REACHING OUT

To find, treat and cure more TB patients and address their comorbidities

Wolfheze Workshops

and

WHO European Region National Tuberculosis Programme managers' meeting

31 May–2 June 2017

FINAL REPORT

Background to the Wolfheze Workshops

The tradition of the Wolfheze movement dates back to 1990, when the first European Regional meeting on tuberculosis (TB) control was organized jointly by the KNCV Tuberculosis Foundation (KNCV) and the International Union Against Tuberculosis and Lung Disease (The Union) in the village of Wolfheze in the Netherlands. This event was followed by several more, taking place every two years, and became known as the "Wolfheze Workshops". Since 2006, the Wolfheze Workshops have been jointly organized by KNCV, the WHO Regional Office for Europe (WHO/Europe) and the European Centre for Disease Prevention and Control (ECDC), uniting three key regional players in TB prevention and care at a key TB event. The first day of the Wolfheze Workshops includes the WHO European Region National TB Programme (NTP) managers' meeting.

European platform

The Wolfheze Workshops provide a platform for NTP managers, representatives from health authorities, scientists, national TB surveillance correspondents, representatives from civil society organizations and other partners. In this forum, they can discuss achievements, challenges and the way forward for TB control in the WHO European Region.

Aim of the Wolfheze Workshops 2017

The Wolfheze Workshops 2017 aimed to strengthen TB control in the WHO European Region, with an emphasis on sharing experiences and discussing implementation progress of the European Region TB Action Plan 2016–2020, the global End TB Strategy and European countries' TB action plans.

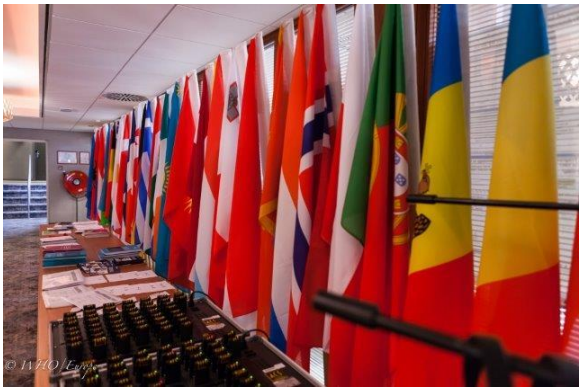
Opening Wolfheze Workshops 2017

The Wolfheze Workshops were opened jointly by Dr Masoud Dara (Coordinator, Communicable Diseases; Programme Manager, Joint Tuberculosis, HIV and Viral Hepatitis Programme, WHO/Europe), Dr Marieke van der Werf (Head of Disease Programme Tuberculosis, ECDC), and Dr Kitty van Weezenbeek (Executive Director, KNCV), who delivered keynote speeches to the participants. Dr Lucica Ditiu (Executive Director, Stop TB Partnership) joined remotely by Skype and also addressed and welcomed participants.

WHO Global Ministerial Conference on Ending TB

Dr Tereza Kasaeva, representative of the Russian Federation, and Dr Malgorzata Grzemska, of the WHO Global TB Programme, updated the audience on the upcoming WHO TB Global Ministerial Conference "Ending TB in the Sustainable

Development Era: A Multisectoral Response", due to take place in Moscow, Russian Federation, on 16–17 November 2017. Key points presented included the importance of actions resulting from the event that were sustainable, tangible, and linked to further development and subsequent implementation of a strategic accountability framework. Key drivers for success would be whole-of-society, multi-partner, cross-sectoral and whole-of-government approaches to TB prevention and care.



TB Action Plan 2016–2020; country implementation progress; focus on TB in mobile populations including migrants (part 1)

In line with the global End TB Strategy and Health 2020, WHO/Europe, in collaboration with partners, developed the Tuberculosis Action Plan for the WHO European Region 2016–2020 (TB-AP). It was developed on the basis of lessons learned from implementation of the Consolidated Action Plan to Prevent and Combat Multidrug- and Extensively Drug-Resistant Tuberculosis in the WHO European Region 2011–2015 (TB-MAP). TB-AP was unanimously endorsed by the 65th session of the WHO Regional Committee for Europe, which took place in Vilnius, Lithuania, in 2015.

At the 68th session of the WHO Regional Committee for Europe, to be held in autumn 2018, WHO/Europe will report back to Member States on the implementation status of TB-AP.

TB-AP was developed to address existing or persisting key concerns and challenges, focusing particularly on people-centred and patient-friendly TB services and care, through bolder integration of generally strengthened, resilient and sustainable health systems. The plan also aims to boost innovations such as digital health (e-surveillance, telehealth/telemedicine) and to advance progress in areas such as laboratory and diagnostic capacity and rational introduction of new TB drugs.

Country adaptation and implementation of TB-AP were discussed at the 14th NTP managers' meeting held in Bratislava,

Slovakia, in June 2016. Building on this discussion, there was a further update on progress in country adaptation, the challenges encountered, and how they had been overcome or mitigated. Among the many challenges facing the WHO European Region, particular attention was drawn to a specific vulnerable group, namely migrants, both legal and undocumented, and covering both in-country/domestic migration and cross-border migration.

