REPORT OF THE JOINT WHO-ECDC REVIEW OF TUBERCULOSIS PREVENTION, CONTROL AND CARE IN LITHUANIA

17–21 October 2016
ABSTRACT

At the request of the Ministry of Health of the Republic of Lithuania, the WHO Regional Office for Europe has conducted jointly with the European Centre for Disease Prevention and Control a review of tuberculosis prevention, control and care in Lithuania. In this document recommendations and suggestions for action that the review team has developed which will enable relevant country stakeholders to improve current TB prevention, control strategies and interventions can be found.

Keywords
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<td>ART</td>
<td>antiretroviral therapy</td>
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<td>ARV</td>
<td>antiretrovirals</td>
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<td>BCG</td>
<td>bacillus Calmette-Guérin</td>
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<tr>
<td>DOTS</td>
<td>directly observed treatment and short-course</td>
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<td>ECDC</td>
<td>European Centre for Disease Prevention and Control</td>
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<td>EU</td>
<td>European Union</td>
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<td>GDP</td>
<td>gross domestic product</td>
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<td>GP</td>
<td>general practitioner</td>
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<td>GUV</td>
<td>germicidal ultraviolet</td>
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<td>LPA</td>
<td>line probe assays</td>
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<td>LSMU</td>
<td>Lithuanian University of Health Sciences</td>
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<tr>
<td>LTFU</td>
<td>lost to follow-up</td>
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<td>MDR</td>
<td>multidrug-resistant</td>
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<td>NGO</td>
<td>nongovernmental organization</td>
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<td>NHIF</td>
<td>National Health Insurance Fund</td>
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<td>NPHC</td>
<td>National Public Health Centre</td>
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<td>OST</td>
<td>opioid substitution therapy</td>
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<td>SMCA</td>
<td>State Medicines Control Agency</td>
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<tr>
<td>TB</td>
<td>tuberculosis</td>
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<tr>
<td>UV</td>
<td>ultraviolet</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>XDR</td>
<td>extensively drug resistant</td>
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Summary

The World Health Organization (WHO) and the European Centre for Disease Prevention and Control (ECDC) recommend that all their Member States have their tuberculosis (TB) prevention, control and care interventions reviewed every 3 to 5 years, irrespective of TB and multidrug-resistant TB (MDR TB) incidence.

Following an invitation from the Ministry of Health of Lithuania, the WHO Regional Office for Europe led a joint WHO/ECDC TB and MDR TB prevention, control and care review in Lithuania from 17 to 21 October 2016. The review team included the Regional Office coordinator for communicable diseases and programme manager for TB, HIV/AIDS and viral hepatitis, the Baltic countries’ focal point officer for the Regional Office, WHO consultants (an MDR TB treatment expert and civil society representative), the head of the ECDC TB programme and representatives from the Ministry of Health of Lithuania.

The TB review was carried out within the framework of implementation of the biennial cooperation agreement between the Regional Office and the Ministry of Health for 2016/2017 and with the involvement of the WHO office in Lithuania.

The mission objectives were to document achievements and challenges, and develop recommendations and suggestions for action in the areas of:

1. governance and stewardship of TB prevention and control interventions;
2. human resource capacities and development plans;
3. treatment and integrated care delivery models, with particular attention to drug resistant TB patients;
4. TB infection prevention and control measures at health care facilities, including the recently built inpatient penitentiary facility; and
5. partnership, coordination and collaboration on TB control with national and international stakeholders, including the Ministry of Justice.

Ultimately, the review team was expected to provide the Ministry of Health with a comprehensive set of recommendations and suggestions for action to improve TB prevention, control and care, based on their observations and findings.

The review team visited TB prevention, diagnostic, treatment and care facilities in Vilnius, Alytus, Kaunas and Klaipėda, and the central prison hospital in Pravieniškės. They met with representatives from the Ministry of Health, relevant institutions, health care and public health staff, and patients, and reviewed patients’ registers, treatment cards and surveillance data.

On the last day of the visit, the team presented its findings on Lithuania’s main achievements and challenges, and proposed key recommendations and suggestions for action (see below) to Mr Valentin Gavrilov, Vice-Minister of Health; Ms Romalda Baranauskienė, Deputy Director of the Personal Health Care Department, Ministry of Health; other Ministry of Health representatives from the Personal Health Care Department, Public Health Department, and the International Relations Division; and Dr Edita Davidavičienė, Head of the State Information System of Tuberculosis, the national focal point for TB.
This final report contains recommendations and suggestions for action based on observed achievements and challenges, covering the areas described in the terms of reference (Annex 1).

**Key achievements**

1. The Ministry of Health has provided significant political support, as evidenced by several policy documents developed to support TB control in Lithuania.
2. Overall TB incidence has been decreasing continuously since 2007.
3. The percentage of TB patients for whom the diagnosis is bacteriologically confirmed by the laboratory is high (85%) among pulmonary cases, based on the latest WHO global TB report.
4. The nationally contracted, centralized public-procurement and supply process for first- and second-line drugs has been available since June 2016. This is an important step in ensuring countrywide access to all main drugs.
5. Lithuania is committed to introducing new drugs to address the problem of extensively drug-resistant TB (XDR TB).
6. Attention has been given to ambulatory care, with a focus on directly observed treatment and short-course (DOTS) development.

**Key recommendations and suggestions for action**

1. Develop an implementation plan based on the latest policy document for effective TB prevention and control in Lithuania (by the end of quarter 3 of 2017).
2. Develop clear terms of reference for regional TB coordinators to enable them to coordinate TB prevention and control at regional level (as early as possible).
3. To ensure that no fluoroquinolone is used for drug-susceptible patients, and if second-line medicines are to be used, the treatment regimen should follow WHO recommendations of using at least four drugs that the strain is thought to be susceptible to (to be considered for immediate action).
4. To reduce the risk of nosocomial infection, XDR TB patients should be separated from those with MDR TB, MDR TB patients from those with drug-susceptible TB, and no more than three hospitalized patients should be placed in each ward. This is suggested to be done following a two-step process starting with a discussion and dialogue with health care workers followed by updating the corresponding legislation (as soon as possible).
5. Vilnius University Hospital and the Ministry of Health should evaluate the role of the planned new hospital and laboratory in Vilnius as part of the overall hospital and laboratory network (by the end of quarter 1 of 2017).
6. The use of mechanical ventilation and negative pressure in the wards and laboratory of the planned new hospital and laboratory in Vilnius should be assessed following a thorough risk assessment by a team of TB infection prevention and control specialists, engineers and architects using international standards (prior to tender procurement).

7. A long-term hospital and laboratory maintenance plan (for infrastructure and equipment) with an allocated budget should be developed for all major facilities in Lithuania (before construction of planned facilities, and by the end of quarter 2 of 2017 for those currently in existence).

8. Implement the electronic Internet-based e-health system that will include the reporting of TB data ensuring that reporting is unified and as simple as possible (ongoing, with end of implementation in 2019).

9. It should be considered that TB medicines are not provided on prescription through pharmacies when the sustainable centralized procurement system of basic TB drugs is in place.

10. A plan for expanding access to new drugs should be developed (by quarter 3 of 2017).

11. A sustainable system of psychosocial support, including incentives and enablers to increase patients’ adherence should be established. It will be necessary to cooperate with different ministries (social and financial) and local municipalities to involve nongovernmental organizations (NGOs) in delivering support to care services, especially at primary health care level (by quarter 3 of 2017).

12. WHO recommended rapid molecular tests should be used for all patients at high risk of MDR TB, and the cost of molecular tests should be covered through efficient reimbursement mechanisms (to be applied as early as possible).

13. Upper-room germicidal ultraviolet (GUV) lights and efficient air mixture should be installed, following international standards and recommendations, and irradiation assessment of the GUV lights by an engineer using a UV-metre (for immediate action in Vilnius at the university hospital, and by the end of quarter 2 of 2017 in the regions).

14. A robust referral system of TB patients from correctional houses/penitentiaries to the civil sector for effective observation and continuation of treatment should be established (by the end of quarter 3 of 2017).
15. A long-term plan for human capacity-building should be developed, led by the Ministry of Health and the main hospitals and universities in Vilnius and Kaunas (by quarter 4 of 2017).

16. Policies for mandatory isolation should be continuously evaluated and be used as last option only in cases where patients refuse treatment after exhaustion of all other people-centred care models; for example, home treatment or ambulatory treatment.
Background

Lithuania has a population of 2.9 million (2016); the country is divided in 10 counties, which are divided in 60 municipalities. Life expectancy of the Lithuanian male population reached 69.1 years in 2015, and life expectancy for females reached 79.6 years. In 2015, there were 134 public hospitals and 407 outpatient health care institutions in the health system. The Ministry of Health, together with local authorities, runs these facilities and is involved in the management of the two major hospitals at Vilnius University and the Lithuanian University of Health Sciences. The Ministry of Health is responsible for the National Public Health Centre (NPHC), which itself is responsible for 10 county departments with local branches. Health care services are provided by the state, the municipality and private inpatient and outpatient health care institutions.

