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Joint meeting of European Union/European Economic Area tuberculosis surveillance network and national TB programme managers of the WHO European Region

21–22 June 2016, Bratislava, Slovakia

ABSTRACT

The European Centre for Disease Prevention and Control and the WHO Regional Office for Europe jointly coordinate tuberculosis (TB) surveillance in the WHO European Region. The 2016 meeting of the surveillance network for the European Union and European Economic Area (EU/EEA) (and also European Union enlargement countries) was held in parallel with the WHO European Region's national TB programme (NTP) managers' meeting. The EU/EEA meeting focused on the main findings of the 2016 TB surveillance report, with particular attention to the role of TB diagnostic tests and the social determinants of, and risk factors for, TB. The main focus of the NTP managers' meeting was to discuss adaptation of national TB strategic plans to the TB action plan for the WHO European Region 2016–2020 and review implementation of the TB regional grant from the Global Fund Against AIDS, Tuberculosis and Malaria for strengthening health systems to improve TB prevention and control. This report summarizes joint sessions at the beginning and end of the meeting and the NTP managers' sessions.

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CONTENTS

Page

Acronyms

ECDC	European Centre for Disease Prevention and Control
EU/EEA	European Union and European Economic Area
GFATM	Global Fund Against AIDS, Tuberculosis and Malaria
LTBI	latent TB infection
MDR-TB	multidrug-resistant tuberculosis
M/XDR-TB	multidrug and extensively drug-resistant tuberculosis
NTP	national tuberculosis programme
PAS	Center for Health Policies and Studies
SDG	(United Nations) Sustainable Development Goal
TB	tuberculosis
TB-REP	tuberculosis regional eastern European and central Asian project on strengthening health systems for effective TB and drug-resistant TB control
XDR-TB	extensively drug-resistant tuberculosis

Introduction

The European Centre for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe jointly coordinate tuberculosis (TB) surveillance in the WHO European Region. They have held joint network meetings for countries of the European Union and European Economic Area (EU/EEA) and all non-European Union countries, but in 2013, a decision was taken to hold the joint surveillance network meeting every second year, with ECDC organizing a meeting for the EU/EEA countries in the intervening years.

The 2016 meeting of the surveillance network for EU/EEA and European Union enlargement countries was organized by ECDC, with the Regional Office holding the national TB programme (NTP) managers' meeting in parallel. Participation in the EU/EEA TB surveillance network meeting was by invitation, with the NTP managers' meeting being open to all partners and experts who registered via the WHO secretariat.

EU/EEA TB surveillance network meeting

The EU/EEA meeting focused on the main findings of the 2016 TB surveillance report, with particular attention to the role of TB diagnostic tests and the social determinants of, and risk factors for, TB. Delegates discussed potential changes in TB-related case definitions and the need for new variables in the joint TB surveillance platform in working groups.

The objectives were to:

- provide an overview of the TB epidemiological situation in EU/EEA countries;
- agree on the role in TB surveillance of TB diagnostic tests and social determinants of, and risk factors for, TB; and
- update the network on ECDC's recent activities.

Expected outcomes were for delegates to be:

- updated on TB epidemiology and the state of elimination of TB in EU/EEA countries;
- updated on recent changes in TB laboratory testing;
- able to provide feedback on the need for inclusion of new variables in the European Surveillance System; and
- have a better understanding of the role of variables for social determinants and risk factors in TB surveillance.

NTP managers' meeting

The focus was to discuss adaptation of national TB strategic plans to the TB action plan for the WHO European Region 2016–2020[1] and review implementation of the TB regional grant from the Global Fund Against AIDS, Tuberculosis and Malaria (GFATM) for strengthening health

[1] Tuberculosis action plan for the WHO European Region 2016–2020. Copenhagen: WHO Regional Office for Europe; 2015 (http://www.euro.who.int/__data/assets/pdf_file/0007/283804/65wd17e_Rev1_TBActionPlan_150588_withCover.pdf?ua=1, accessed 10 October 2016).

systems to improve TB prevention and control. Updates on people-centred models of TB care, social protection and regional initiatives also figured prominently.

The objectives were to:

- review Member States' adaptation of the TB action plan for the Region 2016–2020 through an interactive poster session;
- discuss progress and challenges in TB prevention, control and care in the Region, with a particular focus on the 11 countries in the regional eastern European and central Asian project on strengthening health systems for effective TB and drug-resistant TB control (TB-REP);
- improve delegates' understanding of people-centred TB care and social protection; and
- update Member States and partners on the following regional initiatives: strengthening TB laboratory services; introducing new drugs; engaging civil society in ending TB in the Region; and strengthening cross-border TB control and care.

Expected outcomes were for:

- participants to have a better understanding of social protection mechanisms and measures to improve models of care;
- countries to have presented a summary of their national strategic plans through a poster session and progress towards the adaptation of the European TB action plan in line with the End TB Strategy; and
- participants being made aware of the latest global and regional developments in the field of TB and multidrug-resistant TB (MDR-TB) prevention and care.

Schedule of joint meeting

The surveillance network and NTP managers' met jointly to discuss the latest developments relevant to all 53 Member States of the Region on the morning of Day 1. EU/EEA TB surveillance experts and NTP managers then held parallel meetings from the afternoon of Day 1 to the closing session at the end of Day 2.

This report summarizes presentations and discussions of the joint sessions at the beginning and end of the meeting and the NTP managers' parallel sessions.

Day 1, Tuesday 21 June

Welcome

Time	Topic	Speakers
09:00–09:20	Welcome and introductory remarks	Mr Jan Mikas (Public Health Authority of Slovakia), Dr Marieke van der Werf (ECDC), Dr Masoud Dara (WHO Regional Office for Europe), Ms Ilke van Engelen (former TB patient)

Professor Ivan Solovic from Slovakia introduced the opening speakers and welcomed all to Bratislava.

Mr Jan Mikas of the Public Health Authority of Slovakia expressed his appreciation for Bratislava being selected as the location for this important meeting. He acknowledged the common goal of terminating the TB epidemic and highlighted the danger posed by MDR-TB.

Dr Marieke van der Werf of the ECDC gave an overview of the epidemiological situation regarding TB in the EU/EEA. She noted how TB disproportionately affects vulnerable populations, such as people who abuse alcohol or injectable drugs, and drew attention to recent ECDC publication on how to prevent and control TB in vulnerable populations.[2]

Dr Masoud Dara of the WHO Regional Office for Europe noted that the meeting was being webcast in an explicit attempt to increase transparency within the TB community and beyond. He noted the ways in which health is affected by an increasingly interconnected world and underlined the consequent need for strong and resilient health systems and intersectoral links.

Ms Ilke van Engelen, a former TB patient from the Netherlands, gave a presentation on her experience of TB. She said she had previously felt "immune from disease" and highlighted the time it took to reach a diagnosis of TB, despite months of symptoms. She explained the process of investigation, treatment and contact-tracing in her country and expressed the need for effective communication and trust between health care workers and patients.

Session 1. Joint session of WHO NTP managers and EU/EEA operational contact points for TB epidemiology on monitoring TB prevention and control in Europe

Time	Topic	Speakers
09:25–09:45	TB surveillance findings and monitoring progress towards TB elimination in the EU/EEA, 2016	Dr Marieke van der Werf (ECDC)
09:45–10:10	TB monitoring in United Kingdom (England)	Dr Lucy Thomas (United Kingdom (England))

[2] Scientific advice. Guidance on tuberculosis control in vulnerable and hard-to-reach populations. Stockholm: ECDC; 2016 (http://ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=1451, accessed 10 October 2016).

Time	Topic	Speakers
10:10–10:40	WHO monitoring and evaluation indicators for latent TB infection programmatic management	Dr Haileyesus Getahun (WHO global TB programme)

TB surveillance findings and monitoring progress towards TB elimination in the EU/EEA, 2016

Dr Marieke van der Werf provided a summary of the latest TB surveillance and monitoring report (EU/EEA only). She illustrated the completeness of the country reporting, showing that in the case of many variables, almost 100% coverage was reached. She nevertheless highlighted areas in which information was lacking, such as the HIV status of TB cases. Just over 58 000 TB cases were notified in 29 EU/EEA countries, but with great variability between countries.