The session explored the different approaches countries had adopted in their national policy documents, such as national strategic plans, to deal with these issues. Also, and of equal importance, the ways countries had tackled the issues operationally, on the ground, were considered.

Particular emphasis was given to further strengthening of laboratory capacity, people-centred care, e-health, and civil-society and community involvement. Such strengthening would follow the strategic directions outlined in TB-AP, namely:

1) full scale-up of rapid diagnosis;
2) rapid uptake of new medicines;
3) expanding patient- and people-centred models of care;
4) shorter and more effective treatment regimens;
5) research for new tools; and
6) intersectoral approach to address inequities.

There are many WHO/Europe-led activities and initiatives geared to support Member States in implementing TB-AP and developing national strategic plans. These plans are carried forward in close collaboration with Member States and partners, such as KNCV and ECDC.

Key findings on progress and challenges of TB prevention and care in the WHO European Region (as per WHO/Europe reporting):

- WHO analysis suggests that, through implementation of the earlier TB-MAP, 1 million patients were cured, 26 million lives saved, 200 000 MDR-TB cases averted, and US$ 11 billion saved. Whereas in 2011 many countries used only small-scale pilot projects to tackle drug-resistant TB, by 2015 nationwide integrated programmes had been set up.
- During the same period, the TB notification rate fell from 40 to 36 per 100 000 and the treatment success rate for drug-susceptible TB rose from 72% to 76%. The MDR-TB detection rate more than doubled, from 30% to 63%, while treatment coverage, including for MDR-TB, previously at 63%, became universal. TB incidence decreased annually by 4.3% over the period; TB mortality by 8.5%. Drug stock-outs decreased, coverage for drug-susceptibility testing increased, and electronic and individual data surveillance improved. Awareness of TB and its health implications, as well as political commitment, likewise improved considerably.

- The proportion of MDR-TB among new cases slowly increased over the period 2011–2015 (from 13.3% to 18.3%), illustrating that there is ongoing transmission. In retreatment cases, while the data show some variation across the same period, the 2011 and 2015 levels are comparable (47.7% and 46.4%, respectively). The improvement in the MDR-TB treatment success rate was disappointing, moving from 48% to just over 51.4% in 2015. The 2016 data, not yet validated, suggest that there was a further improvement of several percentage points. The WHO European Region still has the highest rates of MDR-TB: approximately one in every five or six new patients, and almost one in two previously treated patients, suffers from MDR-TB.
- TB/HIV coinfection and mortality saw annual increases of 6.2% and 3.6%, respectively, over the period 2011–2015, further exacerbating the TB and MDR-TB situation.
- In the period 2012–2016, there was an average annual decrease in the TB notification rate in 16 of 18 high-priority countries in the WHO European Region; in one of these, there was a decrease of 11%.
- The challenges in addressing MDR-TB are many and powerful. Introducing new drugs and shorter treatment regimens are important and useful measures, but they are only part of the solution. The challenges are so demanding because of the high complexity of the disease and its social nature.

Country adaptation of TB-AP 2016–2020

Global and European strategies need to adapt at the country level. In 2016, during the NTP managers' meeting in Bratislava, Slovakia, Member States gave updates on their current national strategic plans. Periodic review of country plan status, both in terms of content and implementation progress, was raised by participants as a matter of key importance.

At a "market place" session of the Wolfheze Workshops/NTP managers' meeting, more than 20 Member States provided updates on the status of their national strategic plans, including diagnostic approaches, treatment support and adherence interventions, and treatment outcomes.

Session conclusions and next steps

The picture of progress and prevailing challenges is mixed. On the one hand, countries have made progress in line with the strategic directions set out in the TB-AP, for example in the areas of e-health, civil-society involvement and cross-sectoral collaboration and partnership. In addition, national capacity for more accurate and timely diagnosis has improved in many countries of the Region, while loss-to-follow-up and TB notification rates have generally improved.

On the other hand, there continue to be major challenges, such as persistently low treatment success rates both for TB and – more importantly – for MDR-TB and TB/HIV-coinfected patients.

These persistent underlying challenges also surfaced in the discussion of national action plan development. For example:

- Re governance issues: NTPs are not always fully authorized and mandated to implement their national TB action plans. This is particularly so when it comes to cross-cutting aspects, such as areas of responsibility that overlap with other ministries (e.g. justice, education and finance).
- Re budgetary challenges: in many countries of the European Region, Global Fund support has been slowly decreasing, with a view to raising the domestic/national responsibility of countries and their (co)contributions. However, some of the countries affected are not yet in a position to shoulder this additional financial burden as they do not have appropriate and sustainable financing mechanisms – for example, in response to the cross-sectoral nature of some expenditure.