At the end of 2015, there were 13 490 physicians (46.7 per 10 000 inhabitants) working in health institutions in Lithuania. In 2015, the number of hospital beds decreased by 3.5%. There were 25 385 hospital beds (87.9/10 000); of those, 14 685 were calculated to be curative hospital beds.¹

In 2014 the total health expenditure of Lithuania was 6.6% of the gross domestic product (GDP). In addition, public expenditure on health was only 4.4% of GDP. Lithuania has one of the lowest health expenditures as a percentage of GDP among the European Union (EU) countries. Only Latvia, Estonia and Romania have lower expenditures.¹ The Ministry of Health’s National Health Insurance Fund (NHIF) funds about 99% of inpatient cases, 90% of outpatient visits to specialists, and up to 100% of primary health care visits for Lithuanian residents. There are five Territorial Health Insurance Funds covering Vilnius, Kaunas, Klaipėda, Šiauliai and Panevėžys. The law on health insurance and other legal acts establish a compulsory health insurance model based on the principles of universality and solidarity. Emergency medical services are provided free of charge to all residents. Access to hospital treatment is normally by referral by a general practitioner (GP).

From 2000 to 2002, when support from the Nordic countries for tuberculosis control ended (the NO-TB-BALTIC project), Lithuania was not able to approve a fully funded National TB programme. This resulted in challenges for the implementation of the main TB control activities, lack of coordination between different hospitals, and fragmented decision-making processes at the regional level. There is still low motivation to involve primary health care services in TB control. Until 2016, directly observed treatment has not been available to a majority of outpatients.

Epidemiology of TB in Lithuania

Infectious diseases including TB remain an important public health problem. Despite the decline in TB incidence in recent years, the TB epidemiological situation in Lithuania is still serious with

¹ Source: Health Statistics of Lithuania 2015, Health Information Centre of Institute of Hygiene (http://www.hi.lt)
high rates of MDR TB. However, the country’s TB incidence rate has declined from 86 cases per 100 000 in 2005 to 62 cases per 100 000 in 2014. The absolute numbers of notified cases in 2014 was 1607. According to the latest WHO and ECDC data, the corresponding number for 2015 was 1507.\(^2\) The numbers of new TB cases and relapses reported in 2014 and 2015 were 1481 and 1395, respectively. Males constituted two thirds of the new cases of tuberculosis out of all registered TB cases, of which 78.8% (1267) were laboratory confirmed. Tuberculosis mortality rates have decreased from 11 per 100 000 in 2005 to 7.7 in 2014. The proportion of extrapulmonary cases was 7.4% in 2014 (119 cases).\(^2\)

**Fig. 1 Number of new TB cases and relapses in Lithuania**\(^2\)

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**MDR TB**

According to the tuberculosis surveillance and monitoring reports 2013–2016, drug susceptibility testing is done for most culture-positive cases (99–100%). In 2014, 271 cases of MDR TB were diagnosed; that is, 21% of all tested cases. MDR cases made up 13.6% of new, notified pulmonary cases and 48.9% of previously treated cases. According to the WHO and ECDC data, in 2015 there were 1507 registered TB cases in Lithuania and out of those, 241 were MDR cases. These figures put Lithuania in the WHO’s five high-priority countries for MDR TB in the EU.

The absolute number of MDR TB has decreased slightly since 2005; however, in the last four years no major changes have been observed. The proportion of MDR TB cases is almost unchanged in the last 10 years (at around 20%).

Of concern are the numbers of patients with extensively drug resistant (XDR) TB, which has increased in the last 2 years. In 2013, 46 cases with XDR TB were notified; the respective numbers for 2014 and 2015 are 61 and 59. XDR TB rates are high and have been increasing in

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the last few years. Approximately 26% of all MDR cases tested with second-line drugs are extensively drug resistant TB cases.\(^3\)

**TB prevention and control governance measures**

**Policies**

The Ministry of Health, together with professional societies and other stakeholders, has developed and signed-off a range of legal acts aiming at supporting TB control within all 60 municipalities of the country.

Legal acts on TB:

- the order “Action Plan for Reducing Health Inequalities in Lithuania, 2014–2023” with the Annex on “Enhancing Efficiency in Prevention, Diagnosis and Treatment of Tuberculosis” approved by the Minister of Health on 06 July 2014 (No. V-815);
- the order “On the approval of Directly Observed Treatment Short-course Services Procedure” approved by the Minister of Health on 12 February 2016 (No. V-237);
- the order “Procedure of Tuberculosis Case Detection and Management” approved by the Minister of Health on 23 June 2016 (No. V-837);
- the order “Supply of Drugs to the Health Care Institutions for the Treatment of TB”, approved by the Minister of Health on 31 December 2015 (No. V-1582);
- the order “Procedure of Epidemiologic Regime in Personal Health Care Institutions While Providing Medical Help to Patients with TB”, approved by the Minister of Health on 25 July 2013 (No. V-740);
- the order “Organization of the Mandatory Hospitalization and/or Mandatory Isolation of the Patients and Persons Suspected of Contracting Communicable Diseases Also After Being in Contact with a Sick Person”, approved by the Minister of Health on 06 June 2002 (No. 258);
- the order on Tuberculcin testing of children 6 August 2002 (No. V-399)
- the hygiene standard HN 47–1: 2012 for health care institutions;

The implementation of the legal acts is the responsibility of the chief TB specialists and accredited health care and public health institutions.

Topics for new legal acts are identified by professional organizations or others. In general, if a need for a new legal act is identified a working group will be established. The working group includes members of the professional organizations, the Ministry of Health, NHIF, and other

\(^3\) WHO-ECDC Tuberculosis surveillance and monitoring report 2016
practitioners. The development of a new legal act starts with the drafting of the act by the Ministry of Health. This draft legal act is published on a website for public consultation and the universities are consulted. Thereafter, there is an interdepartmental consultation within the Ministry of Health and a consultation with the NHIF. A legal act is approved by the Ministry of Health. If the document concerns a law, for example the Law on Prevention and Control of Communicable Diseases in Humans, it needs to be approved by the Parliament. If a legal act covers more than one Ministry, it will be approved by the Government. Currently, there is one main law applicable for TB prevention and control, the Law on Prevention and Control of Communicable Diseases in Humans.

The Action Plan for Reducing Health Inequalities, published in 2014, is a robust document, developed to access European Union Structural Funds. However, this action plan missed detailed activities to prevent, diagnose, treat and care for drug-susceptible, MDR and XDR TB. Also, the new TB diagnostic tools\(^4\)\(^5\) that were recently endorsed by the WHO are not included in the action plan.

Currently, professional organizations can develop recommendations for TB prevention and control. These recommendations are not binding. Also, individual hospitals can develop rules for diagnosis and treatment of a disease in line with the provisions in legal acts. These rules will only apply in the specific hospital in which the rules were developed.

If professionals or professional organizations see the need for new diagnostic methods or medicines to be introduced, they can inform the Ministry of Health. The Ministry of Health then coordinates with the State Medicines Control Agency (SMCA) and the NHIF to ensure that the diagnostic method or treatment becomes available.

**Health care financing**

Lithuania has a National Health Insurance Fund (NHIF) that has been implemented from 1996 onwards.\(^6\) Nine per cent of income is paid into the NHIF (3% paid by employers and 6% paid by employees).\(^7\) The self-employed also pay into the NHIF. The law on health insurance lists 20 groups who are insured by the state and thus do not pay into the fund; this includes children and vulnerable groups. In addition, TB diagnosis and treatment is paid for by the NHIF even if the patient is uninsured. However, tests and consultations done before the TB diagnosis are not covered under this exemption. These costs could be covered by the municipalities who have the obligation to organize primary health care services and to also make this available to uninsured persons who come to the primary health care system.

The total budget of the NHIF is about 1.5 billion euros per year. The NHIF does not have a special budget allocated to TB prevention and care. On average, 71% of the budget goes to the

\[^4\] http://www.who.int/tb/WHOPolicyStatementSLLPA.pdf
\[^5\] http://apps.who.int/iris/bitstream/10665/112469/1/9789241506700_eng.pdf
provision of health services, 19% to medicines and medical devices, 5% to health programmes and other health insurance expenditure, and 6% to other issues. In 2015, about 11.5 million euros was spend on TB-related activities, this included bacillus Calmette-Guérin (BCG) vaccination within the National Immunization Programme, Mantoux tuberculin testing of all 7-year-old children and children of risk groups, expenditure on tuberculosis treatment by health services (in and outpatient services), the primary health care incentive service, and medicines. The Ministry of Health works closely together with the NHIF to see how new services can be funded. The budget for new services is not always directly available from the NHIF but experience shows that it will be made available within reasonable time. The Ministry of Health is responsible for the allocation of NHIF funds, and the NHIF is under the Ministry of Health. Social payments are not included in the compulsory health insurance fund.

**Drug availability**

Lithuania has two mechanisms for making medical products available to patients. The first mechanism entails central purchasing of products which are then made available free of charge to inpatients (Table 1). The other method through which patients can obtain medical products, is to buy them from the pharmacy and then get the costs reimbursed. The percentage of reimbursement depends on whether the drug is on the “A” list, and is then eligible for 100% reimbursement, or on another list.