In general, the trend of reported TB cases has declined in recent years (currently 11.9 cases per 100 000 population), with 11.5% of reported cases having been previously treated. Children aged under 15 years accounted for 2 258 cases. The percentage of TB cases occurring in people of foreign origin was 26.8% in 2014: this does not yet reflect the potential effect on TB notification of migration to the EU/EEA during 2015 and 2016.

The Netherlands, Sweden and the United Kingdom report high levels of extrapulmonary TB (more than 30% of cases). Approximately 4% of those with drug-susceptibility testing results were multidrug-resistant. The general trend of MDR-TB is static, with 17.5% of MDR-TB cases classed as extensively drug-resistant TB (XDR-TB). While notification of HIV status in TB cases is incomplete, 4.9% of TB cases were reported to have coexisting HIV infection. Seventy-four per cent of all TB cases had a successful treatment outcome after 12 months, but this was the case for only 40.3% of those with MDR-TB.

Dr van der Werf then provided an overview of the monitoring of implementation of the framework action plan to fight TB in the European Union carried out by ECDC. Success in the attainment of target indicators in the EU/EEA has been variable, she reported. The five-year trend in drug-sensitive and drug-resistant TB notification rates has decreased, but less success has been seen in reducing the five-year trend in the ratio of notifications of children to adults or achieving the targeted trend in the mean age of TB cases. Of the eight core indicators, the target was achieved for one (the indicator on the percentage of national TB reference laboratories achieving adequate performance in the external quality assurance scheme). Some progress was made for other indicators since the last monitoring.

TB monitoring in United Kingdom (England)

Dr Lucy Thomas gave a presentation focusing on TB monitoring in United Kingdom (England). She provided some background information, including epidemiology, recent health system reforms and the development of a national TB strategy that has at its core intersectoral action involving the National Health Service, local government, the National Institute for Health and Care Excellence and the voluntary sector. The aims of the strategy are to achieve year-on-year reductions in TB incidence and health inequalities, and contribute to the eventual elimination of TB as a public health problem in England. The associated 10-point action plan included improving access to treatment and earlier diagnosis, developing workforce planning and achieving better contact-tracing.

The social aspects of TB were illustrated by the high levels in built-up areas and the disproportionate number of people with TB in the United Kingdom who were born elsewhere. Dr Thomas raised concern that almost a third of patients do not receive treatment within the first four months of symptom onset and highlighted the difference in TB presentation and treatment success rates between patient groups. Roughly 90% of patients with no social risk factors (such as homelessness and current or previous detention in prison) complete treatment but only 78% with a minimum of one social risk factor do so, with a greater proportion also lost to follow up.

Dr Thomas drew attention to a new TB monitoring software tool that is open to all.[3]

WHO monitoring and evaluation indicators for latent TB infection programmatic management

Dr Haileyesus Getahun from the WHO global TB programme overviewed the monitoring and evaluation of latent TB infection (LTBI). LTBI is defined as: "a state of persistent immune response to stimulation from *M. tuberculosis* antigens without clinically manifested TB disease". He highlighted the two-pronged approach to programmatic management of LTBI – tailored strategies for countries with low- and high-TB burdens, respectively – and drew attention to variability in country monitoring and evaluation of LTBI.

WHO has developed a monitoring and evaluation guideline to ensure consistency of data collection and assess programmatic management of LTBI. The core indicators for all countries in these guidelines are:

- the proportion of child contacts under 5 years completing TB investigations
- the proportion of child contacts under 5 years initiated on LTBI treatment
- the proportion of people living with HIV initiated on LTBI treatment.

Optional indicators are also provided for adaptation at national level as appropriate, including the TB incidence rate among at-risk populations.

Some challenges to LTBI control were identified, including LTBI not being notifiable in many countries, the involvement of different entities in TB service delivery (creating difficulty in achieving collaboration across sectors) and the problems of collecting denominators (the total numbers of people with confirmed TB). Dr Getahun reflected on Dr Thomas' presentation of Public Health England's online data tool, suggesting that digital health data collection and availability is a potential solution to some of the defined challenges.

Discussion

Dr van der Werf was asked when new epidemiological indicators would be developed for the EU/EEA region. She responded that the current indicators were developed in 2010 and there was an acknowledged desire to develop up-to-date versions. Currently, the European Commission is considering the development of a policy document on TB, HIV and hepatitis: this would present an opportunity to revise the indicators.

[3] TB strategy monitoring indicators [online database]. London: Public Health England; 2016 (http://fingertips.phe.org.uk/profile/tb-monitoring, accessed 10 October 2016).

A delegate asked if epidemiological indicator results were standardised depending on the number of migrants arriving in each country. In response, Dr van der Werf said that the indicators was calculated using the number of TB cases in migrants as a numerator over the number of all TB as denominator, therefore is not standardised to the number of immigrants arriving per country.

A question on how to manage LTBI in countries with high multidrug and extensively drug-resistant TB (M/XDR-TB) prevalence arose. In response, Dr Getahun said there was evidence to show that isoniazid can still work in areas with a background of high drug resistance, but this is acknowledged as a challenging situation.

Professor Lee Reichman of the New Jersey Medical School, United States of America, stated that the evidence in some regions that quinolone-containing prophylactic regimens may be beneficial was compelling. He suggested that in some circumstances, it is perhaps time to act in the absence of controlled clinical trials, given the length of time it will take to produce results in ongoing clinical trials.

Dr Thomas was asked how much cost is incurred in the human resources required to provide an effective online surveillance tool, such as the one described in her presentation. She replied that a number of people worked on the ground specifically in TB (such as TB nurses), but there was no extra cost to TB-specific services for the web-based tool, as it is a national resource that is also used to report data on other conditions, such as noncommunicable diseases.

A delegate asked why treatment outcome was only around 40% compared to a reported ~50% worldwide in a setting – the EU/EEA – in which resources are not necessarily scarce. The reply indicated that while no in-depth analysis has yet been conducted to discover why this is the case, possible reasons may include difficulty in reaching particular vulnerable population groups and a higher proportion of TB in elderly patients, who may have inherently worse outcomes or die of other causes prior to completion of treatment.

To finish the session, delegates presented posters detailing the current epidemiological situation, successes and challenges of TB control in their respective countries.

Time	Topic	Facilitators
11:15–12:30	TB action plan poster session	Dr Masoud Dara and Dr Andrei Dadu (WHO Regional Office for Europe)

National counterparts were invited to review progress towards adaptation of TB national strategic plans for alignment to the End TB Strategy and the regional TB action plan for 2016–2020. They participated through two interactive sessions called poster marketplaces: one marketplace was for the 18 high-priority countries for ending TB in the Region: these countries represent 85% of the regional TB burden or have low-to-middle per capita incomes. Ten posters were presented and discussed, from Armenia, Azerbaijan, Estonia, Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Ukraine and Uzbekistan. Facilitation was provided by Dr Andrei Dadu.

The second marketplace was for 12 counterparts who had pre-requested presentation slots. They came from Albania, Belgium, France, Germany, Greenland, Hungary, Ireland, the Netherlands, Norway, the former Yugoslav Republic of Macedonia and the United Kingdom, and from Kosovo (in accordance with Security Council resolution 1244 (1999)). This group was facilitated by Dr Masoud Dara.

Meeting participants were updated on the evolution of key impact indicators of TB burden, such as TB incidence, mortality, and M/XDR-TB and HIV/TB prevalence, and key country outputs and outcomes from NTP operations, such as case-detection and treatment coverage and outcomes. Country representatives presented NTPs' achievements, including reforms of TB governance, health systems and health financing, and new models of care in prevention, diagnosis, surveillance and treatment, with community involvement. They also addressed continuing challenges, such as social determinants, and political and economic factors.

National counterparts identified national goals, targets and objectives (based on country priorities), monitoring and evaluation frameworks, resource plans and stakeholders' roles in implementing TB national strategic plans.