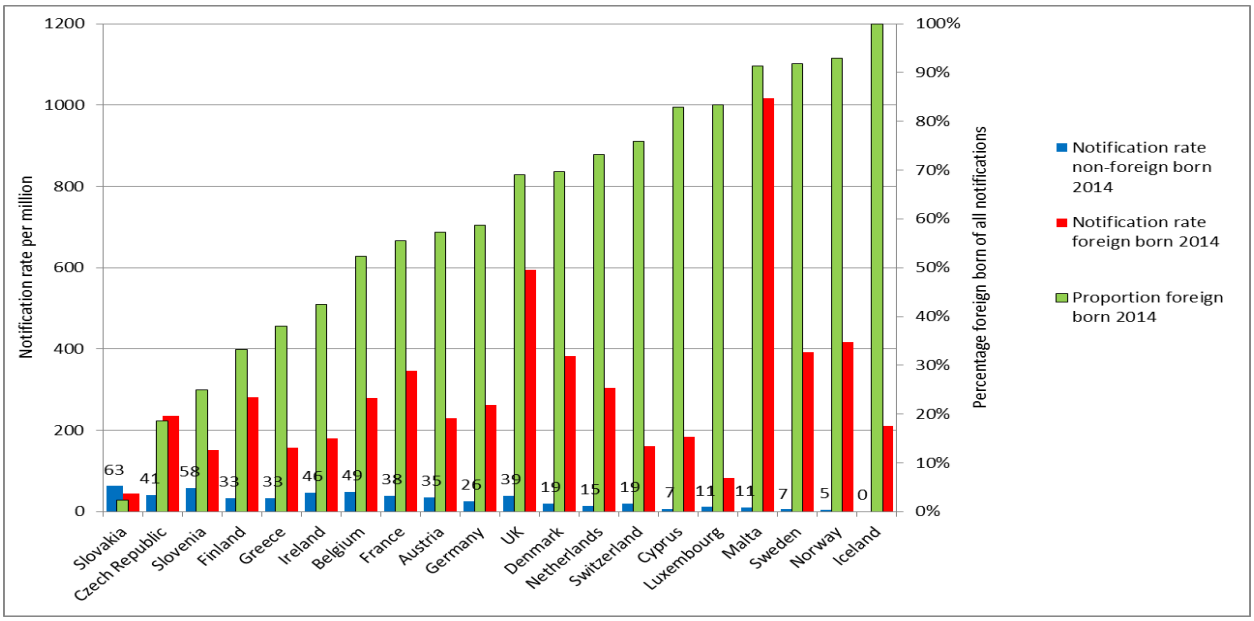
In view of the above, several next steps have been identified:

- Continue technical assistance to countries in line with the TB-AP; enhanced support should be provided on financial sustainability (with respect to health financing, procurement of drugs, governance, etc.). This should be achieved in collaboration with partners and cross-sectorally within WHO, using resources of other teams and divisions.
- Continue regular stocktake and status update of national strategic plan adaptation and implementation, making use of different platforms (i.e. initiatives for which WHO/Europe serves as the relevant secretariat, such as the regional Green Light Committee, European TB Research Initiative, European TB Laboratory Initiative, and Regional Collaborating Committee on TB Prevention and Care) and of relevant events (such as regional workshops and consultations).
- Keep countries informed of new and updated regional and global policy guidance that may help them to innovate and make further progress. Such initiatives include rapid diagnosis, new medicines, people-centred care model(s), shorter regimens, new tools, and good-practice examples in all of the above and, additionally, in intersectoral approaches to address challenges.

Focus on TB in mobile populations including migrants (part 2)

WHO recommends that TB screening be targeted at those at greatest risk. Among refugees and migrants, those at highest risk are people coming from countries with a high TB incidence or who have been living or travelling in precarious situations and may have been exposed to TB infection. WHO's Systematic screening for active TB: an operational guide (2015) provides guidance on targeting and tailoring TB screening in order to detect active disease and provide immediate treatment, thus rapidly breaking any chain of transmission among refugees and their close contacts.

Universal health coverage should be ensured not only for the resident population but also for refugees and other migrants, documented and undocumented. The European Region is the only part of the world with a consensus document on the minimum package of cross-border TB control and care interventions. These include ensuring long-term access to medical services, irrespective of a migrant's registration status, and a non-deportation policy until intensive TB treatment has been completed.



TB by country of origin in low-incidence countries in Europe (2014 data, WHO database).

Key session findings

- In many European low-incidence countries, foreign-born TB patients account for more than 50% of all notified patients; in Cyprus, Luxembourg, Malta, Sweden, Norway and Iceland, the figure is 80% or more.
- The incidence of TB among foreign-born populations living in Europe is up to 50 times higher than that of native populations[1].
- There is a relatively low risk of transmission from foreign-born to non-foreign-born people. Non-foreign-born patients were mostly infected in the (distant) past, while foreign-born patients may – to a certain extent – have been infected abroad.