Table 1. Tuberculosis (TB) medicines available in Lithuania

<table>
<thead>
<tr>
<th>NHIF</th>
<th>TB medicines on reimbursement list A (100% reimbursed)</th>
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<tbody>
<tr>
<td>Isoniazid</td>
<td>Ofloxacin</td>
</tr>
<tr>
<td>Pyrazinamide</td>
<td>Rifampicin</td>
</tr>
<tr>
<td>Rifampicin</td>
<td>Isoniazid</td>
</tr>
<tr>
<td>Rifampicin + Isoniazid</td>
<td>Prothionamide</td>
</tr>
<tr>
<td>Ethambutol</td>
<td>Pyrazinamide</td>
</tr>
<tr>
<td>Ofloxacin</td>
<td>Ethambutol</td>
</tr>
<tr>
<td>Amikacin</td>
<td>Rifampicin + Isoniazid</td>
</tr>
<tr>
<td>Kanamicin</td>
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<tr>
<td>Moxifloxacin</td>
<td></td>
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<tr>
<td>Levofoxacin</td>
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</tr>
<tr>
<td>Capreomycin</td>
<td></td>
</tr>
<tr>
<td>Cycloserine</td>
<td></td>
</tr>
<tr>
<td>Ethionamide</td>
<td></td>
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<tr>
<td>Para-aminosalicylic acid (PAS)</td>
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<tr>
<td>Bedaquiline</td>
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<tr>
<td>Delamanid</td>
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<tr>
<td>Linezolid</td>
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TB medicines are available through both mechanisms. For inpatients, TB medication and medication for adverse events is available free of charge through the hospital. Until 2016, all
first-line TB drugs for outpatients were available from the pharmacy by prescription and patients were asked for a small co-payment for drugs obtained this way, following the general rules for medicines. However, for many years this situation resulted in self-administration of drugs, often depending only on the patient’s willingness to take them. This system will be phased out and be replaced by providing free TB treatment through the DOTS rooms.

Medicines for treating TB side-effects follow the general reimbursement rules. So, if the medicine is on the A list it will be fully reimbursed, otherwise it will be partly reimbursed.

Since 2016, and for the first time, Lithuania has had access to the new antiTB drugs, including bedaquiline and delamanid. However, considering the high number of annually diagnosed XDR and MDR TB cases and the backlog of patients that have failed on the currently available regimens, the quantities procured (for 60 patients) will not be enough.

SMCA is responsible for the scientific evaluation of marketing authorization applications and granting marketing authorizations; granting of permissions and supervision of clinical trials of medicinal products; supervision of safety of medical products by monitoring through a pharmacovigilance network; supervision of activity of manufacturers, importers, wholesale distributors and pharmacies (by licensing and repeated inspections); control of quality medical products on the market (sampling and testing in the SMCA laboratory); supervision of legal turnover of narcotic and psychotropic substances and medical products; and supervision of advertising, sales and pricing of medical products.

The SMCA also monitors the availability of medical products through monthly reports by wholesalers on the number of particular medical products sold to the pharmacies and hospitals as packages, and the number of packages that were returned to wholesalers, and through wholesalers’ weekly reports of medical products stock balances on the package level. When stock drops below the 40% of a stated number of medical products, SMCA will contact the marketing authorization holder, identify the shortage, and the renewal of supply date, and look for a possible substitute.

The Ministry of Health can authorize the temporary use of medicinal products in packages in a foreign language if the manufacturer cannot ensure medical product supply due to objective reasons (i.e. manufacturing and supply disorders, increased medical product demand), and it is not possible to substitute the medical product with another product authorized in Lithuania.

The Law on Pharmacy of the Republic of Lithuania allows the use of unauthorized medical products on named patient basis. An order of the Minister of Health has established the rules on the supply of named medical products: a named medical product shall have authorization in any of the European Economic Area countries or in the country of the manufacturer; it needs to be for the use of an individual patient under direct personal responsibility of a doctor; and no authorized medical product should be available that could be used for effective treatment. The joint procurement mechanism of the EU is not used in Lithuania and Lithuania has tried to do joint procurement with Estonia and Latvia.

Postmarketing surveillance includes the risk assessment of selected medical products by good manufacturing practice/good distribution practice (GMP/GDP) inspectors and follows the
New medicines are usually evaluated by NHIF committee for effectiveness. This committee decides whether the drugs need to be reimbursed. TB medicines do often not follow these rules and can enter the market quicker.

**Data registration communication, monitoring and evaluation systems**

To oversee full implementation of TB prevention and control activities in a country, a robust monitoring and evaluation system is needed. The Ministry of Health is responsible for TB surveillance and has delegated the collection and reporting of TB surveillance data. Several organizations are involved in TB surveillance: the TB register at the Hospital of Infectious Diseases and Tuberculosis (Vilnius University Hospital branch), the NPHC and the Centre for Communicable Diseases and AIDS.

TB surveillance data are collected by the TB register at the Hospital of Infectious Diseases and Tuberculosis, affiliated to the Vilnius University Hospital Santariškių Klinikos. The TB register receives paper-based notifications and treatment outcome information from clinics and hospitals in Lithuania. At the TB register, the data are entered in an electronic system and validated. Data are made available to the Ministry of Health at their request at least on an annual basis. When a new planning period starts, the TB surveillance data are analysed and used for strategic planning. According to the legal act No. V-837 (Procedure of Tuberculosis Case Detection and Management), the TB register should write a review report on the tuberculosis epidemiological situation and submit it to the Ministry of Health and other interested institutions annually, and publish the report on their website. The validated data are also shared with the Centre for Communicable Diseases and AIDS.

Since 2011, the National Public Health Centre (NPHC) has held the state registration system on communicable diseases. This centre receives notifications of pulmonary sputum smear-positive or culture-positive TB cases. The NPHC shares these data with the Centre for Communicable Diseases and AIDS. The NPHC reports the surveillance data to the municipalities. Reporting to the TB register and to the NPHC is mandatory.

The Centre for Communicable Diseases and AIDS is the centre with the overall responsibility for surveillance of infectious diseases in Lithuania. This centre publishes an annual report, which includes a chapter on TB which is written by surveillance experts from the TB register at the Hospital of Infectious Diseases and Tuberculosis. The centre also compares the data collected by the TB register and by the NPHC.

Currently, Lithuania is developing an electronic Internet-based e-health system which will include TB surveillance together with other communicable diseases.

**Recommendations**

- To continue with the implementation of the existing legal acts, with particular attention to the establishment of ambulatory care.
- Develop an implementation plan based on the latest policy document for effective TB prevention and control in Lithuania, including detailed activities to prevent, diagnose
(using the WHO recommended rapid molecular TB diagnostic techniques), treat and care for drug-susceptible, MDR and XDR TB.

- To consider whether TB medicines should not be provided on prescription through pharmacies when a sustainable centralized procurement system of basic TB drugs is in place.
- A plan for expanding access to new drugs should be developed.
- To further develop and implement the electronic Internet-based e-health system.

**Integrated care delivery models with particular attention to drug resistant TB**

**TB service delivery**

To get access to specialized health care services, patients should turn to their GPs as first step. If the GP decides that it is necessary, he/she will give a referral to a pulmonary specialist and that consultation will be covered by NHIF. The admission to the hospital takes place with the referral issued by a GP or specialist. Only when the patient has serious signs and symptoms that might be related to TB, would they go directly to a pulmonologist or to hospital.

However, for people among vulnerable groups or without health insurance, access to TB services (as presumptive cases) might not be easy. According to the information provided from the Vilnius low-threshold centre, such patients should first find a GP and get a referral for radiology or other examinations.

For the expert team, it was unclear what would happen with persons who do not have a permanent place to live and thus are not registered with a GP. We understood that in such situations there are often problems with access to services and a delay with diagnosis. In some cases the patient never returns to seek medical aid.

HIV-positive persons are informed about TB through educational materials at medical and social service locations, and are encouraged to visit a GP in case of respiratory or other symptoms.

Countrywide, there are several harm reduction centres offering needle exchange and testing for HIV and hepatitis; in some places this is combined with opioid substitution therapy (OST).

**Recommendations**

- Implement more combined service centres that can provide DOTS antiretroviral therapy (ART), OST and needle exchange, thus creating a one-stop shop offering low-threshold services.
- Provide harm reduction centres with affiliated GPs to avoid loss of patients that are identified as presumptive TB cases at those centres.
Case-finding

Case-finding usually takes place through patient self-referral to GPs. If a person is suspected to have TB, the GP will refer the patient to a pulmonologist. Active case-finding involves the screening of persons with a public function, such as teachers, medical staff, people working in food production, prisoners, and of those belonging to risk groups. Chest X-rays are also taken in certain instances when working conditions are harmful to the employees’ health.

Identification of presumptive cases is done by GPs and pulmonologists. Direct access to pulmonary specialist was discussed during the mission, and potential consequences of that access, such as additional cost and possible increase of workload for the specialists, was mentioned by NHIF and Ministry of Health.

Pulmonologists in hospitals receive TB suspects that are referred by TB doctors from TB ‘cabinets’, by GPs or by other clinics. The GP or pulmonologist performs a chest X-ray as a first step. If the chest X-ray is abnormal, or if the patient reports TB symptoms, the doctor will ask to collect sputum samples that will be sent to the laboratory for smear microscopy and culture.

When it is decided that treatment should be started, patients are often given drugs for a month without treatment being directly observed. Currently, in Lithuania, access to the new drugs for MDR and XDR TB patients is limited. Treatment with the new medicines bedaquiline, delamanid and the repurposed medicines linezolid, and clofazimine is not fully available. A few patients with unknown drug resistance pattern were put on combination of first-line medicines and fluoroquinolones. Antiretrovirals (ARVs) are started after the TB treatment is finished. Based on the latest WHO recommendations, ARVs are to be initiated as soon as possible, while mitigating immune reconstitution syndrome.

Drugs for side-effects are currently not free of charge for outpatients (currently only for inpatients in the hospitals. It is important to set up the system for centralized procurement of all necessary ancillary medications for all treatment sites, including all ambulatory ones).

The review team was informed about the plan for the construction of a new building as part of the Vilnius University Hospital Santariškių Pulmonary Clinic, the project is supported by EU funds. The planning process has been presented as in its final stage. According to the information provided to the reviewers, by the end of 2018 the new hospital is expected to be ready and functioning. The TB department is to have 150 beds including beds for MDR TB patients.