Session 2. Parallel sessions – meetings for NTP managers

Importance of sustainable health financing for TB prevention and care

Time	Topic	Speakers	Chairs/facilitators
13:45–14:05	Overview of TB-REP	Dr Martin van den Boom and Ms Regina Winter (WHO Regional Office for Europe)	**Chairs:** Mr Uldis Mitenbergs (GFATM) **Facilitators:** Dr Viorel Soltan (Center for Health Policies and Studies) and Dr Martin van den Boom (WHO Regional Office for Europe)
14:05–14:25	Financing health systems sustainably and payment mechanisms with regard to TB prevention and care: some examples	Mr Szabolcs Szigeti (WHO country office, Hungary)	
14:25–14:45	Discussion	Moderated by chairs and speakers	
14:45–15:25	Panel discussion: country representatives from Armenia, Belarus, Kazakhstan, the Republic of Moldova and Ukraine	Moderated by chairs and speakers	
15:25–15:30	Next steps on TB-REP with regard to TB-relevant health financing	Dr Martin van den Boom (WHO Regional Office for Europe) and Mr Szabolcs Szigeti (WHO country office, Hungary) (chairs)	

Dr Martin van den Boom of the Regional Office opened this session, highlighting the need for delegate participation.

Mr Uldis Mitenbergs of the GFATM called for more to be done to capitalize on progress made on TB control in the Region. He noted the ambitious targets of the WHO action plan on TB 2016–2020 and that strategic changes are required to reach these targets. He stressed the importance of appropriate incentives, or so-called provider-payment methods.

Overview of TB-REP

Dr Martin van den Boom and Ms Regina Winter of the Regional Office provided an overview of TB-REP, the GFATM-funded project aimed at strengthening health systems for effective TB and drug-resistant TB control in 11 eastern European and central Asian countries. Dr van den Boom

provided the backdrop to the project, explaining its development in the context of United Nations Sustainable Development Goal (SDG) 3 and recent WHO strategic plans (Health 2020 and the TB action plan 2016–2020). He highlighted a number of key health-system challenges in fighting TB, including governance (such as the mandate to act on TB), service delivery (particularly payment mechanisms), health financing, pharmaceuticals (access to M/XDR-TB drugs) and human resources. He also drew attention to important strategic targets within TB-REP, such as reducing deaths and incidence rates from TB and MDR-TB, and acknowledged the challenges posed by health inequalities, proposing that reductions in inequalities may be achieved by improving TB models of care and financing.

Dr Masoud Dara of the Regional Office commended the TB People group and encouraged them to take their initiative "beyond this room", inviting them to contact the Regional Office if it could help in any way. Paul Sommerfeld from TB Alert UK requested that the TB community does not forget the financial needs of civil society when it talks about revised funding mechanisms for TB. Delegates' attention was drawn to an art exhibition created by a member of TB People that would be on show at the upcoming International Union Against TB and Lung Disease conference in Bratislava.

Ms Regina Winter overviewed technical aspects of TB-REP, describing the technical partners and countries involved. The overall goal is to decrease the burden of drug-resistant TB and increase political commitment towards outpatient-oriented models of care. Core objectives are to:

- improve advocacy and capacity-building by, for example, improving political commitment to the End TB Strategy through regional cooperation and evidence-sharing; and
- provide technical assistance to support countries to implement effective and efficient TB service delivery with sustainable financing.

There are various quantitative and qualitative outcomes for TB-REP. Quantitative outcomes are to decrease:

- the percentage of new TB cases
- the percentage of drug-resistant TB patients who are hospitalized
- the average length of stay.

Those for qualitative are to:

- adopt key policies at country level, particularly in relation to patient-centred service delivery, TB-care financing and human resources;
- have agreed regional hospitalization and discharge criteria; and
- increase the share of health budgets for TB.

The processes through which these targets will be achieved are multiple and include:

- high-level and bottom-up advocacy at regional and national levels;
- blueprints for TB-relevant adequate models of care adapted to country contexts that are being developed by the Regional Office, Center for Health Policies and Studies (PAS) and partners, including the European Respiratory Society, London School of Economics and Political Science and London School of Hygiene and Tropical Medicine;
- implementation of country roadmaps; and
- regional capacity-building and learning events.

In relation to advocacy, country ownership and a high degree of sustainability of the project's outcomes, Ms Winter discussed the plan to seek nominations for high-level national focal points and a national working group mechanism from each TB-REP participating country, high-level advocacy missions and advocacy-related technical assistance. Plans for advocacy in the TB-REP are to develop a joint advocacy strategy and exchange of good practices, support regional conferences and create and conduct flagship courses on health system strengthening for TB prevention and care.

Some detail was given on the role of technical assistance in the project, which will be required to help to develop models of care adapted to country contexts and health financing for TB service provision. Countries will also need to develop technical assistance at national level to implement their country roadmap.

Dr van den Boom detailed a number of broad expected outcomes:

- countries will adopt key policies to address TB-REP strategic areas through, for example, improved models of care and health financing mechanisms;
- TB care will be more cost–effective and less reliant on donors; and
- TB hospitalization rates and lengths of hospital stay will be reduced.

He stressed the need for country ownership of the project and highlighted the intention for countries to share good practices and experiences in a transparent manner. The planned creation of complementary links among health systems, TB services and governance (including not only ministries of health, but also those of finance and justice) was perceived to be an innovative element of the project.

At present, countries are establishing national counterparts (identifying focal points and the best approach to national working groups), finalizing country profiles, identifying 3–4 key issues to address in each country and developing a list of people to meet in proposed high-level advocacy meetings.
Dr Viorel Soltan subsequently detailed what the PAS has achieved in the project so far through liaising with technical partners, identifying appropriate civil society partners in 10 countries (the civil society partner in Turkmenistan – possibly the International Red Cross and Red Crescent Movement – is still being discussed). He also detailed work done with the European Respiratory Society in relation to human resource planning for the desired models of TB care.

Financing health systems sustainably and payment mechanisms with regard to TB prevention and care: some examples

Mr Szabolcs Szigeti of the WHO country office in Hungary highlighted the need for good alignment of health financing for effective care delivery. Aligning payment methods with the service delivery model to allow delivery of health services in the recommended fashion is important. Poorly aligned financing would incentivize inappropriately high levels of hospitalization for TB patients. He outlined commonly used provider-payment methods in the European Region (fee-for-service, capitation, line-item budget, global budget, case-based payment and pay-for-performance), each of which have positive and negative elements.

Variation in hospitalization rates and lengths of stay for TB in European countries is wide, although it is less so for MDR-TB. In Armenia, for example, 82% of TB resources were spent on inpatient services; the corresponding figure for the Netherlands was in the region on 25%. Mr

Szigeti suggested that current health financing arrangements in almost all TB-REP countries potentially were contributing to incentivizing excessive hospitalization. TB financing mechanisms in Armenia and Hungary had previously incentivized hospitalization of TB patients, but it is hoped that proposed reforms will lead in time to the incentive shifting towards treating patients in primary care/ambulatory settings. All payment mechanisms, he said, have advantages and disadvantages – the challenge is to maximize the combination of advantages from various mechanisms.

Dr Masoud Dara stressed the importance of realizing that there is no one-size-fits-all policy. The decision, he said, is not whether to deliver TB care in ambulatory or hospital settings, but rather to create the optimal combination of inpatient and outpatient services.

Discussion

Delegates commended the TB-REP project but asked two questions.

- How can the capacity to provide ambulatory care be created in systems that previously have been heavily hospital-centric?
- How will this project be aligned with other health system goals in countries?

Dr Viorel Soltan reiterated the intention of the project not to carry out additional scientific research or data collection beyond the literature review carried out by project partners (the London School of Hygiene and Tropical Medicine and London School of Economics and Political Science). This will be vital to guide the operationalization of country roadmaps. It was acknowledged that similar attempts to reform health systems were made in these countries 10–15 years ago, but did not succeed as desired. The feeling today is that the evidence base to deliver ambulatory care is stronger, which should encourage the development of political will. It was agreed that improvements in TB care can only be achieved if they are incorporated within ongoing health reform agendas already present in countries.

Dr Martin van den Boom complemented this answer by focusing on human resource elements of health system reform, stressing the need to address misgivings health care workers (in particular) have in relation to the shift from inpatient to outpatient services.