- Participants noted the importance of considering the local context when scaling up treatment and care of migrants. Considerations include how to select and prioritize activities, applying minimum intervention package(s), and how to implement locally feasible, well-targeted and effective (including cost-effective) interventions.
- In many countries, there are discrepancies between existing policies and real-life practices.
- The economic impact of TB among foreign-born populations in low-incidence countries can be substantial.
- In some countries there is legislation prohibiting migrants with TB and/or HIV from entering the country.

Migrant screening practices

Currently, there is no specific WHO recommendation on TB screening of migrants moving from high- to low-incidence countries, although there is one conditional WHO recommendation stipulating that systematic screening may be considered for subpopulations with very poor health care access, such as urban slum-dwellers, homeless people, people living in remote areas with poor access, indigenous populations, migrants, and other vulnerable groups.

The WHO guidelines on the management of latent TB infection (LTBI) state that systematic testing and treatment of LTBI should be considered in the case of immigrants from countries with a high TB burden arriving in low-incidence countries. They stipulate that the intention to test is intention to treat; potential benefit(s) must outweigh risk of harm for the individual. In any case, when risk of progression to active disease is low, the risk of severe side effects may outweigh potential benefit(s). Furthermore, the primary focus should be on groups with both high risk of infection and high risk of progression. Last but not least, it is necessary to ensure high-quality treatment, provide treatment/adherence support, and follow established ethical principles for infectious disease screening and management.

[1] van der Werf MJ, Hollo V, Kodmon C. Multidrug-resistant tuberculosis and migration to Europe. Clin Microbiol Infect 2017, Aug;23(8):578-579

Key session findings

- Screening practices, both for TB and for LTBI, pre- and post-entry screening, and dealing with internal migrants vary considerably among Member States. The same applies to management and organizational aspects, including infection control.
- Migrants from countries with a high incidence of TB screened before being allowed entry to low-incidence countries may represent a comparatively small risk of onward transmission but are at increased risk of TB. This could potentially be prevented by identification and treatment of LTBI in close collaboration with a pre-entry screening programme.
- Data collection is challenging and complex because of the many stake-holders involved in migration. For this reason, access to information at the health facility level is key for more targeted and efficient interventions.

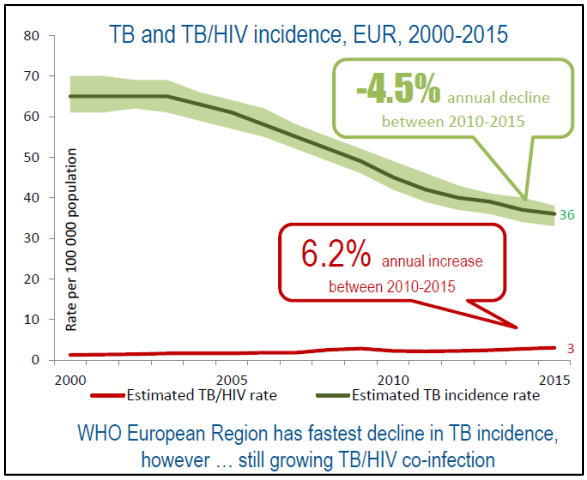
Session conclusions and next steps

- Intersectoral collaboration is of key importance in addressing discrepancies between policies and practices; hence the need to strengthen linkages with other relevant national players, such as Ministries of Social Affairs and of the Interior, and with international bodies, such as WHO, United Nations High Commissioner for Refugees (UNHCR), International Organization for Migration (IOM) and International Federation of the Red Cross (IFRC).
- Revisit, at regular intervals, migration-related networks which would help redefine roles and responsibilities, with a focus on the cascade of care, including cross-border control, existing tools and approaches.
- Give greater consideration to languages and cultures of different migration backgrounds as a (potential) barrier to health-seeking behaviour; take this into account when developing migration-related TB/LTBI screening practices.
- Consider designing and carrying out context-specific, well-targeted inter-ventions. Treatment and care should be free of charge and should cover legal and undocumented migrants and asylum seekers.
- Promote operational research on migrant screening to create more evidence and boost exchange of good practices.

TB/HIV collaborative activities

In contrast to a sharp decline in the incidence of TB in the European Region (down 4.5% annually between 2010 and 2015), the incidence of TB/HIV coinfection increased at a rate of 6.2% annually over the same period. Mortality shows a similar picture: an 8.3% annual decline in TB mortality over the period, alongside an annual increase of 3.6% in TB/HIV mortality. The proportion of HIV-infected TB patients rose from 5.5% in 2011 to 9.0% in 2015, representing a 40% increase.

Only 16 500 (61%) of the estimated 27 000 estimated TB/HIV cases are detected in the European Region; of these, 5800 (35%) are offered antiretroviral (ARV) treatment, and only 41% of the notified TB/HIV patients had a successful treatment outcome. People with TB/HIV coinfection have a seven times higher risk of failing treatment and a three times higher risk of losing their lives, compared to people suffering from TB alone.



