Mike Mandelbaum	TB Alert
Paul Sommerfeld	TB Alert & TB Europe Coalition
Cinthia Menel-Lemos	European Commission / CHAFEA
Martin Van Den Boom	World Health Organisation European Region
Marieke van der Werf	European Centre for Disease Control
Senia Rosales-Klintz	European Centre for Disease Control
Lisa Kawatsu	Japan Anti-TB Association (observer)
Akihiro Ohkado	Japan Anti-TB Association (observer)

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