A delegate asked if any analysis of the outcomes of changing to pay-for-performance financing had been done. While pilot projects have been launched, no systematic analysis or evaluation has as yet taken place.

Panel discussion: country representatives from Armenia, Belarus, Kazakhstan, the Republic of Moldova and Ukraine

Dr Armen Hayrapetyan (Armenia) was asked the following.

- How could Armenia make further progress in introducing sustainable TB-relevant provider-payment mechanisms?
- What challenges will be encountered, and how could they be overcome?

Armenia reformed TB services' funding in 2014, Dr Hayrapetyan explained, with a move from payment for hospital bed days towards two mechanisms: payment for hospital maintenance and payment per case. In payment per case, facilities used the money for medication and food.

The number of hospital admissions has reduced by ~50% over the two years in which these mechanisms have been in place, with a consequent decrease in bed occupancy rates. The incentive to provide false reports to gain funding no longer exists. Further steps have been taken to achieve more sustainable results for longer-term success, with goals to reduce bed capacity and strengthen outpatient services. While it is acknowledged that there will always be a need for some degree of inpatient care, cases must be chosen very carefully. Ensuring cost–effectiveness, especially given the switch in future from external to internal funding, is a challenge.

Dr Zhumagali Ismailov (Kazakhstan) was asked: how could Kazakhstan achieve greater success in delivering improved efficiency and efficacy of TB service delivery?

Dr Ismailov provided a brief overview of TB service delivery in Kazakhstan, detailing the plan to divert TB services towards outpatient settings. The discrepancy between funding for inpatient versus outpatient care is marked – only 17% of the TB budget currently goes towards the latter. A formula to define optimal funding for inpatient and outpatient services has been developed.

Dr Alena Skrahina (Belarus) was asked the following.

- How could Belarus make further progress in rolling out the financial model of reallocation of funding for inpatient care to outpatient care (based on the Mogilyov project experience)?
- What challenges will be encountered, and how could they be overcome?

The main achievement of the Mogilyov project, Dr Skrahina explained, is that it helped to provide an algorithm for, and opportunity to, incentivize doctors who produced good results in TB care. Each health care worker who accepted a patient was incentivized to engage in the TB project – $1 for seeing a patient in the clinic, $4 for visiting the patient at home. Health care workers were incentivized to work in TB care and did so beyond their remit by, for example, providing extra food and clothes for patients. The Ministry of Health approved the project in 2015: the funding model was evaluated by a review meeting in December 2015 and found to be satisfactory.
Belarus relies on TB-REP support to ensure that key high-level individuals are engaged in controlling TB. A draft document relating to changing doctors' workloads is being proposed to the government; currently, TB doctors are considered to be overworked. The new document hopes to make the TB specialty more attractive to prospective trainees. It is very difficult to change historical funding models (Semashko), as they are used for health care sectors beyond TB. Bed numbers have declined recently, with TB control activities losing money as a consequence. The hope is for a further reduction in TB bed numbers, but with funding reallocated to outpatient TB control activities.

Ms Daniela Demiscan (the Republic of Moldova) was asked the following.

- What, in your opinion, are the most important enablers and challenges in the optimization of mechanisms for financing hospitals and adjusting payment-for-service providers to link to clinical results?
- How could the Republic of Moldova make further progress in reorganizing administration, human resources and finances for TB service delivery?

Ms Demiscan explained that at present, the GFATM is one of the funders of services in the country. The government also tries to maintain financial stability in TB control activities. Health

care systems' capacity to deal with a challenging TB situation needs to be improved: financing – particularly for human resources – will be a significant part of this.

Ms Yana Terleyeva (Ukraine) was asked the following.

- Based on your experience, what are the key challenges and opportunities your country faces from the financing perspective in providing TB services and introducing the ambulatory health care model?
- How could Ukraine make further progress in introducing sustainable TB-relevant provider-payment mechanisms as a tool for sustainable health financing for TB prevention and care?

Ukraine is at the beginning of the process of improving health care financing, Ms Terleyeva stated. Despite this, some proposals are already being presented. The conflict in the east of the country is making planning particularly difficult, as it has greatly affected the economic situation. There are no incentives at the present time to reduce hospitalization for TB, and only a small proportion of the budget is used for diagnosis and treatment in outpatient settings. The heads of TB facilities are in no hurry to move towards outpatient/ambulatory care, although eight of 24 regions use some degree of outpatient TB care delivery.

Priorities are to:

- ensure political commitment at the highest level;
- introduce incentives to improve outpatient care delivery;
- develop a national agency for purchasing services – the current system is very fragmented; and
- better direct resources to develop a platform for operational research to address excessive chest X-raying and revaccination.

A delegate from Lithuania commented that she had discussed difficulties in transferring finances saved from reducing bed numbers to other TB-related and health care services. She encouraged delegates to be clear when developing proposals for novel financing mechanisms that money saved from moving away from inpatient care delivery should be directed to outpatient TB services.

A delegate from the Russian Federation asked WHO to produce guidelines on how long people should be treated in hospital. Professor Ismailov called passionately for dialogue with people who make legislation to better direct finances towards TB-REP goals and outpatient care.

Delegates discussed the Semashko mechanism of financing, with some feeling it was antiquated and had led to high TB-care costs in countries of the former Soviet Union.

Session 3. Parallel sessions – meetings for NTP managers

Importance of adequate human resource development for TB prevention and care

Time	Topic	Speakers	Chairs/facilitators
16:00–16:20	Implications of human resource development for TB prevention and care within and beyond TB-REP	Ms Ieva Leimane (European Respiratory Society)	**Chair:** Dr Masoud Dara (WHO Regional Office for Europe)

Time	Topic	Speakers	Chairs/facilitators
16:20–16:30	Discussion	Moderated by chairs and speakers	**Facilitators:** Dr Lucica Ditiu (Stop TB Partnership) and Ms Fanny Voitzwinkler (TB Europe Coalition)
16:30–17:40	Panel discussion: contributions of communities, civil society organizations and ex-patients to strengthening human resources for TB	Ex-patients and country representatives from Azerbaijan, Georgia, Tajikistan, Turkmenistan and Uzbekistan Moderated by chairs and facilitators	
17:40–17:45	Next steps on TB-REP with regard to TB-relevant human resource development	Moderated by chairs	

Implications of human resource development for TB prevention and care within and beyond TB-REP

Ms Ieva Leimane of the European Respiratory Society discussed the role of human resources for health. She drew attention to the global strategy on human resources for health,[4] which assesses the strength of a health workforce based on five indicators: availability, accessibility, acceptability, service utilization and quality of human resources. She focused on the availability of health care workers and quality of human resources in the European Region in relation to successful implementation of TB-REP.

On the former, she said that Europe has a large health workforce compared to other WHO regions, with health care workers tending to be focused in large cities. On quality, she claimed there was no unifying standard – it differed from country to country. All TB-REP countries have introduced a transition to a family-medicine model or attempted to strengthen primary care, but there is some overspecialization in some. Continuous professional development is present in most countries in TB-REP, although the majority of health care workers have little or no access to up-to-date international literature.

Ms Leimane provided preliminary recommendations for health care workers in TB-REP:

- **on availability**, revisit health care workers' norms based on the epidemiological situation, re-estimate workload in light of the shift of some services to primary care and new developments in TB control, and assess the roles and involvement of civil society organizations;
- **on quality**, define the necessary competencies to perform clinical and public health tasks, revise pre-service curricula for mid-level staff (to broaden their responsibilities) and doctors (to broaden their responsibilities as pulmonologists), and define standards for continuous professional development; and
- **in general**, develop human resource indicators and processes on quality assessment.

Panel discussion: TB and human resources

The following questions were asked of Dr Nargiza Parpieva (Uzbekistan).

[4] Global strategy on human resources for health: workforce 2030. Draft for the 69th World Health Assembly. Geneva: World Health Organization; 2016 (http://www.who.int/hrh/resources/pub_globstrathrh-2030/en/, accessed 10 October 2016).