The new hospital wards and laboratory are foreseen to be equipped with mechanical ventilation providing negative pressure. Although this would meet high standards of infection control measures, the implicated running and maintenance cost and, thus, its sustainability with a long-term perspective was observed as being critical. At the time of the visit, no clear cost estimate for covering these costs was presented thus the reviewers share the observed concerns by the national partners.

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8 [http://apps.who.int/iris/bitstream/10665/186275/1/9789241509565_eng.pdf](http://apps.who.int/iris/bitstream/10665/186275/1/9789241509565_eng.pdf)
Furthermore, according to the presented material on the new hospital, this facility is planned to become one of the main inpatient facilities for treatment of the highly complicated TB cases (XDR and MDR TB). However, based on the observations, the integration of this new facility within the existing TB diagnosis, care and prevention did not seem entirely clear for all pulmonary specialists and partners, including the Ministry of Health, and it was not clear how this department will be linked with the overall TB control hospital network.

According to the latest WHO global TB report, and the reviewers’ observations, the use of WHO recommended rapid molecular TB diagnostic tests such as GeneXpert and line probe assays (LPA) seem to be very limited in Lithuania. Currently, each hospital individually develops rules for the diagnosis and treatment. The use of rapid diagnostic tests is crucial to ensuring the timely identification of TB suspects, including TB suspects with resistant strains. Currently, the NHIF covers TB diagnosis and treatment costs, and for uninsured citizens as well. The funding for the WHO recommended rapid molecular TB diagnostic tests comes through another budget line, which might result in less optimal use of these tests.

Although several laboratories in Lithuania perform drug susceptibility testing under monitoring by the affiliated WHO Supra National Reference Laboratory in Sweden, patients were observed to be under treatment with the new drugs without drug susceptibility testing results for all main second-line drugs. The use of second-line LPA could lead to rapid and reliable information on drug susceptibility patterns.

In all facilities visited, questions were raised regarding the high cost of the WHO recommended rapid molecular tests and related reimbursement policies. At the same time, it was noticed that not all doctors (even pulmonary specialists) and hospital administrators, had information on, or a full understanding, about the importance of these new methods.

The National Reference Laboratory for Tuberculosis (NRL-TB) is located in Vilnius University Hospital, and Lithuania currently has four regional TB culture laboratories in the following cities: Kaunas, Klaipėda, Panavezys, and Šiauliai. Responsibility for contact tracing is divided between GPs, pulmonologists and epidemiologists working at the NPHC under the Ministry of Health.

**Recommendations**

- Develop the mechanism for supervision and monitoring of TB-related activities at public health centre settings.
- Ensure that the GPs have the knowledge and the skills to identify TB suspects. Establish a formal information flow between the GPs and TB doctors about referred TB suspects and examination outcomes.
- Ongoing active TB case-finding activities, such as screening of the homeless and HIV-positive people should be continued and expanded.
- Drugs for antituberculosis treatment side-effects should be provided free of charge to patients under treatment who are in need.
• Assess whether active screening of all current risk groups is cost-effective (resolution No. 544 from 1999).
• To monitor and evaluate the yield of latent TB infection and active screening for (risk) groups.
• To remove food handlers from the list of people/occupations who should be annually screened for active TB.
• To provide training and knowledge increase for physicians on the WHO recommended rapid molecular TB diagnostic techniques.

**Inpatient treatment services**

There are six main inpatient TB hospitals in Lithuania: Hospital of Vilnius University Santariškių Klinikos, Hospital of Lithuanian University of Health Sciences Kauno Klinikos, Republican Šiauliai Hospital, Republican Klaipėda Hospital, Republican Panevėžys Hospital, and Alytus County Tuberculosis Hospital. Currently, there are 1052 full-time hospital beds available to TB patients in Lithuania.

With the decreasing TB incidence rates and the implementation of patients centred outpatient care, there are plans to reorganize the TB hospital network. This process should be carried out gradually to avoid the situation when ambulatory services are not yet ready to take full responsibility over the management of TB patients, but hospital beds are already closed. Therefore, by 2017 an approximate 30% bed reduction is planned and by end of 2023 there should be 520 beds for TB patients.

In all sites visited, treatment conditions and clinical management of MDR TB cases were assessed. In Vilnius University Hospital, where a considerable number of most complicated MDR cases are hospitalized, it was noted that the treatment conditions were not acceptable. The MDR TB department did not have proper wards for separation of patients with different drug susceptibility patterns. It should be mentioned that, due to the lack of basic infection control measures and poor sanitary conditions, there is a permanent risk for staff, and other patients with susceptible TB, to get infected with XDR and MDR TB strains. During the visits to Kaunas and Klaipėda TB hospitals, we saw good examples of implementation of proper infection control measures and administrative planning of patient flow, according to their infectiousness and resistance status.

During the visit to Alytaus County Tuberculosis Hospital, several concerns were raised about the Department of Mandatory Isolation. The hospital is located in a forest and has three floors with 55 beds; out these, 30 beds, situated on the third floor, are used for mandatory isolation. The hospital receives most of the difficult-to-treat patients such as alcohol abusers, drug addict defaulters (being lost to follow-up (LTFU)) or former prisoners. At the time of the mission, 29 patients were on involuntary isolation. It was noticed that patients with different drug susceptibilities were put together in one room without the necessary infection control measures. Wards were for 5–7 patients. Out of 29 patients, 5 were under bedaquiline or delamanid treatment. However, only three of them had a background regimen with four
effective drugs. However, it was explained that the country has serious problems with procurement of linezolid, clofazimine and other reserve drugs to strengthen treatment regimens. In addition, the need for better management of eligible patients for treatment with the new drugs, and stricter supervision and support to staff was needed to help these patients and improve their treatment success rates.

The review team has three major concerns regarding TB treatment and case management in hospitals in Lithuania. The first is the unnecessarily long hospitalization that, considering the poor infection control measures in some places, for example Vilnius, could be a major cause of TB superinfection among patients, including superinfection with MDR TB strains. The second concern is related to whether second-line drugs are used properly in regimens for susceptible cases (that is, fluoroquinolones, prothionamide) or for MDR TB treatment regimens without at least four effective drugs. The third concern is the use of involuntary isolation and treatment in hospitals. In coming years, after establishing better outpatient services and with good social support programs, adherence to treatment would increase and, as a result, there will be less need for mandatory treatment necessary. Moreover, patient support by other means, including the use of social workers, could be a more cost efficient solution than hospitalization.

**Recommendations**

- Considering the poor treatment conditions in Vilnius University Hospital TB Department, there is an urgent need to reduce the hospitalization of drug resistant patients and establish stricter administrative rules to improve basic infection control conditions.
- Rationalization and need analysis of inpatient treatment and its length.
- To minimize the risk of cross contamination between patients, the number of beds in rooms should be reduced to 2–3 and patients with XDR TB should be kept strictly separated from others.
- Rational use of second-line antituberculosis drugs in line with the WHO treatment recommendations.
- The use of involuntary isolation and treatment should be considered as a last resort.

**Outpatient treatment and care services**

At county level, secondary outpatient services by a pulmonologists/physiatrists, are provided by the different municipality polyclinics or by clinicians based in separate pulmonary cabinets. However, not all counties/regions have specialized pulmonary service providers. Of the 60 municipalities, 22 do not offer pulmonology/physiatrist services. It should also be noted that in some places pulmonary doctors do not provide full services for TB patients. It was understood that often service delivery and accessibility to services depends on geographical location. People living in rural areas have to travel long distances to get quality health care. TB in Lithuania is most likely to occur in its vulnerable populations, and approximately 30% of all tuberculosis patients come from these vulnerable populations. During discussions on site visits, staff members often confirmed that lack of universal and sustainable social support is
one of the main reasons for treatment interruptions. Patients from vulnerable parts of the population often demonstrate more nonadherence to treatment, which can become a source for disease transmission in society. According to data from the TB registry, more than two thirds of new MDR TB cases have had contact with patients who had not completed the treatment and, thus, may have become the source of infection of others. Currently, only five regional TB coordinators are appointed, mostly working on a voluntary basis. This creates a limitation to fulfilling the coordination and supervision duties covering all key areas of TB control. The need for at least 5–7 regional coordinators who can regularly (according to supervisory plans) visit all main TB hospitals and outpatient centres to advise treating physicians and give feedback to the TB register, or to other central authorized institutions, has been observed. To make this work more efficient, a simple checklist should be worked out to document all main findings during these monitoring visits. According to the experience of other countries these tasks should be paid as part of TB control work. These coordinators need to be nominated by the Ministry of Health to give them the necessary rights and authority to supervise all TB control institutions.

In Lithuania, TB treatment and care in hospitals is free of charge for the patients. After discharge, patients usually continue with outpatient treatment with the support of a local polyclinic and in this period part of the services have to be paid by the patient themselves (prescription fees, cost of drugs for side-effects etc.). However, the current system still largely relies on hospital-based care. According to the new Action Plan for 2014–2023, all health care services are directed to outpatient care, including TB service providers. In fact, moving services to an ambulatory setting is an important step forward and will allow establishment of more flexible patient-centred care. Previously, there has been no real mechanism to motivate hospitals to discharge TB patients as soon as they are not infectious. New reimbursement criteria will help to decrease the average length of stay and will save finances for outpatient care.

