Technical assistance for strengthening the framework on TB/HIV collaborative activities in the Republic of Moldova

Final report
January 2018

WHO Collaborating Centre
for TB/HIV and TB Elimination

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Executive summary

Moldova has a decreasing but still high tuberculosis (TB) epidemic and multidrug resistant-TB (MDR-TB) is clearly recognized as a public health emergency. TB services are strong and effectively organized. HIV co-infection affects a limited fraction of TB patients (< 10%) and does not impact the overall TB epidemic, although the effect of HIV on MDR-TB is not clearly elucidated.

The HIV epidemic is concentrated: the public health approach to the epidemic is in a younger phase compared to that against TB. HIV services decentralization is still in the initial phase (7,000 PLHIV in care). Although HIV national stakeholders aim at universal access, people affected by HIV sometimes report difficult access to HIV services. There is ongoing discussion on decentralization by involving the infectious diseases cabinets, though this is still in an initial phase.

TB is by far the greater killer of people living with HIV (PLHIV), yet, HIV services are not in the driving seat of TB prevention and early diagnosis. Limited antiretroviral (ARV) coverage and suboptimal retention in care of those diagnosed with HIV in the earlier decades further challenge TB prevention and early diagnosis among PLHIV.

The main objective of strengthened TB/HIV interventions in Moldova should be the reduction of mortality in dually affected patients. This could be obtained through three main directives:

1. Improve early HIV diagnosis, linkage to care and retention in care for PLHIV. The result would be a lower incidence of TB through better prevention by ART and isoniazid preventive therapy (IPT). These interventions depend fundamentally by the strengthening of the National AIDS Programme (NAP).
2. Improve TB screening and early TB diagnosis and scale-up of IPT for PLHIV. These interventions fall under the primary responsibilities of the HIV clinic network, but require an effective referral system towards TB services and efficient collaboration with TB services for timely initiation of TB treatment.
3. Improve care for patients with dual HIV and TB disease. This requires timely ARV initiation (dependent on HIV testing strategy and HIV service effectiveness) and optimal matching between *M.tuberculosis* strain sensitivity and TB treatment regimens (dependent on laboratory and TB services effectiveness). This also requires strengthen case holding, especially for MDR-TB/HIV cases, possibly through scale-up of community care interventions in collaboration with the civil society.

Referral systems between services should be set-up and optimized to meet the needs of affected populations. Regular presence of ID specialist at TB hospitals should be ensured to guarantee timely and appropriate delivery of HIV care in TB patients. Regular presence of TB specialist at HIV clinics should be ensured to facilitate diagnostic algorithms and early TB treatment initiation.

To facilitate planning and monitoring and evaluation, and to provide a ground for regular exchange of opinions, a TB/HIV working group should be established at the Ministry of Health. The performance of TB/HIV interventions should be monitored based on a set of indicators shared by the TB and HIV programs, with results being summarized in yearly reports.

To standardize and enhance the quality of TB/HIV care a clinical protocol for TB/HIV activities should be prepared and endorsed, which should include the following main items:

1. Definition of shared responsibilities between TB and HIV services and description of referral pathways, with adoption of tools for the evaluation of referral effectiveness
2. Early detection of TB among HIV patients by clinical screening and standardized diagnostic algorithms
3. Empowerment of HIV services in the TB diagnostic process and better integration with curative TB services
4. Scale-up of IPT of isoniazid-based prevention of TB among all PLHIV

5. Management of the risk of TB infection based on administrative procedures, which include a shift from hospital to ambulatory care of TB patients

Background

The Republic of Moldova is situated in Eastern Europe; it regained independence from the Soviet Union in 1991. At the beginning of 2014, the total population was 4.0 million including the separated region of Transnistria (with about 0.51 million population).

Despite substantial improvements in the health system performance, the consolidation of TB control efforts during the last decade, and increased Government financial commitments, TB remains an important public health problem. Similar to other former Soviet Union (FSU) countries, drug-resistant MDR-TB is the most acute challenge. The Ministry of Health and the National TB Program (NTP) recognize that the system of TB care delivery requires further transformation to function effectively and efficiently for ensuring proper TB control. The emergence of M/XDR-TB poses a new burden on health systems in general and Primary Health Care (PHC) in particular: M/XDR-TB management is complex, lengthy and costly and requires systems for cooperation between different care providers, enhanced clinical skills, motivation of PHC staff and, importantly, shifts towards ambulatory care, acceptance of patient-centered practices, and multidisciplinary models of care.