- How could Uzbekistan further improve its successes and good experiences in improving educational processes in TB services?
- Based on the good examples from Uzbekistan, how could ex-patients and civil society organizations contribute to TB prevention and care, particularly with regards to psychosocial support and possible contributions to improving treatment adherence?

Dr Parpieva responded that in the past in Uzbekistan, compulsory training took place every five years, but now the move is towards continuous professional education. A module-based system, through which professionals are expected to complete more than 100 hours of training per year (including web-based learning and other training courses), now exists. All health care workers have to certify according to their chosen specialty: starting this year, doctors have to certify to confirm their specialty level. There is a plan is to merge the specialties of pulmonology and phthisiology.

Dr Natavan Alikhanova (Azerbaijan) was asked the following:

- What are the first experiences from the recently developed and adjusted human resource guidelines for TB, which have started to be implemented in some pilot sites?
- Based on good examples from Azerbaijan, how could ex-patients and civil society organizations contribute to TB prevention and care, particularly with regards to psychosocial support and possible contributions to improving treatment adherence?

Problems relating to recruiting young physicians to work in TB persist, Dr Alikhanova explained, with perceived stigma not only for patients, but also for doctors. Medical schools therefore decided to provide quotas for young doctors to train in TB with incentives (including housing, land and bonus payments) to work in TB and in rural areas. Doctors would also receive postgraduate training in phthisiology. Training courses for doctors should not be limited to one- or two-day standalone sessions, but rather should be continuous and regular. Attention was also drawn to the ageing nature of the TB health care workforce.

The same questions were put to Dr Asliddin Rajabov (Tajikistan).

- What are the first experiences from the recently developed and adjusted human resource guidelines for TB, which have started to be implemented in some pilot sites?
- Based on good examples from Tajikistan, how could ex-patients and civil society organizations contribute to TB prevention and care, particularly with regards to psychosocial support and possible contributions to improving treatment adherence?

Dr Rajabov explained that 45% of patients start treatment in outpatient settings, but TB-specific staff are lacking. At present, 34 nongovernmental organizations are distributed throughout the country; these contribute to the health care workforce working in TB. Stigmatization is a problem, however: religious leaders have been recruited to tackle this.

Discussion

A delegate from Belarus expressed his desire that TB-REP should help countries with high-level advocacy to avoid a reduction in inpatient beds without providing additional support to outpatient services.

Dr Soudeh Ehsani of the Regional Office provided an update on current WHO activity in the TB laboratory sector in the Region. Dr Ehsani said that human resource in the laboratory sector

needs to be improved. The WHO European TB laboratory initiative is currently working to update the laboratory curriculum (including subjects such as the basics of molecular biology). Countries will be contacted to provide details of their laboratory curricula and the laboratory initiative will work to provide specific advice thereafter.

A representative of TB People asked the panellists: what recommendations can be given with regards to the management of people who inject drugs and are on treatment for TB in your country?

In Azerbaijan, drug use is occasionally a problem in some TB patients. Intersectoral action, including social and drug services, is needed to provide optimal care for these patients. Outreach workers, together with Project HOPE, are provided in Uzbekistan to target vulnerable populations and reduce stigma. It is recognized that drug use is a greater risk factor for HIV than TB, but intersectoral collaboration nevertheless is vital.

Contributions of communities, civil society organizations and ex-patients to strengthening human resources for TB

Ms Fanny Voitzwinkler of the TB Europe Coalition introduced the next section, focusing on the role of communities, civil society organizations and ex-patients in tackling TB.

The role of patient groups was discussed, initially by a member of the recently launched TB People, which comprises people who have "lived the condition, breathed it and know how it thinks". Their ability to share personal experiences and hardships, and take arguments to pharmaceutical companies and politicians, was particularly noted. The patient community often takes on roles that states fail to fill – providing social and personal support, for example.

TB People was discussed and the rationale behind the use of the word "people" explored – members do not consider themselves "cases" or "bed days", but individuals who have lived through the condition. Many people who have had TB are keen to lend support and provide information to their peers: it was stressed that the membership of the group extends far beyond those attending the meeting.

Ms Voitzwinkler reiterated the passion and drive of activists and introduced Ms Ksenia Shchenina from the Russian Federation, who kept a remarkable blog on her experiences of TB that helped hundreds – if not thousands – of people through the process.

Ms Shchenina's blog and diary noted the immense stigma she experienced. She started her blog in the Russian Federation in 2011 and collected stories from patients to inspire other people who contracted TB, and helped to develop discussion groups to offer peer support. She discussed some of the difficulties she experienced in communicating with health care workers (and the wider public) about TB.

Address from Dr Zsusanna Jakab, WHO Regional Director for Europe

Dr Jakab started by noting recent successes in tackling infectious diseases, including malaria, in the Region. She acknowledged that the complete eradication of TB in the Region is some way off, but stressed the need to have high ambitions for ending the disease. She commended NTP managers in their attempts to implement their national action plans in line with the WHO regional action plan.

WHO is doing much work in relation to the SDGs, she said. Health is addressed not only in SDG 3, but is also included in targets for other goals. She lauded the SDGs and the way in which they address the multiple social determinants of health and called on NTP managers to reach out to other sectors in their day-to-day work, commending them on their full participation in the meeting.

Day 2, Wednesday 22 June

Session 4. Parallel sessions – meetings for NTP managers

Revising delivery models of TB care

Time	Topic	Speakers	Chairs/facilitators
09:00–09:15	A health system approach to promote the delivery of people-centred health services	Dr Juan Tello (WHO Regional Office for Europe)	**Chairs:** Professor Lee Reichman (New Jersey Medical School, United States) and Dr Juan Tello (WHO Regional Office for Europe)
09:15–09:30	How difficult is it for politicians to enhance ambulatory care versus hospital care?	Dr Anna Odone (London School of Hygiene and Tropical Medicine)	
09:30–09:45	New York City in 1994: which delivery model was used to turn the tide of TB?	Professor Lee Reichman (New Jersey Medical School, United States)	
09:45–10:00	A new model of TB care and its financing in Romania	Dr Pierpaolo de Colombani (WHO Regional Office for Europe) and Mr Szabolcs Szigeti (WHO country office, Hungary)	
10:00–10:45	Panel discussion: how relevant and feasible is it to organize TB services at primary health care level in my country?	Dr Natavan Alikhanova (Azerbaijan), Dr Tereza Kasaeva (the Russian Federation) and Dr Asliddin Rajabov (Tajikistan)	
10:45–11:00	Conclusions		

Professor Lee Reichman of the New Jersey Medical School opened the day's proceedings.

A health system approach to promote the delivery of people-centred health services

Dr Juan Tello of the Regional Office provided an overview of various global and regional commitments to people-centred health systems over time, starting with the 1978 Declaration of Alma-Ata and the 1996 Ljubljana Charter and moving to the 2015 SDGs and the 2016 European framework for action on integrated health services delivery. He mentioned two key components of people-centred care:

- integration of services – transforming services to match 21st century needs
- financial security and sustainability.

Dr Tello reiterated that the profile of communicable and noncommunicable diseases in populations has been changing, particularly towards chronicity. He gave examples of care evolution, such as the deinstitutionalization of mental health patients in the 1970s and the shift of focus from care to prevention. Health care delivery settings and levels of information given to patients have also changed, with primary care services often acting as coordinators at the hub of population care. People are at the centre of the equation, he said: they are part of the process, in

some way "co-responsible" for decisions and outcomes. The European framework for action on integrated services delivery will be presented at the next meeting of the WHO Regional Committee in September in Copenhagen, Denmark: it calls for a change of health services strategized around people and enabled by a sustainable health system.

How difficult is it for politicians to enhance ambulatory care versus hospital care?

Dr Anna Odone of the London School of Hygiene and Tropical Medicine discussed types of care and the way in which the public health community frames them in discussions and through teaching. They can be reviewed in terms of levels of care (primary, secondary and tertiary) and settings (community, ambulatory, home, inpatient and residential). Strengthening primary health care services improves equity, efficiency, effectiveness and responsiveness of health systems, she said. The evidence and strategies to change from inpatient to outpatient care are available, but there may be resistance to change. Factors that influence the political decision to undertake such reforms include:

- achieving political consensus, with the general population, patients and health providers agreeing on the changes;
- securing the satisfaction of patients and families on the health services provided;
- setting legal and financial barriers;
- securing external funding (GFATM, European Commission, World Bank); and
- integrating with other policies and programmes.