According to information from the Ministry of Health, preparatory work has been done since 2015 to make municipalities and regional polyclinics aware of the importance of DOTS cabinets and the role of sustainable social support activities. To ensure sustainable social support for TB patients, the Ministry of Health, together with the NHIF and local municipalities, are encouraged to create stable financing mechanisms for social services.

So far, most effort has been concentrated on training pulmonary specialists. From 2016 and into 2017, the majority of seminars and workshops are dedicated to public health staff, both for GPs and nurses. In order to ensure achieving countrywide DOTS services, the special Order No. V-237 “On the Directly Observed Treatment Short-Course Services Procedure” was issued and special training programs for DOTS cabinet nurses initiated.

From June 2016, directly observed treatment was supposed to be available during ambulatory treatment. However, in all outpatient facilities that the review team visited (Vilnius, Alytus, Klaipėda), full implementation of DOTS was planned to start in early November 2016 or from January 2017. This is because the centralized delivery of first-line drugs had only been in place
Since September 2016; that is, one month before the mission took place. By the time of the visit, many patients were taking drugs at home that had been prescribed before June 2016. The review team was informed about positive examples for providing full DOTS services in the Vilnius policlinic between 2009–2012 when the Norwegian project and the Rotary Club supported social motivation activities. The same information was also gathered from other small pilot sites. However, all these activities were only for short periods, and in some cases after ending such a project, adherence to treatment even decreased, which may reflect the patients’ disappointment.

From 2017, DOTS cabinets will be open throughout Lithuania to which patients are supposed to refer daily for DOTS. According to the information provided by local teams, all central policlinics with pulmonary cabinets in the region have plans to coordinate and supervise smaller DOTS points.

However, the review team noticed that despite comprehensive DOTS strategy plans, not all DOTS nurses, and not even experienced pulmonary physicians, had a clear understanding about the importance of daily DOTS. For many years patients were often given a monthly or weekly supply of medicine without directly observed treatment. As a concern, we understand that this old strategy was still in use by some staff members in some institutions. To improve the adherence of TB patients to treatment, an ongoing collaboration between TB doctors and GPs who are involved in DOTS is needed.

**Recommendations**

- Directly observed treatment needs to be maintained and further expanded as the standard of care for TB patients, especially where poor adherence is suspected.
- Consider introducing sustainable systems of patient incentives and enablers to keep patients adhering to TB treatment in the ambulatory phase.
- To negotiate with local municipalities about financial support to all patients that is not dependant on their social status.
- The Ministry of Health and NHIF, with the help of local health administrations, should work out a system of incentives for public health care providers linked to early case-finding and ambulatory treatment follow-up (particularly important after the European Structural Fund stops).
- To revise or adopt job description for public health care staff to deal with active TB cases including assignment of responsibilities of pulmonary specialists and primary health care and ensure adequate financing.
- To establish an official system for the supervision of pulmonary physicians and GPs involved in TB detection and treatment and the allocation of the necessary resources.
- If necessary, consider providing treatment and DOTS at patients’ homes and establish of mobile units to strengthen this type of close-to-patient care strategy.
- To consider the use of novel electronic follow-up systems for DOTS.
- Sufficient number of regional coordinators – nominated by the Ministry of Health – who could regularly undertake monitoring visits (according to supervisory plans) to all main TB hospitals and outpatient centres to provide advice to treating physicians and give feedback to TB register or to other central authorized institutions.

- To develop clear terms of reference for regional TB coordinators to enable them to carry out the required tasks.

- A standardized checklist (monitoring tool) should be developed and provided to the regional coordinators for their site assessment and reports.

- TB doctors and GPs who are involved in DOTS need to maintain an ongoing collaboration to improve the adherence of TB patients to treatment.

**Treatment outcome**

The TB case detection rate is close to 80% and the treatment success rate of the latest (2014) cohort for new and relapse cases were 81%. Unfortunately, the treatment success rate of MDR TB patients is low and was only 35.1% and 40% in the 2012 and 2013 cohorts (Table 2).

<table>
<thead>
<tr>
<th></th>
<th>Successfully treated</th>
<th>Died</th>
<th>Failed</th>
<th>LTFU</th>
<th>Still on treatment</th>
<th>Not evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>2011</td>
<td>104</td>
<td>35.1</td>
<td>63</td>
<td>21.3</td>
<td>20</td>
<td>6.8</td>
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<tr>
<td>2012</td>
<td>95</td>
<td>35.1</td>
<td>79</td>
<td>29.2</td>
<td>19</td>
<td>7.0</td>
</tr>
<tr>
<td>2013**</td>
<td>91</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* LTFU, lost to follow-up; ** Data: [http://www.who.int/tb/data](http://www.who.int/tb/data).

Partly, this may be explained by an increasing proportion of XDR TB patients in the treatment cohorts. During the last 3 years, XDR TB cases represented around 25% of all MDR cases.

However, the main factors negatively influencing treatment outcomes of XDR and MDR TB patients are a very high rate of LTFU and high numbers of patients who died. In the 2011–2012 cohorts, the joint share of cases marked as LTFU or Died represented about 50% of all treatment outcomes.

These data indicate challenges regarding case holding and may be a hint for inadequate or insufficient adherence support. According to observations at sites, it can often concluded that low treatment success is related to diagnostic delays, inadequate use of rapid diagnostic tests and absence of novel drugs, particularly for drug resistant TB cases.
Recommendations

- To strengthen MDR TB case management strategy.
- To use more strict supervision and monitoring during outpatient treatment.
- Increase the capacities for using the WHO recommended rapid molecular tests, particularly for patients at higher risk of TB and MDR TB infection.
- To plan and allocate budget for the WHO recommended rapid molecular tests.

**TB/HIV**

The prevalence of HIV infection among TB patients remains low, but with slight annual increase. During the last 3 years around 70% of all TB cases have been tested for HIV infection and in 2015, 3.6% of TB cases with known HIV status were HIV-positive. In 2016, 1086 (72.1%) TB patients were reported with known HIV status.

*Fig. 2 TB/HIV coinfection, 2006–2015⁹*

TB is the most common AIDS-defining illnesses in Lithuania. Between 2011–2015, of 218 AIDS-indicative diseases diagnosed, 37.6% were related to TB.

According to the data from the Centre for Communicable Diseases and AIDS, ART has been provided to approximately 50–80% of registered TB/HIV co-infected patients. However, the data from the last two years are not complete. Surveillance on TB/HIV exists, but the TB and HIV registers are separate; manual verification is required to identify and verify TB/HIV patients. The main ART drugs to treat HIV infection are in the list of reimbursable drugs. There does not seem to be very close collaboration between the TB and HIV teams, except for the referral of patients. The Action Plan for 2014–2023 gives the opportunity for better cooperation between the two services to cover both TB and HIV control aspects.

**Recommendations**

⁹ WHO-ECDC Tuberculosis and monitoring surveillance report, 2016
To revise existing policies and guidelines and ensure their full compliance with WHO policies on TB/HIV coinfection.

- To increase the coverage of HIV testing among TB patients.
- To increase the access to ART to all TB/HIV co-infected patients.
- To find efficient ways to cross link TB and HIV registers for accelerated service delivery and to further strengthen the collaboration between the TB and HIV teams.

**TB in prisons**

The penitentiary network has 11 prisons and 4 pretrial institutions (SIZO) with approximately 7000 prisoners. The central prison hospital is located at Pravieniškės; it was moved from Vilnius and opened in summer 2016. The hospital’s capacity is planned to be for 140 inpatient and 90 ambulatory patients. TB control in the penitentiary system comes under the responsibility of the Ministry of Justice. However, some joint policy agreements with the Ministry of Health about screening and laboratory services exist (for example, all mycobacteriology analyses are sent to the Kaunas regional laboratory).

At the time of the visit, only the TB department with 40 patients and a psychiatric unit were open. According to the information provided by the hospital administration, approximately 40 cases with active TB are registered annually, of which 30% are MDR TB cases and 15–20% HIV-positive. At the time of the visit, seven patients had TB/HIV coinfection and were on treatments including ARV drugs. Out of all registered TB cases, 60% are diagnosed at SIZO. The prison hospital has only one pulmonary specialist and there is no infection diseases physician in place. During the visit several treatment cards were reviewed. It was noticed that not all treatment regimens were in accordance with WHO recommendations. In some cases, fluoroquinolones or other second-line drugs were added to treatment of susceptible TB cases.

**Recommendations**

- The system of pre- and postrelease of all patients from prison to civilian TB services should be strengthened to ensure compliance with treatment and adequate follow-up.
- To increase the motivation of staff working in the penitentiary sector.
- To follow WHO recommended treatment regimens.

**Human resources capacities**

At the close of 2015, there were 13 490 physicians (46.7 per 10 000 inhabitants) working in health institutions in Lithuania. Of these, 12 548 are active medical doctors, of whom 140 have a professional qualification in pulmonology and 43 in paediatric pulmonology. Five specialized health care providers focus their work on TB.

Lithuania trains medical doctors in two universities, Vilnius University and the Lithuanian University of Health Sciences (LSMU) in Kaunas. The duration of medical studies is 6 years, followed by 3–6 years of medical residency depending on the specific professional qualification. For pulmonologists the duration of the residency is 4 years and the study programme includes TB specific courses.
Every year around 4–5 places are dedicated for pulmonary residency. Based on information gained from the representatives of Vilnius University and LSMU, the need to increase this by 50–60%, up to eight places (considering that one third of the trained junior staff are likely to go abroad), has been observed.

General practice nursing can be studied in three universities, Vilnius University, Lithuanian University of Health Sciences, and Klaipėda University. The duration of bachelor’s studies is 4 years and a master’s study takes 2 years. Nurses are also trained in six colleges, in which the duration of the training is 3.5 years.