In view of complex and costly MDR-TB management interventions, in 2014, the Republic of Moldova applied for new TB grant under the new financing mechanisms (NFM) of the Global Fund to fight Tuberculosis, AIDS, and malaria (GFTAM.) The project was built on lessons learned during the implementation of previous Global Fund grants and existing capacity to address programmatic and financial gaps. The project was an integral element of the NTP and involved relevant governmental stakeholders and non-governmental organizations (NGOs). The overall Goal of the project was to reduce the burden of TB (including M/XDR-TB) in Moldova by ensuring universal access to quality diagnosis and treatment, implementing sustainable patient-centered approaches, addressing the needs of high-risk groups and strengthening NTP management capacity.

TB/HIV co-infection is a growing public health concern in Moldova. While the programmatic and funding needs in this regard are mainly covered from domestic and external sources, such as provision of antiretroviral (ARV) treatment and HIV testing (cost sharing between the Government and pipeline NFM HIV project), it is recognized that specific aspects of TB/HIV collaboration need strengthening and alignment to the up-to-date international policies and standards. To improve TB/HIV co-infection management, the TB grant foresees targeted support to further developing national capacities and improving collaboration between TB services and HIV services, in line with the latest international guidance.

The present technical report is the product of a contract between the Center PAS and the writer to provide technical assistance for TB and HIV programs with the following objectives:

- To review the legal, regulatory and procedural framework of TB/HIV collaborative activities in the Country
- To support TB and HIV programmes to strengthen the management of TB/HIV co-infection through revision and adjusting of the regulatory and procedural framework in order to increase the quality of life of persons living with HIV
- To guide and assist in the revision and adjustment of the TB/HIV guidelines.

As part of the mission, the writer performed a 6-day mission to the Country in September 2017, and he assisted in the organization and implementation of a one-day consensus workshop for the preparation of national TB/HIV guidelines in November 2017.

The present report does not exhaustively discuss the situation of TB/HIV problem and response in Transnistria, because during the mission it was not possible to visit the region. However, it is generally recognized that Transnistria has a higher burden of TB, MDR-TB and HIV compared to the Right Bank, coupled by a lower availability of financial resources for an appropriate response.

This report does not explore in depth the problem of TB/HIV in the penitentiary system, as well.

EPIDEMIOLOGICAL SITUATION AND HEALTH SYSTEM STRUCTURE

Tuberculosis

Moldova is a high incidence Country for TB, although it is not included in the WHO list of priority countries. According to the 2017 Global TB report of the WHO, the estimated TB incidence in Moldova in 2016 was 101 /100,000 (C.I. 87 – 117 100,000), with 4,100 estimated incident cases (C.I. 3,500 – 4,700).

The estimated number of deaths and mortality rate were 260 (C.I. 240 – 270) and 6.3 / 100,000 (C.I. 5.9 – 6.7 / 100,000) respectively.

In 2016 the total notified TB cases was 4,134 (greater than the number of estimated cases), of whom 3,571 were new and relapse cases. Of these cases, 91% were pulmonary, of whom 62% were bacteriologically confirmed.

The treatment success rate in the 2015 cohort was 80% among new and relapse cases, and 47% among previously treated cases.

Moldova is included by the WHO in the list of high-burden MDR-TB countries for the period 2016–2020.

The 2016 WHO estimates for Moldova are:

- 26% (C.I. 24% – 28%) of new cases are MDR-RR TB
- 56% (C.I. 51% - 60%) of previously treated cases are MDR-RR TB
- 2,300 (C.I. 1,900 – 2,600) incident cases are MDR-RR TB
- 56/100,000 (C.I. 47 – 65/100,000) incidence rate of MDR-RR TB
- 97% of RR TB are MDR-TB

The trend in the number of MDR/RR-TB detected in the period 2009 – 2016 remained stable. Moldova is one of the few countries in the world to have completed three MDR-TB surveys and have data on the trend in drug resistance. Based on these data, there is a slight trend for cases of MDR-TB to increase as a proportion of all TB cases, with the burden of MDR-TB decreasing more slowly than the overall TB burden.