Dr Odone then provided some potential approaches to convincing politicians of the benefits of moving towards outpatient-focused TB service delivery:

- gather evidence to document the need for policy changes;
- advocate with policy-makers and medical associations, and provide reactive advocacy to media coverage;
- engage the general population through communication, education campaigns, engagement of civil society organizations and sharing of best practice; and
- create an enabling environment through, for instance, strengthening governance and accountability, and improving coordination.

New York City in 1994: which delivery model was used to turn the tide of TB?

Professor Lee Reichman presented on the TB/MDR-TB epidemic in New York City during the 1970s. He outlined the history of the epidemic and warned that his presentation would summarize what can happen if TB services are poorly funded and poorly organized.

He described a so-called perfect storm in the early 1980s – economic slow-down, overcrowding, poor housing and high levels of migration from high-incidence TB countries. Key aspects of turning down the epidemic were the institution of effective directly observed therapy and patient support. Treatment was provided at clinics that were kept open at nights and weekends, or was delivered to patients at home, at work or at some other convenient place. Workers were hired with knowledge of, and good communication with, the patients they were treating (including being bilingual in English with Spanish, Chinese, Haitian Creole and the languages of the Indian subcontinent). Patients got incentives to complete treatment (one can of a liquid food supplement each day, a $5 food coupon each week they completed treatment, and transportation money).

In 1989, fewer than half of New York TB patients had completed treatment: by 1994, 90% had done so. By the end of 2000, the TB notification rate returned to the same levels as 1978 (the lowest level before the cuts in supporting TB control). The epidemic cost New York City $1 billion in excess health costs that could have been avoided if TB had been treated effectively in the first place. Professor Reichman stated it was a case of "pay now or pay later".

A new model of TB care and its financing in Romania

Dr Pierpaolo de Colombani of the Regional Office presented on experience of reforming the model of TB care in Romania, a country with a TB incidence rate of 81 per 100 000 population, a MDR-TB rate of 2.8% among newly-diagnosed TB cases, an HIV prevalence among TB cases of 3% and an NTP budget that is 67% funded from international sources. He summarized the main findings and recommendations of the NTP review conducted by WHO and ECDC in March 2014, including the recommendation to reform the model of TB care supported by the national health insurance house and designed on unnecessary hospitalization and limited involvement of family doctors.

Dr de Colombani outlined the WHO technical assistance provided to the NTP in Romania through two international grants (GFATM and Norwegian Financial Mechanism) and described the new delivery model of TB services agreed with the NTP, which requires reconfiguration of financing arrangements.

Mr Szabolcs Szigeti of the WHO country office in Hungary continued the presentation, detailing the average length of stay and hospitalization rates in Romania relative to other European countries and showing a graph illustrating length of stay against rates of loss to follow up. He suggested that there is a (non-causal) relationship between length of stay in hospital and poorer ability to keep patients on treatment. An overview of proposed changes to Romania's TB care funding showed that hospitals and dispensaries would be financed via bundled case payments, while family doctors and community health workers would receive payment for performance.

Mr Szigeti suggested that delegates take heed of three key points:

- identify the most appropriate model of TB care by starting from a people-centred approach that takes into consideration the current capacities of the health system;
- ensure that everybody is on board (patients and their families, health providers, policy-makers and the general population); and
- align the impact of the different methods of payment to each other.

A delegate highlighted how switching from hospital to ambulatory TB care can face resistance in Romania, with TB funds representing up to 50% of hospitals' budgets.

Panel discussion: how relevant and feasible is it to organize TB services at primary health care level in my country?

Dr Asliddin Rajabov gave an overview of primary health care services in Tajikistan. All medical and primary health care staff have received training on how to diagnose and treat TB, Dr Rajabov explained. Improvements have been seen in transportation of sputum samples and the involvement of religious leaders in the community has grown. He noted improvements in primary health care contact-tracing and the introduction of treatment in the community. Integration of TB centres and community services has also been improved. In the past, there was a very high number of defaulters and insufficient TB health care workers. Realizing this, high-

level politicians requested improved integration of TB and general health care services. The relevant executive order specified that savings from reorganizing TB services should stay within TB services.

Dr Tereza Kasaeva described the diversity of the Russian Federation. The same diversity is present in TB care, making it difficult to provide a consistent approach across all 85 entities. In relation to financing of TB services, Dr Kasaeva said money is received from regional and federal budgets. Despite stable and well established systems, results in TB services are not as desired.

A recent analysis showed that patients are effectively detected at primary health care level. Rates of TB are improving and screening coverage is good. People who are found to be positive for TB are initially admitted to hospital, with an average length of stay of 90 days. There are roughly 62 000 inpatient TB beds, which she claimed are effective in treatment of TB. After the inpatient period, patients receive outpatient treatment, often at TB dispensaries. Patients who are unable to commute to dispensaries are engaged in follow up by primary care services. Problems exist at this level, however – it is very difficult to trace patients in primary health care who are lost to follow up.

A decision was taken recently to award bonuses for performance, rather than offering only incentives to work in TB. TB specialists are to provide monthly reports on coverage of vulnerable populations, although this has met with some resistance from heath care workers and TB physicians. Dr Kasaeva highlighted difficulties in dictating models of care, given the fact that different population groups favour different care delivery mechanisms. She acknowledged that to create a revolution in models of care, there must be a revolution in the minds of health care workers to convince them of the benefits of updated models.

Dr Kasaeva was asked from the floor about the ratio of annually detected cases to the number of TB beds in the Russian Federation, answering that 99 590 TB patients were detected with a bed occupancy rate of approximately 320 days per year. A WHO delegate then asked her: as one size does not fit all in the Russian Federation, how can reforms be speeded up, and is it not time to speed up the closures of sanatoria? Dr Kasaeva replied that the Russian Federation is moving towards the scaling-down of inpatient services but is against what she called the surgical closure of sanatoria. The population is not ready for this, she claimed, and the move towards outpatient-centric services will be gradual and stepwise.

Dr Natavan Alikhanova said that services in Azerbaijan are currently financed centrally. There is limited scope for providing bonus payments or payments per performance, but despite this, most care (90%) is delivered in outpatient settings. The number of childhood TB cases, including drug-resistant TB, has increased recently. It has been suggested that criteria for hospitalization should be revised.

Dr Alikhanova stressed the importance of engaging civil society. At present, only a few nongovernmental organizations work in TB control, which contrasts with the high number working in HIV in the country. A survey asking whether TB patients would be happy to be treated by nongovernmental organizations as well as state-delivered services found that almost half reported they would have difficulty trusting civil society organizations, but would be happy engaging with former-patient groups. The survey suggests that patients are more trusting of doctors' opinions than those of nurses or civil society.

A delegate asked: if most MDR-TB patients are treated in the community and susceptible TB cases are hospitalized, should this not be reversed, given the increased risk and longer sputum conversion times in MDR-TB? Dr Alikhanova conceded that logically, those with the more severe forms of TB should be isolated, but the capacity of inpatient facilities does not necessarily facilitate this, and there is a fear that hospitals act as reservoirs for nosocomial transmission of TB. Consequently, not all of the TB beds in the country are utilized.

Another delegate asked Dr Alikhanova to expand on mechanisms in place to make use of past patients to improve the delivery of outpatient services. He responded that there is hope that patient groups will take part in peer-to-peer training and discussion groups.

A general question from the floor directed to all participants asked about the role of civil society organizations in relation to care of vulnerable groups, such as migrants. Dr Kasaeva said agreements were in place between the Russian Federation and Kazakhstan that included screening for TB among migrants. Dr Alikhanova responded that the TB control programme in Azerbaijan conducted a review to establish where they stand in this regard. Some reserve funding for interaction with civil society organizations exists, he said, and a plan is in place to provide grants to civil society organizations to improve TB control, but patients are not yet ready to receive care from them.