We observed that there was a lack of young doctors interested in specializing in this field. For example, last year, both in Vilnius University and LSMU, two young pulmonary doctors started working in TB departments. There are different reasons for lack of specialists, which may include low salary, low prestige of the specialty, fear of nosocomial TB infection, and lack of motivation to work with tuberculosis patients. Out of the 60 municipalities, 22 regions have no pulmonologist in place. At many hospitals visited, a considerable number of staff was close to or above retirement age. In recent years, an extensive number of young doctors have left Lithuania to work abroad.

Although there is no dramatic shortage of pulmonologists at the moment (10 vacancies available nationwide), there are some inequalities in the distribution of health care professionals, which result in higher density of pulmonologists in big cities and insufficient number in rural areas. It is obvious, however, that without careful human resources planning, after five years serious problems may occur.

As a solution to this issue, the Ministry of Health launched an initiative to attract young health care professionals to peripheral areas by covering their residency studies expenses if they would agree to be employed in smaller towns after graduation.

Furthermore, as a result of change management when shifting from inpatient care to outpatient and ambulatory care skilled nurses and other health care workers are suggested to be employed in outpatient focused care services.

It is beneficial to include more elements of supportive supervision, especially as a possibility for on the job training. Results from supervision are also an important way to reinforce the impact of training and identify shortcomings in knowledge, skills and attitudes. The Action Plan for reduction of health inequalities includes training courses in the field of TB. These training courses are mainly organized by the professional organizations.

According to the provisions of the Action Plan for the period of 2014–2023, during the period of 2017–2020, it is expected that qualified professional training in the field of TB for more than 500 GPs and around 60 pulmonologists will be provided.

**Recommendations**

1. To develop a long-term plan for human capacity-building led by the Ministry of Health and the main hospitals and universities in Vilnius and Kaunas.
2. To further assess measures to meet needs for young specialist interested in research or modern diagnostic methods.
3. To structure the human resources for TB control and to ensure that all health care workers are informed about their tasks it is suggested to develop clear and specific job descriptions.

4. There is a need to increase places for residency in pulmonology up to eight places every year.

5. To consider providing online and distant training courses for staff involved in TB control.

6. To point out potential human resources gaps as a result of retirement or leaving abroad, a situational analysis by the Ministry of Health is suggested to be undertaken to find ways to attract younger generation of doctors and health care workers to be involved in this field.

**TB infection prevention and control**

*Environmental measures*

TB infection control in Lithuania is heterogeneous between the different facilities that were visited by the review team. The TB prison wards in Pravieniškės had well-functioning mechanical ventilation; almost all the other hospitals visited had mechanical ventilation that needed regular maintenance. Kaunas TB hospital had well-functioning sputum collection boxes that were under negative pressure. The TB section of the Republican Klaipėda hospital was located in an old, but renovated, building with well-functioning natural ventilation (large windows in the wards and large windows at each end of the corridor). Patients with susceptible and resistant forms of TB were separated on different floors in Kaunas, Alytus and Klaipėda hospitals; in these hospitals, patients’ movement to different floors was monitored and controlled by staff. No germicidal ultraviolet (GUV)\(^{10}\) fixtures were installed in any of the hospitals and DOTS cabinets visited. Instead, air-cleaners with or without UV lamps were found in hospital floors and DOTS cabinets.

The infection prevention and control conditions at the Drug Resistant TB Unit of the Vilnius University Hospital Santariskių Klinikos are troubling and require immediate action for improvement. The hospital is in an old building with suboptimal design for natural ventilation: low air circulation in the corridors, with some sanitation rooms without windows, which were used by patients for smoking. The separation of patients with drug resistant and susceptible forms of TB was not guaranteed as all patients used the same exit and stairways, and were housed on the same floor of the building. Female patients have to share the sanitation facilities with female health care staff in the MDR TB ward. No upper-room GUV fixtures were installed; instead, the staff informed the review team, 30 standing, open and mobile UV lamps had been

ordered (one of those lamps was in the staff room at the time of the visit). These UV lamps could be used for surface disinfection but not for eradicating airborne pathogens.

Construction plans for a new TB hospital with mechanical ventilation for MDR TB wards in Vilnius was presented to the reviewers. However, from the information given in the presentation, and discussions with national partners including the Ministry of Health, the scope and purpose of the hospital was not entirely clear to the review team. Major concerns exist regarding the sustainability of the proposed project regarding the high running and maintenance costs of the mechanically ventilated wards and laboratory, which are planned to be built in the new hospital by 2018.

**Recommendations**

- To install upper-room GUVs combined with efficient air mixture as well as the irradiation assessment of the GUVs by an engineer with a UV-metre.
- To ensure regular maintenance of all infection prevention and control equipment such as mechanical ventilations systems, GUV fixtures and biosafety cabinets.
- To develop a long-term hospital and laboratory maintenance plan, with an allocated budget, for all major facilities in Lithuania to assure safe working conditions.
- To ensure the sustainability of the infection prevention and control measures that are foreseen to be implemented in the new hospital and laboratory building in Vilnius, the use of mechanical and negative pressure in the wards and the laboratory should be assessed following a thorough risk assessment by a team of TB infection prevention control specialists.

**Partnership, coordination and collaboration of TB control with national and international stakeholders including the Ministry of Justice**

Partnership, coordination and collaboration are strategic ways to engage actors from different domains in TB control. By taking the competencies of each collaborator into account, appreciating their different roles in TB control and care, efficient results can be expected. The models of partnerships are usually country-specific and are based on cultural and organizational diversity.

Lithuania is going through a transition period in the area of TB control, with redefinitions, evaluations and recalculations of the current measures used and the initiation of new interventions for better and effective TB prevention, treatment and care in the future. The Lithuanian epidemiological situation has led to a range of legal acts being developed recently to support TB control within all 60 municipalities of the country. The willingness to engage national and international stakeholders in those processes highlights Lithuania's strong intention to change the current, alarming, situation by strengthening existing collaborations and creating new partnerships to improve TB prevention and the quality of TB diagnostic and
treatment services, and enhancing the operational effectiveness of the network of health care institutions and other partners.

The main partners involved in TB prevention, control and care according to the Action Plan for Reducing Health Inequalities in Lithuania, 2014–2023 and Annex 4 are as follows:

Ministry of Health with all competent bodies (Vilnius University Santariškių Klinikos, TB State Information System, TB Reference Laboratories, Municipality policlinics and hospitals, Personal and Primary Health Care, Health Care Resources and Innovation, Public Health Departments of the Ministry of Health, NPHC with the network of 10 county departments, National/Compulsory Health Insurance Fund/State Patient Fund, Centre for Communicable Diseases and AIDS, SMCA); Ministry of Social Affairs, Ministry of Internal Affairs, prisons department under the Ministry of Justice, Local Public Authorities, neighbourhood offices, Association of Communities, NGOs, and of course, international support from the Infrastructural and Structural European Funds.

The involvement of community and nongovernmental organizations in TB control is limited, and there are only a few organizations that perform TB awareness campaigns (Stop TB Lithuania, Parents Movement), and children’s TB support (Saulės Smiltys). Other organizations, especially for patient support, were not available at the time of the mission.

Saulės Smiltys is a charity foundation that has been active since 2005 and helps Lithuanian children in TB departments. The children’s TB department in Kaunas hospital has been completely renovated with the donations collected by Saulės Smiltys. Saulės Smiltys provides social support for TB affected children with latent and active TB and, since 2014, has offered weekly psychological support for TB affected children with emotional misbalances. Since its establishment, Saulės Smiltys has strengthened relations with the representatives of religious organizations (orthodox, catholic, Muslim etc.) to support the daily needs of TB affected children in hospitals.

Stop TB Lithuania is an NGO, which developed from Saulės Smiltys, whose goal is to perform TB advocacy-oriented activities to increase political commitment. Stop TB Lithuania also stages awareness campaigns to promote preventive measures in TB control.

During 2015–2016, the Health Care Resources and Innovation Management Department of the Ministry of Health conducted several professional training programs to GPs, among others, on various topics including TB and HIV; TB in the punitive system; MDR TB; and Infection control in health care establishments. There are ongoing training courses for nurses in Lithuania, focusing on patients who are in need of direct supervision.

The NPHC has a staff of approximately 600 health specialists who work all around the country. Beyond its general responsibilities of surveillance, recommendations, and giving technical advice, public health promotion activities are widely performed. The NPHC organizes seminars on TB prevention and control measures for health and public health care specialists in schools and kindergartens; it publishes articles; gives interviews; and is available to provide information on all communicable diseases. The NPHC also implements regular prevention campaigns as a method of raising awareness and concerns about TB in different sectors and to the public to determine further areas for improvement.
The mandatory hospitalization of tuberculosis patients is based on the law of *The Prevention and Control of Communicable Diseases in Humans of the Republic of Lithuania* and the provisions of the *Procedure of Organisation of Required Hospitalisation and (or) Required Isolation of Patients, Persons Suspected of Communicable Diseases, having been exposed, or carriers of agents*. Thus, the legal framework describes the institutions under the Ministry of Health, the Ministry of Internal Affairs and the Ministry of Justice that are responsible for its execution.

Mandatory hospitalization is being implemented at Alytus TB hospital. However, the requirements and recommendations for its usage seem to be undeveloped, as the board (consisting of strictly health care specialists with the participation of the police) takes the decision on mandatory hospitalization/isolation only on health indicators and does not take into account the other determinants that may have caused the interruptions in the patient’s treatment.