Survey on TB/HIV collaborative activities in Europe

Resulting from the last Wolfheze Workshops, a working group was formed to promote good models of integrated care with respect to TB/HIV in the WHO European Region and, similarly, to identify relevant TB/HIV research activities and priorities. The working group conducted a survey among NTP managers of the 53 countries/territories in the Region. The survey was completed by 42 (76%) of them. Preliminary results were presented at the 2017 Wolfheze Workshops.

Key session findings

- Sixty-two per cent of countries had specific national guidelines for TB/HIV coinfection; the other countries used international guidelines.
- Eighty-seven per cent of countries had recommendations to screen all TB patients for HIV, treating all HIV-infected TB patients with ARVs (85% of countries) and screening all people living with HIV for active TB (75% of countries) or LTBI (62% of countries). The other countries mostly had a selective approach to screening.
- HIV testing of TB patients was mainly done by the TB physician, while TB/LTBI screening of HIV patients was mainly done by the HIV physician. In 26% of countries, however, people living with HIV were referred to a TB clinic to exclude TB or LTBI. LTBI diagnostic tests and algorithms varied considerably between participating countries.
- Most countries started treatment of TB patients coinfected with HIV in a hospital and continued with ambulatory treatment as soon as possible. Seven countries (18%), however, reported that TB/HIV patients were hospitalized throughout their TB treatment.
- In many countries (62%), intravenous drug users (IDUs) were screened for HIV, but less frequently for TB (28%) or LTBI (8%). In most countries, opiate substitution therapy (OST) was available for TB/HIV patients with IDU dependency. In a minority of countries (19%), TB/HIV patients could receive OST at the TB/HIV treatment clinic.

- Only a few countries knew the coverage of LTBI screening of (newly) diagnosed patients with HIV and the proportion diagnosed with LTBI.

Estonia, Georgia, the Republic of Moldova and Portugal presented models of TB/HIV care in their countries. Belarus, Belgium, Kazakhstan and Serbia shared specific TB/HIV research projects and results. Presentations were facilitated with posters in four breakout sessions, which allowed active audience participation. The results and conclusions were reported back in a plenary session. The TB/HIV session concluded with the perspective of a clinician on integrated TB/HIV care.

Session conclusions and next steps

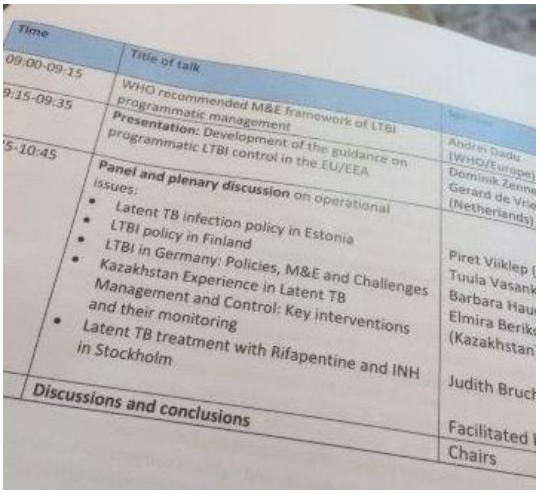
- Develop joint TB/HIV action plans where possible and still needed. They must include a budget in order to be sustainable.
- Update national standards and guidelines to encourage a people-centred approach to TB/HIV case management.
- Although examples of good practice and progress are recognized in quite a few countries, TB and HIV programmes still tend to operate in a somewhat vertical manner, with often suboptimal co-ordination and limited information exchange. Such limitation also applies to integration, for example with primary health care services. These barriers should be reduced to encourage more effective TB/HIV collaboration. Experiences from the Republic of Moldova (TB/HIV clinical audits) and Estonia (TB/HIV consilium) show how collaboration can be enhanced.
- Offer prevention, diagnosis, treatment and care at the same point of the health facility as an integrated service within a health facility; or, alternatively, as a mechanism for better coordination between relevant services.
- Improve ambulatory care and hence the continuum of care for TB/HIV patients; planning of such care should start before patients leave hospital, with roles and responsibilities, and referral and counter-referral mechanisms, clearly defined.
- Further investigate the underlying reasons for and causes of the mortality and loss-to-follow-up rates among TB/HIV patients in the European Region.

- Study and determine the effectiveness of isoniazid preventive treatment among people living with HIV in countries where TB incidence is low, as well as in countries where TB patients have a high isoniazid resistance profile.
- Use the opportunity of the International AIDS Conference in Europe (Amsterdam, 23–27 July 2018) to share experiences of "fast track points" in urban areas and other good practices ("one spot shop" or "one stop shop") in TB/HIV integrated care. Other relevant good-practice experiences could also be shared.

Latent TB infection

Programmatic management of latent TB infection (LTBI) is a key component in reaching the TB elimination targets outlined in the WHO End TB Strategy. Diverse practice barriers, combined with the heterogeneity of TB epidemiology in the WHO European Region, represent a major challenge in implementing policies and guidelines aimed at scaling up LTBI control initiatives at country level.