Session 5. Parallel sessions – meetings for NTP managers

Enabling effective social protection for TB patients

Time	Topic	Speakers	Chairs/facilitators
11:30–11:45	WHO mapping of social protection experiences and guidance preparation, and approach to measurement of patient costs	Ms Diana Weil (WHO headquarters) and Dr Knut Lönnroth (WHO global TB programme)	**Chairs:** Ms Diana Weil (WHO headquarters) and Dr Alena Skrahina (Belarus)
11:45–12:00	How social protection is seen by the GFATM	Dr Mohammed Yassin (GFATM)	
12:00–12:15	Social protection for TB patients in Belarus	Dr Alena Skrahina (Belarus)	
12:15–12:30	Access of TB patients to social protection in Estonia	Dr Manfred Danilovits (Estonia)	
12:30–13:00	How to ensure long-term sustainable social protection for TB patients and their families	Plenary discussion	

WHO mapping of social protection experiences and guidance preparation, and approach to measurement of patient costs

Ms Diana Weil of WHO headquarters thanked the organizers for including social protection on the meeting agenda. She discussed SDG 1 – to end poverty – focusing specifically on the desirability of equitable social welfare systems. Regarding social protection in the context of TB, she noted the immediate goal of the End TB Strategy of zero TB-affected families facing catastrophic costs due to TB and its pillar 2, which includes social protection, poverty alleviation and actions on other determinants of TB. She focused on the need to reduce the direct (medical and non-medical) costs incurred by patients and compensate for the remaining indirect costs (such as income loss).

Ms Weil described a number of essential components that are necessary to implement social protection under pillar 2. These are about:

- making current support more effective;
- improving data quality and collection;
- improving collaboration across government sectors;
- moving from a project to a programmatic approach;
- moving to sustainable platforms, financing and services; and
- working more effectively with nongovernmental organizations, civil society and patients.

Potential social protection interventions include social assistance/cash transfers, food support, disability grants/insurance/death benefits, transport vouchers, policy laws to eliminate discrimination, and job security/income generation. Ms Weil encouraged a rigorous approach to patient social support and social assistance that follows specific steps: assessing needs, building cross-agency and community linkages, determining eligibility, making informed decisions on intervention choice and level of support, enabling sustainable funding, improving management, monitoring and evaluation, and pursuing operational research. Social protection must be sustainable, she said, and be built on domestic funding.

Dr Knut Lönnroth of the WHO global TB programme discussed the national TB patient cost survey. A systematic review conducted in 2014 documented how indirect costs (loss of income) before and during TB treatment represent 26% and 33% respectively of total costs. Countries are expected to undertake a national TB patient cost survey to support the End TB Strategy goal of cutting the number of patients suffering catastrophic costs due to TB to zero by 2020. All 30 of the highest-burden TB countries are expected to complete surveys before 2020. The primary objectives are to document costs and identify main cost drivers to inform policy, and monitor progress towards 0% of households with catastrophic total costs. Secondary objectives include conducting subgroup analyses (including drug-sensitive/MDR-TB patients, socioeconomic position, sex and urban/rural setting) and determining the association between cost and treatment outcomes (using routine cohort data). A key indicator to be measured is the percentage of households with catastrophic total costs, which relies on the operational definition given by the WHO global TB programme: “total costs (indirect and direct combined) incurred during illness and treatment exceeding a given threshold (e.g. 20%) of the household’s annual income”.

Dr Lönnroth discussed survey design, emphasizing that it should be retrospective, cross-sectional and facility-based, with random sampling of patient clusters in either the intensive or continuation phase of treatment. It should be based on 40–60-minute interviews with patients using a questionnaire, be conducted within five or six months (two or three months for data collection) and be repeated every five years. The typical survey size would be 500–1000 patients, depending on the confidence interval; it could be even less with a low estimated prevalence of catastrophic costs.

Next steps for WHO are to:

- field-test the generic protocol and survey instrument in at least five countries during 2016;
- revise and finalize the protocol (by December 2016) and produce a handbook on TB patient cost surveys;
- include first data in the 2017 global TB report; and
- conduct surveys in all 30 high-burden countries (at least) before 2020.

How social protection is seen by the GFATM

Dr Mohammed Yassin gave an overview of the GFATM's perspective on social protection. Around 17 countries in eastern Europe and central Asia include enablers under the new funding mechanism. M/XDR-TB patients and vulnerable groups with sensitive TB are the target of support, Dr Yassin explained. The type of support varies across countries, but includes transport, food packages/vouchers, cash for treatment completion and reimbursement of non-TB medical expenses. Approximately 8% of total funding is specifically for patient support, provided mainly through nongovernmental organizations.

The feeling is that GFATM grants are reducing the incidence of catastrophic costs, mainly through addressing directly incurred costs. The next step is to facilitate the transition away from donor funding, which will be a significant challenge in the near future. Other challenges include limited evidence on the outcomes, impact and operationalization of the support provided and the need to document best practices.

Social protection for TB patients in Belarus

Dr Alena Skrahina detailed some of the approaches to TB-related social protection and problems in Belarus. Fifteen per cent of patients do not initiate treatment after MDR-TB diagnosis and 13% are lost to follow up (as documented in Gomel oblast). People who abuse injectable drugs and alcohol are disproportionately affected by TB. In this context, patient support through food packages could be very effective in increasing MDR-TB enrolment to treatment, decreasing loss to follow up and increasing treatment success.

Following the recommendations of WHO's review of the NTP carried out in December 2015, steps have been taken with GFATM help to reduce direct costs incurred by patients and compensate indirect costs. These mechanisms include transport incentives for patients, different food packages, sick leave, extension of disability allowance, allowing smear-negative people back into work (a policy approved by the Ministry of Health and to be submitted to the Council of Ministers) and video-observed treatment.

Access of TB patients to social protection in Estonia

Dr Manfred Danilovits described TB in Estonia, stressing that despite progress, M/XDR-TB remains a significant problem. He listed basic principles for TB control in the country, which include tackling social aspects of the disease, and noted that 53% of people with TB have problems with alcohol.

Special attention has been paid to vulnerable groups since 2010, Dr Danilovits explained, and TB-specific education and training has been provided for health care and social workers. A joint Estonia/WHO demonstration project matching TB services with psychiatric services (dealing with alcohol abuse) and social services was completed in 2011.

Social care policies include disability allowance, domiciliary nursing care, counselling and reimbursement of transport costs. All TB patients are evaluated on their socioeconomic status and need for support by social workers at the start of their treatment. The evaluation includes questions on living conditions, education and other demographics. Patients are then stratified into risk groups (low, intermediate and high) and the level of social care is determined thereafter. Estonia is in the final year of its current national TB strategic plan, the aim of which is to reduce

TB incidence to 12 per 100 000 population: social support to patients will play a major role in achieving this target.

Discussion: how to ensure long-term sustainable social protection for TB patients and their families

A representative of the WHO country office in Belarus asked a question about X-ray screening for TB in Estonia. Dr Danilovits answered that screening for TB by chest X-ray is not commonly done, due to its substantial cost. Mr Uldis Mitenbergs of GFATM pointed out that different ministries often carry out health and social care, and asked what is being done to integrate fully medical and social care services? Dr Danilovits said that in Estonia, the same ministry oversees health and social care services, so integration is fairly good. Difficulty is encountered, however, with procurement of new drugs, which can cause problems due to high costs.

Dr Lönnroth felt that the TB-REP project (see above) may have a role in placing joint financing for health and social care for conditions such as TB on the agenda of countries where this is not already the case.

Dr de Colombani commented that when talking about social welfare in a country, the TB community should consider local- as well as central-level resources, particularly where local governments have autonomy over their investments. Dr Lönnroth followed on by asking Dr Danilovits whether there has been any evaluation of the take-up of social projects by patients or information on its effects on treatment outcomes in Estonia. He also suggested that this is another area in which TB-REP could play a role. Dr Danilovits responded that there is no such evaluation at present, but plans are in place to conduct one in future.