With an increased regard for ethics and human rights, the WHO recommends applying mandatory isolation as the last resort to ensure that difficult patients follow treatment, as communication and support are the best methods to have a positive impact on treatment adherence.

Social inequality has an adverse effect on the achievement of the objectives of the Lithuanian Health Programme\(^\text{11}\) – that is, better health of the population, increased life expectancy, reduced health inequalities. Lithuania is one of the EU Member States that have the highest income inequalities, and this inequality is continuing to worsen. According to the National Health Board for 2011,\(^\text{12}\) every fifth Lithuanian citizen, every second unemployed person, every third rural citizen or large family, and every fourth person aged 65 or older are at risk of poverty. Persons facing the risk of poverty are not able to reserve sufficient resources for high quality living conditions and health. This means that a large population of Lithuania is at high risk of increased health inequalities because of social factors. In this context, the long TB treatment socially disadvantages patients and causes an inevitable shift of TB patients to vulnerable groups or worsens the situations of patients already living in vulnerable conditions.

The interdepartmental cooperation between the Ministry of Social Affairs and the Ministry of Health helps to reduce the social inequalities of those patients by joining up health care with the social workers’ efforts. By getting a disability degree or a new identity card when absent, a TB patient is integrated for further national social support services. Thus, the increased collaboration with the Ministry of Social Affairs is crucial for patients’ treatment and recovery.

Also, due to the improved partnership between actors, the centralized purchase of first and second-line drugs by NHIF and municipality hospitals has been systematized, and DOTS is in the process of being implemented.

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11 Jasilionis D, Stankūnienė V. (2011). *Suaugusių Lietuvos gyventojuų socio ekonominiai mirtingumo skirtumai*

Therefore, patients’ challenges, perspectives, fears and needs should be taken into account in the implementation of the following points:

- rapid diagnostic and appropriate regimens;
- new drugs and shorter drug regimens;
- decent conditions in inpatient wards, eliminating badly ventilated and overcrowded wards (TB patients are frequently hospitalized in Lithuania and the climate is cold and in conditions of restricted natural ventilation, accurate and efficient TB infection control is important to prevent nosocomial infection);
- equal access throughout the country for TB services;
- treatment for side-effects alongside TB treatment;
- full information about the treatment (diagnostic results, duration and medication) and the consequences of an interrupted treatment;
- equal and sustainable support during the whole treatment;
- stigma and stigmatizing language to be avoided;
- inclusive treatment to contribute to stigma reduction by promoting outpatient treatment;
- mandatory isolation used only as an extreme way to influence adherence.

**Recommendations**

- Internationally recommended norms and standards for DOTS should be used as well as developing indicators and tools for monitoring outpatient treatment (patients may not be aware of the appropriate treatment, that is why it is the doctor’s responsibility to follow the standards and to avoid shortages in antiTB medication as it can be a reason for the development of the resistant forms of TB).
- A plan for expanding access to new drugs should be developed.
- An improved referral system of TB patients from correctional houses to the civil sector for effective observation and continuation of treatment should be considered.
- Plans/actions for ensuring a sustainable social support (food packages or vouchers, transport reimbursement costs), and psychological support for patients through negotiating and collaboration with other partners should be developed, especially by increasing the involvement of the Ministry of Social Affairs, as TB is a disease with a range of social determinants.
- Exploring social contracting to involve NGOs to deliver support and care services to support primary health care should be considered.
- Include the patient’s perspective in designing effective interventions.
- Re-evaluate mandatory hospitalization criteria.
Annex 1

**TERMS OF REFERENCE**

Mission objectives:
- to document achievements and challenges in TB prevention, control and care;
- to review the governance and stewardship of TB prevention and control interventions;
- to review infection prevention and control measures at health facilities including the recently built inpatient penitentiary facility;
- to assess human resources capacities and development plans, that is, training programmes and curricula;
- to review and document treatment and integrated care delivery models with particular attention to drug resistant TB;
- to assess partnership, coordination and collaboration on TB control with national and international stakeholders including the Ministry of Justice; and
- to provide the Ministry of Health with a comprehensive set of recommendations and a prioritized action plan to improve TB prevention, control and care.

Expected outcomes of the mission:
- briefing of the Ministry of Health on findings and recommendations;
- a comprehensive report of the Programme review by 30 April 2017.
Annex 2

**Methodology and Sources of Information for the National TB Programme Evaluation**

The review team in close collaboration with the Ministry of Health will conduct a comprehensive TB services assessment in Lithuania, 17-21 October 2016. The team of international and local experts will assess the achievements, strengths, shortcoming and challenges based on the following approaches: 1) review of all relevant documents already available (publications, national guidelines and reports, mission reports of international partners, etc.); 2) conduct site visits (of relevant institutions and facilities); and 3) conduct interviews (to policy-makers, health service delivery providers and beneficiaries, main national and international partners) at the central level and at selected peripheral regions of Lithuania suggested by the Ministry of Health.
### Annex 3

#### PROGRAMME OF THE VISIT

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>17 October 2016, Monday</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:10–10:35</td>
<td>Travel to Vilnius</td>
<td></td>
</tr>
<tr>
<td>11:30</td>
<td>Check-in Hotel</td>
<td></td>
</tr>
<tr>
<td>12:00–13:30</td>
<td>Lunch and meeting of the international members of the review team</td>
<td>Venue: Hotel</td>
</tr>
<tr>
<td>14:00–17:00</td>
<td>Visit of the facilities in Vilnius (accompanying persons Edita Bishop, Vytenė Jankauskienė, Ingrida Zurlytė):</td>
<td>Site visits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· <strong>Valstybės tuberkuliozės informacinė sistema</strong> (State Information System of Tuberculosis), Contact person Dr Edita Davidavičienė, Address Širvio g. 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· <strong>Tuberkuliozės tyrimų laboratorija</strong> (TB Laboratory), Contact person Edita Vasiliauskienė, Head of the Laboratory, Address Širvio g. 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· <strong>Vilniaus universiteto ligoninės Santariškių klinikų Pulmonologijos ir alergologijos centro Vaistams atsparios tuberkuliozės skyrius</strong> (Drug Resistant TB Unit of Santariškes Klinikos), Contact person Tatjana Paldauskienė, Head of Drug Resistant Tuberculosis Department of Vilnius University Hospital Santariškių Klinikos, Address Širvio g.5</td>
</tr>
</tbody>
</table>

<p>| <strong>18 October 2016, Tuesday</strong> |               |                                                                          |
| 08:30–10:00 | Briefing with the Vice-Minister of Health and relevant national experts (presentations and consecutive/whispering interpretation available) | Venue: Ministry of Health, room 204                                      |
| 10:00–10:15 | Coffee break |                                                                          |
| 10:15–12:00 | (continued) Briefing with Vice-minister of Health and relevant national experts (presentations and consecutive/whispering interpretation available) | Venue: Ministry of Health, room 204                                      |
| 12:00–13:00 | Lunch |                                                                          |
| 13:15–17:00 | Visit of facilities in Vilnius (accompanying persons Edita Bishop, Loreta Ašoklienė): | Approx. 13:15–14:00                                                                 |
|          |                | · Low-threshold facilities, Vilnius Centre for Addictive Disorders, Contact person Aušra Širvinskienė Deputy Director, Address Gerosios Vilties g. 3 |                                                                             |
| 14:15–15:00 | Parliament of the Republic of Lithuania, Gedimino av. 53, Mr Algirdas Sysas, Member of the Parliament, Deputy Chair of the Parliament of the Republic of Lithuania, Contact person Ms Anna Kuznecoviene, assistant | Approx. 15:15–16:00                                                                 |
|          |                | · Vilnius Region Central Policlinics DOTS cabinet, Contact person doctor Vida Žvirblienė, Address Laisvės pr. 79 |                                                                             |
|          |                | · National Public Health Centre Vilnius Department, Contact person |                                                                             |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>16:30–17:30</td>
<td>Giedrė Aleksienė, National Public Health Centre Vilnius Department, Address Kalvarijų g. 153</td>
</tr>
<tr>
<td>19 October 2016, Wednesday</td>
<td></td>
</tr>
<tr>
<td>07:30</td>
<td>Leaving to Alytus (accompanying persons Romalda Baranauskienė, Vytenė Jankauskiene, Ingrida Zurlytė)</td>
</tr>
<tr>
<td>Approx.</td>
<td>Alytus Polyclinics, DOTS cabinet</td>
</tr>
<tr>
<td>9:00–9:45</td>
<td>Doctor Strazdas</td>
</tr>
<tr>
<td>Approx.</td>
<td>Alytaus apskrities tuberkuliozės ligoninė (Alytus Region Tuberculosis Hospital)</td>
</tr>
<tr>
<td>10:00–12:00</td>
<td>Contact person: Director Romualdas Radivonas</td>
</tr>
<tr>
<td>12:00–13:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>Approx.</td>
<td>Laisvės atėmimo viety ligoninė (Central Prison Hospital, Pravieniškës)</td>
</tr>
<tr>
<td>14:00–15:00</td>
<td>Contact Person: Birutė Semieniene, Head, Health Care Division, Prisons Department under the Ministry of Justice</td>
</tr>
<tr>
<td>Approx.</td>
<td>Kauno Klinikos Hospital of Tuberculosis of the Hospital of Lithuanian University of Health Sciences</td>
</tr>
<tr>
<td>16:00–17:30</td>
<td>Contact person Professor Dr Skaidrius Miliauskas, Head of Hospital of Tuberculosis</td>
</tr>
<tr>
<td>17:30</td>
<td>Departure to Klaipėda</td>
</tr>
<tr>
<td>20 October, Thursday</td>
<td></td>
</tr>
<tr>
<td>08:30–15:30</td>
<td>Visit of facilities in Klaipėda (accompanying persons Romalda Baranauskienė, Vytenė Jankauskiene)</td>
</tr>
<tr>
<td>Approx.</td>
<td>Centre of Mental Health of Klaipėda (Galinio pylimo g. 3)</td>
</tr>
<tr>
<td>8:30–9:30</td>
<td>Contact person chief doctor Aleksandras Slatvickis.</td>
</tr>
<tr>
<td>Approx.</td>
<td>Low-threshold facilities</td>
</tr>
<tr>
<td>10:00–12:00</td>
<td>Contact person: Snieguolė Dapšienė, social worker</td>
</tr>
<tr>
<td>12:00–13:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>Approx.</td>
<td>TB Division of Republican Klaipėda Hospital</td>
</tr>
<tr>
<td>13:30–15:30</td>
<td>Contact person Romualda Gylienė, Address P. Lideikio g. 2, Klaipėda</td>
</tr>
<tr>
<td>15:30–19:00</td>
<td>Journey to Vilnius</td>
</tr>
<tr>
<td>21 October 2016, Friday</td>
<td></td>
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<tr>
<td>08:00–10:00</td>
<td>Working meeting of all reviewers: finalization of the results of the visits of the</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
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<tr>
<td>10:30–12:30</td>
<td>Briefing of the representatives of the Ministry of Health</td>
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<tr>
<td></td>
<td>Venue: Ministry of Health, room 318</td>
</tr>
<tr>
<td>12:30–13:30</td>
<td>Lunch Meeting with Lina Treigutytė, President, STOP TB Lietuva and</td>
</tr>
<tr>
<td></td>
<td>Administrator, Charity and Support Fund “Saulės smiltys”; Marija</td>
</tr>
<tr>
<td></td>
<td>Dubickienė, Founder of Charity and Support Fund “Saulės smiltys”</td>
</tr>
<tr>
<td>13:30</td>
<td>Departure</td>
</tr>
</tbody>
</table>
Annex 4