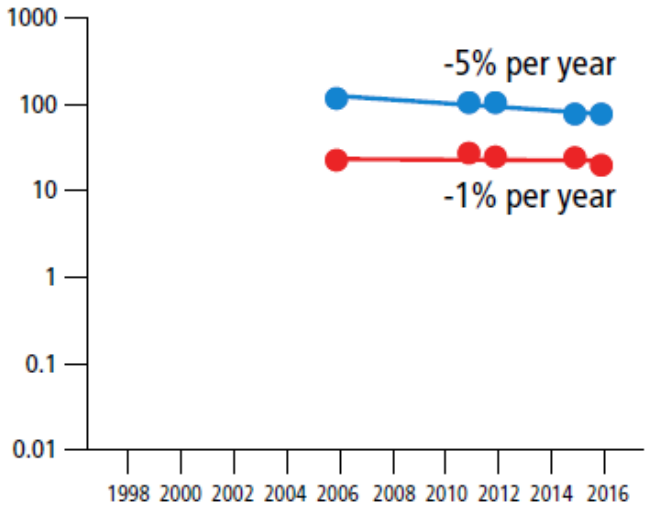


Figure*. The blue line shows the number of new notified MDR-TB cases per 100 000 population. The red line shows the number of MDR-TB cases among new TB patients per 100 000 population.*

Moldova is one of the few countries reporting that more than half of their notified TB cases (51%), had received a rapid molecular test as the initial diagnostic test.

Similarly, the country reported that 86% of the bacteriologically confirmed TB cases had a DST result for rifampicin, and that 84% of RR-TB cases had a DST results for fluorquinolones and second line injectable agents.

The proportion of detected MDR –RR TB cases enrolled on MDR-TB treatment increased progressively and reached virtual 100% coverage after 2014. However, the estimated treatment coverage for MDR/RR-TB (patients started on treatment for MDR-TB as a percentage of the estimated incidence of MDR/RR-TB) was as low as 40% in 2016.

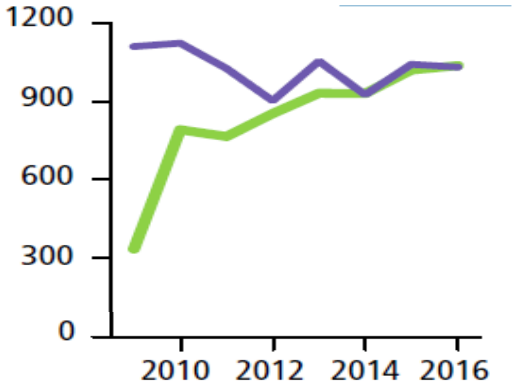


***Figure**. Number of MDR/RR-TB cases detected (purple) and enrolled on MDR-TB treatment (green), 2009–2016.*

The treatment outcome for RR-TB cases started on treatment in 2014 was successful in 50% of the cases, with quite similar distribution of the remainders among failure, death, and loss to follow-up. Among nine cases with XDR-TB, treatment success further decreased to 33%.

HIV

Available data suggest that the HIV epidemic in Moldova has transitioned from an early concentrated epidemic in which the highest rates of transmission were among people who inject drugs (PWID), to an advanced concentrated one, in which onward transmission to sexual partners of PWID and other key populations has become a source of new infections. There is evidence of an increasing contribution of sex workers (SW) and men who have sex with men (MSM) to the epidemic.

According to 2017 UNAIDS data the estimated number of PLHIV in Moldova at the end of 2016 was 15,000 (C.I. 11,000 – 21,000) with an increasing trend. The prevalence of infection in the population aged 15-49 was 0.6%.