Nevertheless, there has been renewed interest in testing and treatment of LTBI as a tool to reduce LTBI prevalence and prevent reactivation. Despite current limitations, there are good practices in LTBI control implementation to be found across the Region.



The session aimed to provide an update on the development of the latest Regional guidelines on LTBI and to provide a forum for discussion of barriers, facilitators and good practices in programmatic LTBI control. Presentations included an overview of the Regional epidemiological data, summaries of the WHO recommendations and the upcoming ECDC guidance on programmatic LTBI control. In addition, country experiences of LTBI management from Estonia, Finland, Germany, Kazakhstan and Sweden were shared and discussed.

Key session findings

Overall, common challenges were identified, such as:

- the lack of robust systematic Region-wide surveillance of LTBI;
- difficulties in integrating health services to provide LTBI testing and treatment;
- limitations of the currently available LTBI diagnostic tests; and
- scant evidence on the effectiveness and cost–effectiveness of interventions in LTBI management.

Participants also discussed people- and provider-related factors as barriers to operational implementation of LTBI programmatic management.

In relation to *people-related barriers*, it was mentioned that patients' misconceptions about LTBI, as a condition that is not a disease in itself, need to be addressed. Hence, it was suggested that "latent" be removed from LTBI as a step towards improving communication with patients.

Similarly, some patients' hesitancy to initiate and adhere to LTBI treatment (partly motivated by fear of stigma) can be tackled by culturally adapted interventions and the availability of shorter treatment regimens. The Swedish experience of introducing the 12-week regimen with rifapentine/isoniazid highlighted the importance of catering for the needs of a specific segment of target populations (i.e. young male immigrants).

Among the *provider-related barriers*, there was discussion of a certain reluctance among some infectious diseases specialists to request testing and prescribe treatment for LTBI, particularly among TB/HIV-coinfected patients. The challenge posed by the high prevalence of MDR-TB in some European countries also needs to be addressed, both when developing national guidelines and when training health care workers on LTBI management among contacts of MDR-TB patients.

Session conclusions and next steps

In conclusion, to overcome the current programmatic implementation challenges, the following activities are needed:

- develop and introduce country-tailored guidelines and interventions which are harmonized with the latest international policies;
- improve intercountry collaboration in information exchange;
- ameliorate intersectoral collaboration in screening and treatment;
- conduct operational and clinical research to address knowledge gaps;
- boost political commitment to opportune implementation of people-centred care initiatives.

Putting quality into people-centred care: a focus on the patient experience

Across the WHO European Region, and especially in eastern Europe and central Asia, the current thrust of change in TB care is to achieve an approach to diagnosis and treatment that focuses more on the needs and convenience of the person at the centre of attention, i.e. the patient. In particular, this means a reorientation from (often) hospital-based care to care that is as near as possible to patients' lives and more closely incorporated into the community. A number of terms are used to describe this approach, often interchangeably: ambulatory care, integrated care, patient-centred care, people-centred care. All include the concept of patients remaining within their communities as much as possible and not being hospitalized unnecessarily, except perhaps for a short period at the start of treatment or when complications arise.

People-centred care, however, implies much more than (for example) having patients come to collect drugs on a regular basis. The care received by patients should be a *high-quality* experience: they should feel supported and considered throughout the experience of being treated for TB, leading to better outcomes for both detection and treatment completion, with the ultimate expectation of improved treatment outcomes. The session aimed to explore what quality in people-centred care should mean and how it can be achieved.

Key session findings

The session began with an overview of the social and medical aspects of TB care that are important in the provision of people-centred care. This was supported by the results of research undertaken in the European Region and evidence drawn from in-depth patient interviews conducted by WHO/Europe with the support of TB People, a network of Russian-speaking people with personal experience of TB. The legal framework for people-centred quality TB care was also discussed, as was the need for NTP and TB health care providers to have a greater understanding of civil-society organizations (CSOs).

Session conclusions and next steps

The presentations and points raised in discussion indicated that patients'

experiences in countries of the European Region are often still not entirely satisfactory, even though evidence of what is required for quality TB care is available.

Key suggestions from the session included:

- address legislative barriers that prevent CSOs from contributing to TB prevention and care in ways that are meaningful, complementary and synergistic with government services;
- to ensure quality of services that meet the needs of patients, recognize the importance of engaging civil society and communities in preparation and delivery of NTPs;
- continue to exchange information on successful examples of people-centred care;
- advocate for adequate social contracting mechanisms to ensure funding possibilities that allow more systematic involvement of civil society and communities in TB responses;
- initiate training for NTP and senior TB care providers on the beneficial role and use of civil society.

As an immediate outcome of the session, a new Wolfheze working group was proposed to explore and exchange information on good practices that will help NTPs to achieve higher quality in people-centred TB care. In particular, the working group aims to help NTP managers and their colleagues in the European Region to assess the quality aspects of their programmes of TB diagnosis, treatment and care as they continue to move from more hospital/ inpatient-oriented care to people-centred care.