MISSION ORGANIZATION AND PARTICIPANTS

The Programme review will be jointly undertaken by the WHO and ECDC and led by the WHO Regional Office for Europe.

**International team members:**
- Dr Masoud Dara: Review mission leader, WHO Regional Office for Europe
- Dr Manfred Danilovits: WHO Consultant
- Dr Soudeh Ehsani: WHO Regional Office for Europe
- Dr Marieke Van der Werf: European Centre for Disease Control
- Ms. Oxana Rucsineanu: TB People, TB Europe Coalition

**National team members:**
- Dr Romalda Baranauskienė: Deputy Director, Personal Health Care Department, Ministry of Health of the Republic of Lithuania
- Ms Edita Bishop: Head Primary Health Care Coordination Division, Personal Health Care Department, Ministry of Health of the Republic of Lithuania
- Dr Edita Davidavičienė: Head, State Information System of Tuberculosis
- Dr Loreta Ašoklienė: Head of Epidemiological Surveillance Division, Public Health Department, Ministry of Health of the Republic of Lithuania
- Ms Vytenė Jankauskienė: Chief Specialist, Primary Health Care Coordination Division, Personal Health Care Department, Ministry of Health of the Republic of Lithuania
Annex 5

LIST OF PARTICIPANTS OF THE REVIEW

Review members (international)

Dr Masoud Dara, Team Leader and Tuberculosis Programme Manager, Joint Tuberculosis, HIV/AIDS & Hepatitis Programme
Dr Soudeh Ehsani, World Health Organization Regional Office For Europe Technical Officer, Tuberculosis Programme Manager, Joint Tuberculosis, HIV/AIDS & Hepatitis Programme
Dr Marieke van der Werf, World Health Organization Regional Office For Europe European Centre for Diseases Prevention and Control (ECDC) Team Leader and Tuberculosis Programme Manager

Oxana Rucsineanu, TB Europe Coalition, TB Patient Association, Republic of Moldova
Dr Manfred Danilovits, WHO TB consultant, Tartu University Hospital, Lung Clinic, Estonia

Review members (national)

Dr Romalda Baranauskienė, Deputy Director, Personal Health Care Department, Ministry of Health of the Republic of Lithuania
Edita Bishop, Head, Primary Health Care Coordination Division, Personal Health Care Department, Ministry of Health of the Republic of Lithuania
Loreta Ašoklienė, Head of Epidemiological Surveillance Division, Public Health Department, Ministry of Health of the Republic of Lithuania
Vytenė Jankauskienė, Chief Specialist, Primary Health Care Coordination Division, Personal Health Care Department, Ministry of Health of the Republic of Lithuania
Dr Edita Davidavičienė, Head, Division of Programs and State Information System of Tuberculosis, Vilnius University Hospital Santariškių Klinikos

Participants of the meetings and discussions

Valentin Gavrilov, Vice-Minister of Health, Ministry of Health of the Republic of Lithuania
Gita Krukienė, Director, Department of Pharmacy, Ministry of Health of the Republic of Lithuania

Professor Dr Edvardas Danila
Professor Dr Saulius Čaplinskas

Algirdas Sysas, Member of the Parliament, Deputy Chair of the Parliament of the Republic of Lithuania; Member of the Global TB Caucus
Lina Treigutytė  
President, STOP TB Lietuva; Administrator, Charity and Support Fund “Saulės smiltys”

Marija Dubickienė  
Founder of Charity and Support Fund “Saulės smiltys”

Dr Audronė Astrauskiénė  
Deputy Director, Public Health Department, Ministry of Health of the Republic of Lithuania

Dr Nerija Kupreivičienė  
Chief Specialist, Epidemiological Surveillance Division, Public Health Department, Ministry of Health of the Republic of Lithuania

Jurgita Pakalniškiénė  
Chief Specialist, Epidemiological Surveillance Division, Public Health Department, Ministry of Health of the Republic of Lithuania

Justina Steniukaitė  
Chief Specialist, International Cooperation Division, Ministry of Health of the Republic of Lithuania

Gražina Bobelienė  
Head, Division of Pharmacy Activities, Pharmacy Department, Ministry of Health of the Republic of Lithuania

Neringa Bernotienė  
Deputy Director, National Health Insurance Fund under the Ministry of Health of the Republic of Lithuania

Lina Reinartienė  
Head, Division of Supplies for Health Care Institutions, National Health Insurance Fund under the Ministry of Health of the Republic of Lithuania

Daiva Berūkštienė  
Head, Division of Services Expertise and Control, Health Care Services Department, National Health Insurance Fund under the Ministry of Health of the Republic of Lithuania

Oksana Burokienė  
Chief Specialist, Division of Services Expertise and Control, Health Care Services Department, National Health Insurance Fund under the Ministry of Health of the Republic of Lithuania

Nijole Bielinienė  
Chief Specialist, Health Care Human Resources Management Division, Health Care Resources Surveillance and Innovations Management Department, Ministry of Health of the Republic of Lithuania

Evaldas Stropus  
Head, Health Care Human Resources Management Division, Health Care Resources Surveillance and Innovations Management Department, Ministry of Health of the Republic of Lithuania

Edita Vasiliauskienė  
Head, Tuberculosis Laboratory, Vilnius University Hospital Santariskių Klinikos

Tatjana Paldauskienė  
Head, Drug Resistant Tuberculosis Department of Vilnius University Hospital Santariskių Klinikos

Dr Arvydas Šilys  
Adviser to General Director, Vilnius University Hospital Santariskių Klinikos

Virginija Žilėnaitė-Puodžiuviénė  
Head, Medicines Safety and Information Unit, State Medicines Control Agency at the Ministry of Health of the Republic of Lithuania

Aušra Širvinskienė  
Deputy Director, Vilnius Centre for Addictive Disorders

Natalja Kečina  
Deputy Chief Doctor for Primary Personal Health Care, Vilnius Region Central Polyclinics
Galina Skvarciany  
Deputy Chief Doctor for Secondary Personal Health Care, Vilnius Region Central Polyclinics

Zita Tripolina  
Chief Nursing Administrator, Vilnius Region Central Polyclinics

Robertas Petraitis  
Deputy Director, National Public Health Centre

Giedrė Alekšienė  
Head, Communicable Diseases Management Division, National Public Health Centre

Ingrida Skridailienė  
Head, Public Health Safety Control Division, National Public Health Centre

Asta Razmienė  
Head, Public Health Safety Control Division, Vilnius Department of the National Public Health Centre

Dr Romualdas Radionas  
Director, Alytus Region Tuberculosis Hospital

Birutė Semėnaitė  
Head, Health Care Division, Prisons Department under the Ministry of Justice

Visvaldas Dailyda  
Acting Deputy Director, Central Prison Hospital

Professor Skaidrius  
Head, Hospital of Tuberculosis, Hospital of Lithuanian University of Health Sciences “Kaunas Clinics”

Romualda Gylienė  
Head, Tuberculosis Affiliation of Republican Klaipėda Hospital

Rimantas Jonas Pilipavičius  
Director, National Public Health Centre Klaipėda Department

Brigita Kairienė  
Head, Communicable Diseases Management Division, Klaipėda Department of the National Public Health Centre

Ingrida Zurlytė  
Head, WHO Country Office, Lithuania

Martynas Šatinskas  
Secretary, WHO Country Office, Lithuania