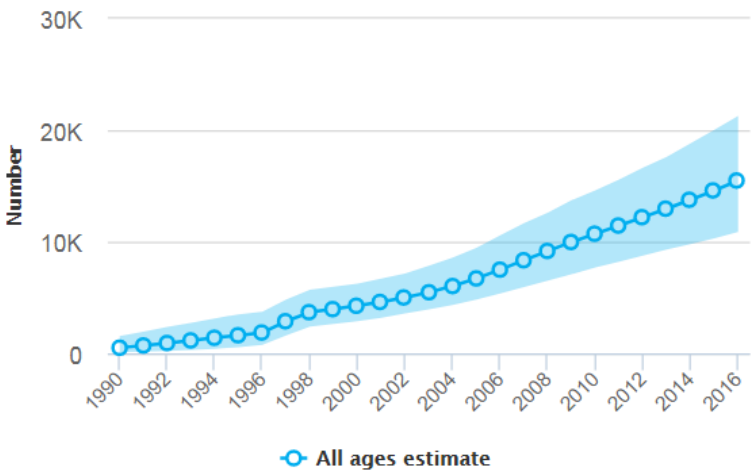


***Figure**. Estimated number of PLHIV, 1990–2016 (Source UNAIDS 2017).*

The number of adults and children newly infected by HIV in 2016 was 1,600 (C.I. 1,000 – 2,400). The trend of new infections is also in continuously increasing trend.

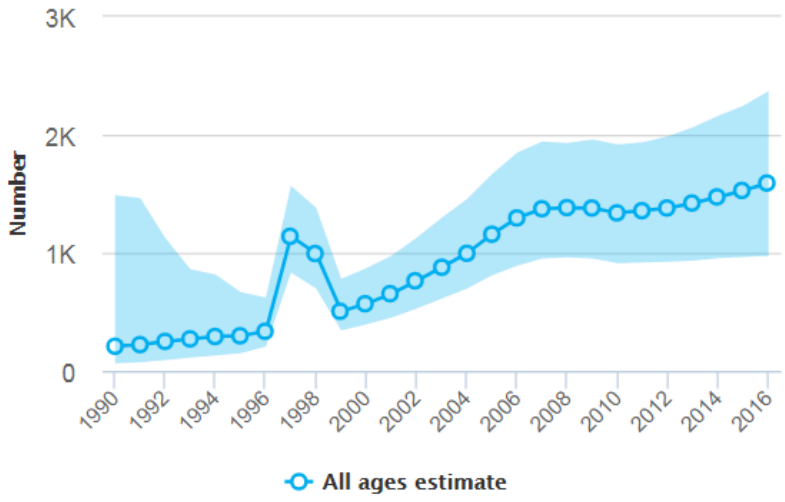


***Figure**. Estimated new HIV infections (all ages), 1990–2016 (Source UNAIDS 2017).*

The number of HIV related deaths had not reached a plateau yet.

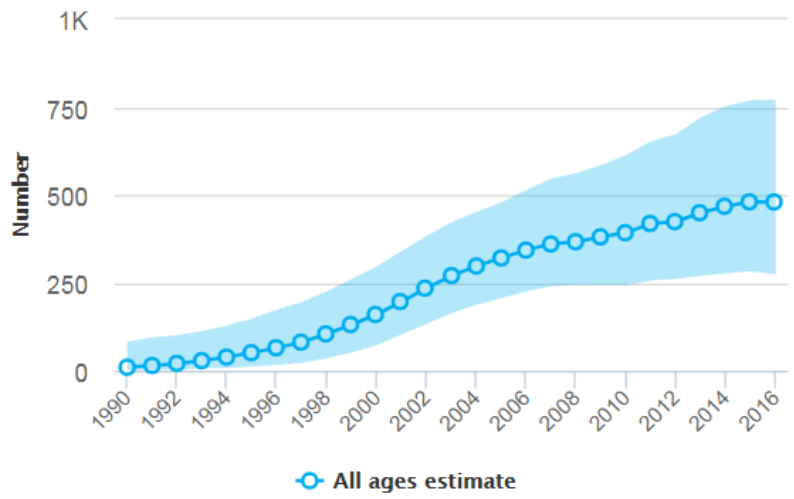


***Figure**. AIDS related deaths (all ages), 1990–2016 (Source UNAIDS 2017).*

According to the UNAIDS, the HIV testing and treatment cascade had incomplete data for 2016,

for the absence of estimates of the number of PLHIV diagnosed and those on care. The estimate for ARV treatment coverage was 29% (4,500 on AV of the estimated 15,000 PLHIV) and that of viral suppression 73% (3,300 with viral suppression).