Introduction of new and repurposed anti-TB drugs; aDSM

MDR-TB is of specific and increasing concern. In 2015, it was estimated that there were 580 000 new cases of MDR-TB and rifampicin-resistant (RR) TB globally (WHO Global TB report 2017). Only 52% of the 2013 cohort successfully completed treatment. MDR/RR-TB is an important issue in the European Region, where MDR-TB rates are more than double those of other WHO regions.

The 2016 WHO treatment guidelines for drug-resistant TB recommend shorter MDR-TB regimens under certain conditions. The preference order for second-line medications is changed, with a particular emphasis on linezolid and clofazimine as Group C MDR-TB medications; more specific recommendations for treatment of paediatric MDR-TB are also given, and the

relevance of surgical interventions for MDR-TB is outlined. Indications and WHO recommendations for use of bedaquiline and delamanid were presented.

A robust active TB drug-safety monitoring and management (aDSM) framework is of critical importance, and to this end a global aDSM database, coordinated by the WHO Special Programme for Research and Training in Tropical Diseases, was created in 2016 and is hosted in the Luxembourg Institute of Health.

The WHO guidelines also emphasize the importance of patient care and support in MDR-TB treatment, which now sets a standard of care and is cross-cutting to drug-sensitive and drug-resistant TB care, because there is good evidence that outcomes are significantly better. Directly observed therapy (DOT), for example, should now only be administered in the context of a patient-centred approach.

Key session findings

- Country presentations from Kyrgyzstan and Belarus outlined practical examples, implementation barriers and potential solutions, and practical steps in new drug and aDSM implementation. These steps include:
  - ensuring political engagement and legal approval;
  - early development of implementation plans;
  - standardized operating procedures and national guidelines;
  - tackling supply and procurement routes for TB and companion drugs;
  - ensuring appropriate laboratory supplies.
- New tools, such as the Global Drug Facility (GDF) website with its ordering platform (QuanTB), can be helpful in managing electronic forecasting, quanti-fication and early-warning systems.
- Robust aDSM and pharmacovigilance were outlined as key components in rollout of the programme, as illustrated by the presentation of early toxicity data demonstrating high rates of adverse events for bedaquiline.
- An evaluation of the WHO End TB Policy Implementation Package for New TB Drug Introduction, led by the regional Green Light Committee for Europe and WHO/Europe, demonstrated good implementation progress for bedaquiline and delaminid, across 15 high-priority countries in the eastern part of the European Region.
- A detailed demonstration of the GDF ordering facilities and website provided practical advice for Member States.

Session conclusions and next steps

- There is good progress in the rollout of new and repurposed drugs and regimens, including the implementation of aDSM and pharmacovigilance systems, although much work remains to be done.

- Participants agreed that TB, particularly MDR-TB, needs to be addressed in a comprehensive and holistic way and that WHO recommendations are helpful in supporting such an approach.
- There are still a number of normative, legislative, bureaucratic and political barriers hindering scale-up. Addressing these issues is everybody's business, but practical examples of successful country initiatives and practical tools (such as the GDF website and support tools) are available to assist in making important decisions about procurement and supply.
- The importance of aDSM and pharmacovigilance cannot be over-emphasized; it was agreed that the work of this Wolfheze working group should continue and be strengthened to support the rollout of new and re-purposed drugs and the implementation of aDSM.

Digital health

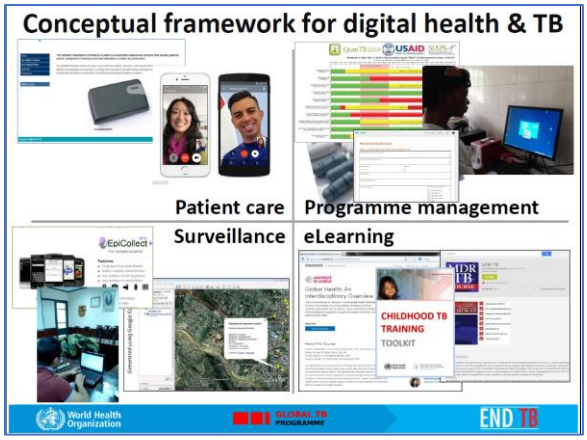
Significant advances in technology, providing applications that are now widely used and available, have opened up new and promising possibilities for improving people-centred care and the availability, management and utilization of data and information. The "recipe" for making good decisions lies in having the appropriate information available, in the right place and at the right time. This contributes to sustainable solutions that have local, national and global impact.

Digital health, sometimes called electronic health (eHealth), is the use of information and communication technologies for health purposes, including mobile health (mHealth), health information technology, electronic health records and telehealth. The use of digital health can be seen as a gamechanger in decreasing the global TB burden.

In 2015, the WHO Global TB Programme and the European Respiratory Society developed a collaborative agenda for action to promote the wider use of digital health in support of the End TB Strategy. Effective implementation of digital health solutions can turn data into information, make information available for utilization, and empower decision-making by patients, health care workers and NTPs.