Closing session – joint session

Time	Topic	Speakers
14:00–14:30	**Regional updates**	
	TB and migration	Dr Pierpaolo de Colombani (WHO Regional Office for Europe)
	Regional Collaborating Committee	Ms Fanny Voitzwinkler (TB Europe Coalition)
	Global TB Caucus	Mr Matt Oliver (Global TB Caucus)
14:30–15:30	Rational use of new and repurposed medicines and implications of short treatment regimens	Dr Manfred Danilovits (Estonia) Dr Ernesto Jaramillo (WHO headquarters) Dr Martin van den Boom (WHO Regional Office for Europe)
15:30	Closing remarks	Dr Marieke ven der Werf (ECDC) and Dr Masoud Dara (WHO Regional Office for Europe)

TB and migration

Dr Pierpaolo de Colombani of the Regional Office started the final session by discussing migration and TB. Countries in the Region vary quite widely in the proportion of TB cases native to the country versus those of foreign origin. Groups of migrants include labour migrants and, more recently, large influxes of asylum seekers from countries in the Middle East and

Africa. It is recognized that eastern Europe has a large number of labour migrants, although specific data on their health are not widely available.

WHO developed a strategy and action plan for refugee and migrant health in the Region to cover 2016–2022. It identifies numerous strategic areas, including public health preparedness and response, resilience and preventing communicable disease, and will be ratified at the 66th session of the WHO Regional Committee for Europe. The TB action plan for Europe 2016–2020 also details a number of specific activities related to migration, such as assistance from countries in implementing the minimum package for cross-border TB control and care, the establishment of a mechanism for communication between countries (now ensured through the cross-border case management new function of the TB consilium launched this year[5]) and the adoption of cost-effective TB screening policies and practices among migrants.

Details were given on the findings of a recent survey conducted by WHO and the European Respiratory Society of screening for TB and LTBI in 36 European countries (soon to be published in the *European Respiratory Journal*). TB screening was also a main topic of discussion at the interregional workshop for TB in refugees and migrants organized by WHO in collaboration with the Ministry of Health of Italy in Catania, Italy, 10–11 May 2016.

The WHO plan is to:

- further expand existing tools to prioritize risk groups and algorithms for screening for active TB and LTBI (the Screen TB tool developed by WHO headquarters and the WHO Regional Office for the Western Pacific);
- stimulate research and establish an international research network on TB and migrants from high- to low-incidence countries; and
- develop specific guidelines on migrant TB screening.

Regional Collaborating Committee on TB

Ms Fanny Voitzwinkler stated the main objective of the Committee, which is hosted by the Regional Office, is to strengthen collaboration and exchange of best practices among TB stakeholders. Members have face-to-face meetings once per year but discuss progress monthly. Ms Voitzwinkler lauded the progress she has witnessed in her six years working specifically in TB advocacy. She also alluded to TB-REP and stated her hope that it will help civil society to engage and collaborate in a synergistic manner to improve TB care. She drew attention to the first eastern partnership ministerial meeting on TB, which took place in Riga, Latvia, in 2015.

The Committee's priority areas for 2016 are to:

- facilitate the transition from donor funding
- involve nongovernmental organizations and social contracting
- introduce new anti-TB drugs and antiretroviral treatment.

The transition from external to internal funding is perhaps the main priority area, and Ms Voitzwinkler discussed the realignment of donor funding away from middle- to low-income countries. She acknowledged the appropriateness of countries having more autonomy as they become wealthier, but warned against a quick-exit strategy of donor agencies to prevent regression in TB care. A graph was shown plotting international versus domestic financing of

[5] ERS/WHO – TB consilium [website]. Copenhagen: European Respiratory Society and WHO Regional Office for Europe; 2016 (https://www.tbconsilium.org/, accessed 10 October 2016).

NTPs: domestic funding ranges from 31% to 98% in the 10 eastern European and central Asian countries plotted, the remainder being provided by external donors.

Global TB Caucus

Mr Matt Oliver introduced the Global TB Caucus, whose role is to get TB onto the global political agenda. Mr Oliver discussed the way in which he and his organization work to create a sustained commitment to TB. The European network of the Global TB Caucus would be launched later in the week of the meeting. The following extract from the Global TB Caucus website[6] describes members' aims.

> Members of the Caucus adhere to the principles outlined in the founding document, the Barcelona Declaration. In particular they commit:
>
> - to working across geographical and political divides in a non-partisan and inclusive fashion;
> - to engaging with civil society and all other stakeholders involved in the fight against the TB epidemic; and
> - to confront stigma and social isolation associated with the disease.

Rational use of new and repurposed medicines and implications of short treatment regimens

Details were provided of novel ways of practising precision medicine in TB. Dr Ernesto Jaramillo of WHO headquarters drew attention to the 2016 update of WHO guidelines for the treatment of drug-resistant TB. He noted that WHO "is not sleeping on data" and that recommendations are updated as soon as there is a significant body of evidence. Dr Jaramillo detailed WHO policy on providing recommendations, which includes describing the strength of the recommendation and defining the level of evidence.

Recent TB treatment updates provide information on shorter treatment regimens, childhood TB treatment and the role of surgery. A shorter MDR-TB regimen may be used instead of a conventional regimen for specific patients. This recommendation is conditional and has a very low level of evidence: the level on which the recommendation is based will hopefully increase when the results of an as-yet unpublished randomized controlled trial become available in 2018.

Dr Martin van den Boom then provided information on updated guidance on diagnosis and further in-depth treatment options for antiretroviral drugs, diagnostic and monitoring testing, and MDR-TB.

Dr Manfred Danilovits discussed how to use new drugs to shorten the MDR-TB treatment regimen. He suggested that introducing newer medications such as delaminid at specific points during treatment (at the time of sputum conversion, for instance) might enable treatment duration to be shortened. He conceded, however, that the evidence base behind this might not be strong.

Discussion

In relation to Dr Danilovits' presentation, the point was raised that there is a danger in moving away from best practice on the basis of limited evidence: this may contribute to further antimicrobial resistance.

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[6] The Global TB Caucus. In: Stop TB partnership [website]. Geneva: United Nations Office for Project Services; 2016 (http://www.stoptb.org/global/advocacy/c4.asp, accessed 10 October 2016).

Delegates from Kazakhstan and Lithuania welcomed the updated WHO guidance. Dr Alena Skrahina also commended the timeliness of the WHO update. She noted some of the challenges in obtaining supplies of the new drugs, particularly in convincing paediatricians to use new TB medication to treat children. Dr Skrahina said that clinical trials are, of course, necessary, but it may be appropriate to use medicines without a firm evidence base if demanded in a particular situation.

The representative from the Russian Federation felt monitoring of use of shorter treatment regimens should be started to enable experiences to be shared on an ongoing basis.

The issue of (sometimes imperfect) supply chains and supply-planning for TB drugs was raised; this affects both standard-regimen and novel drugs.

The NTP manager of Uzbekistan shared an overview of the preliminary results of shorter-course regimens to treat MDR-TB in her country. So far, she said, results have been very positive.

Dr Jaramillo thanked country representatives for their warm reception of the new guidance on shorter treatment regimens. He agreed on the need to monitor treatment outcomes closely and feed results back to international partners. Regimens, he added, must be adapted to individual country settings.

Dr Mohammed Yassin noted that the GFATM has been funding shorter regimens in more than 20 countries over the past three years, with a treatment success rate of approximately 84%. The GFATM is keen to support the implementation and scale-up of these short regimens: rapid scale-up should be feasible in the European Region.

Dr Mario Raviglione (Director of the WHO global TB programme) acknowledged the need to use evidence-based medication, where possible.

Dr Lucy Thomas asked WHO representatives about the capacity of surveillance systems to monitor for harm and treatment outcomes. Dr Jaramillo answered that recommendations made on pharmacovigilance revealed weaknesses in some countries. Action on drug safety and monitoring is feasible when NTPs exert leadership and bring together counterparts in pharmacovigilance units. There must be political commitment to act in an intersectoral manner.

Closing

Dr Marieke van der Werf thanked delegates for their participation and WHO for co-organizing the meeting with ECDC. Thanks were seconded by Dr Mario Raviglione and Dr Masoud Dara, who again encouraged an intersectoral approach to TB. Dr Dara also urged delegates to take part in designing future TB workshops and informed delegates they will be contacted with details of upcoming events and meetings.