Key session findings

- There is potential for application of digital health interventions in four areas: patient care, surveillance and monitoring, programmatic management, and e-learning. Evidence on digital health interventions is mainly available in the area of patient care interventions.



- Video (or virtually) observed therapy (VOT), in particular, is a promising intervention to support patient adherence. A randomized controlled trial in the United Kingdom, as well as experiences of implementation in Belarus, has shown that VOT is cost-efficient and demonstrates a lower dropout rate compared to DOT. However, participants agreed that interventions need to be scaled up and require further research.
- Novel interventions presented by participants included ePAL, a mobile phone app to assist clinical decision-making, and eTB-consilium, an online platform allowing medical professionals to discuss TB cases and to exchange TB patient information across borders.

Session conclusions and next steps

- Overall, there was consensus that digital health solutions should be scaled up, as they have potential to support and improve TB treatment and prevention and to lead towards TB elimination.
- Implementation of digital health interventions requires a holistic assessment and preparation of systems in order to ensure optimal use of technologies and the information collected.
- Interventions should be coordinated and adapted to the respective country's needs. Introduction of new digital health interventions should be preceded by a needs assessment. In Kazakhstan such a needs assessment has shown that there is large demand for digital health interventions; various systems have been put in place by various stakeholders, but these currently lack synchronization and interlinkage.

- For all interventions, participants noted the importance of ensuring confidentiality; digital health solutions focused on people-centred care should be complementary to traditional case management.

- Participants emphasized the need for a system which ensures that digital health technologies are continuously maintained and updated.
- Although experience of digital health interventions is growing, a strong need was expressed for more evidence obtained in diverse sets of conditions and settings and among different patient groups.

News on Wolfheze working groups and other activities

The Wolfheze Working Group on Social Determinants of TB and Drug Resistant TB was closed down following publication of Social determinants and risk factors for tuberculosis in national surveillance systems in Europe. The survey found that information on occupation, homelessness, diabetes mellitus and alcohol use is collected in most national TB surveillance systems, but standardization of epidemiological case definitions needs to be adopted. The ECDC Working Group on Social Determinants and Risk Factors for TB has taken this up.

The Wolfheze Working Group on Health Financing, with representatives from Armenia, Belarus, Hungary and the Netherlands, was also closed down. There were three WHO publications from case studies produced during the working group's lifetime. These are used as case studies in, and informed part of, the training module on health financing in the course on health system strengthening in TB control, developed by WHO/Europe within the framework of the TB-REP project.

Organizations provided updates on the following projects and initiatives:

- Regional TB and health system strengthening project (TB-REP) (WHO/ Europe)
- European TB Laboratory Initiative (ELI) (WHO/Europe)
- European Research Initiative (ERI) (WHO/Europe)
- Guidance on diagnosis, treatment, care and prevention of TB in prison settings (ECDC)
- E-DETECT TB project (KNCV, Public Health England)
- Ethics Assessment Tool and Training Curriculum (Rutgers Global TB Institute, New Jersey Medical School, USA).

New Wolfheze working groups

It was agreed that terms of reference will be developed for five topics. The topics selected are:

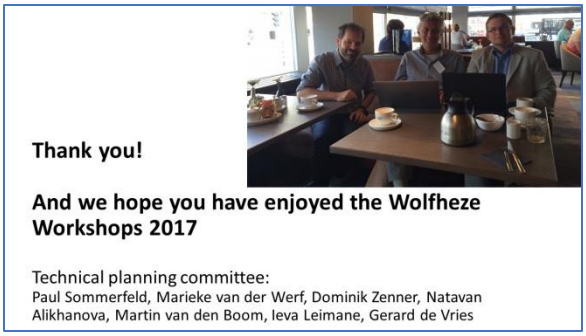
- New drugs and active TB drug-safety monitoring and management (aDSM) (continuation of previous working group)
- TB/HIV collaborative activities (continuation of previous working group)
- Quality of people-centred care
- Digital health
- Migrants and cross-border TB information exchange.

The Wolfheze Programme Committee decided in November 2017 that the first and second working groups listed above will continue for another term, and that a new Wolfheze working group on quality of people-centred care (item 3 above) will be established.

Closure

The main discussion points, conclusions and next steps of each session were summarized by the Wolfheze Technical Planning Committee.

Dr Masoud Dara (WHO/Europe), Dr Marieke van der Werf (ECDC) and Dr Michael Kimerling (KNCV Tuberculosis Foundation) thanked the conference organizers and participants for their active contribution, and closed the Wolfheze Workshops 2017.



Acknowledgements and remarks

Photographs were taken by Oluf Christofferson (WHO/Europe) and Gerard de Vries (KNCV Tuberculosis Foundation).

This report and all presentations are available on the Wolfheze website of the KNCV Tuberculosis Foundation: https://www.kncvtbc.org/en/event/wolfheze-2017.

Data used throughout this report, unless specifically referenced, is from relevant WHO or ECDC publications or datasets.

Photo exhibition of TB patients during the Wolfheze Workshops organized by AFEW Kazakhstan.