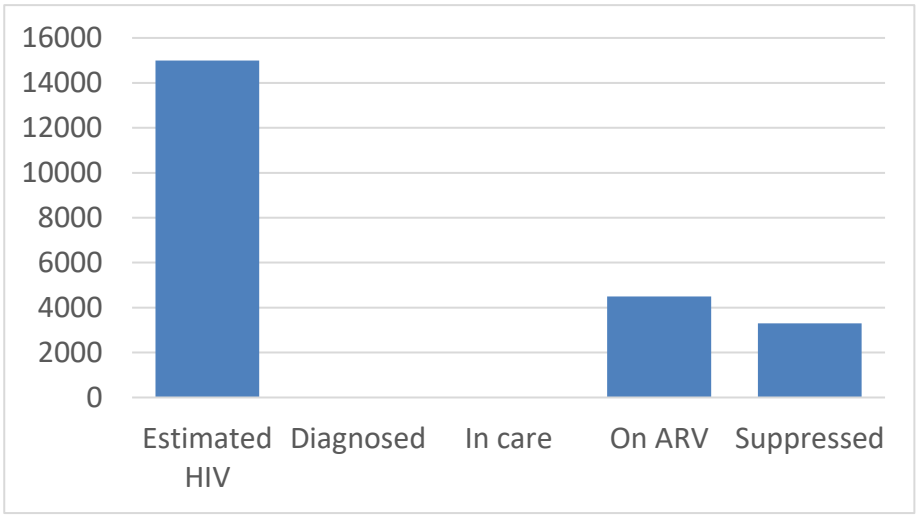


***Figure**. HIV testing and treatment cascade, 2016 (Source UNAIDS 2017).*

The trend in HIV treatment coverage is increasing but remains at a very low level

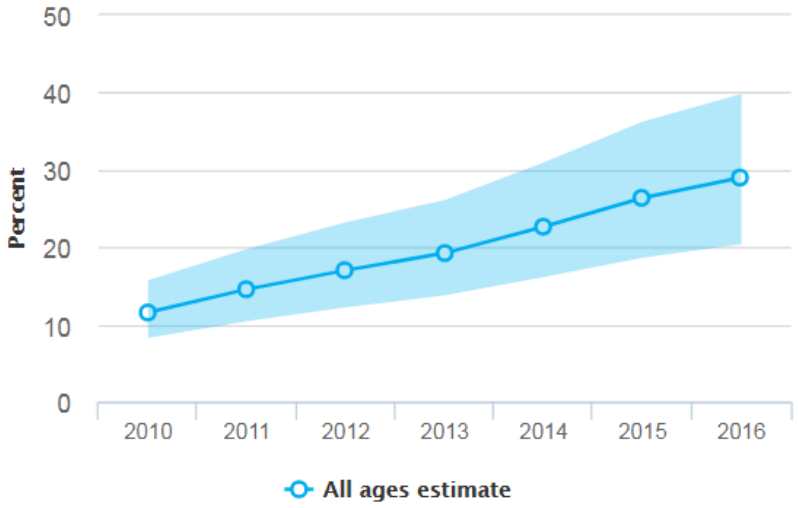


***Figure**. Coverage of people receiving ART (all ages), 1990–2016 (Source UNAIDS 2017).*

The number of PLHIV who initiated ARV in 2016 was 924.

Data on retention in care are available for the 2014 cohort: of 899 PLHIV who had started treatment in that year, 755 (84%) were still on treatment at the end of 2014. One of the determinants of default from HIV (and TB) care is population movements: in the current economic situation, a significant proportion of the Moldovan population travel for work in and out of the Country, thus disrupting the continuity of care.

According to the data reported by the AIDS control program, at the end of 2016 the cumulative number of persons living with HIV registered in Moldova was 11 043 with a male: female ratio of 1.38. HIV prevalence in the general population was 0.2%. At the end of 2016 there were 7,906 people living with HIV registered in Republic of Moldova (5,340 people on the right bank and 2,566 on the left bank of Nistru river).

The number of new HIV diagnoses in 2016 was 832 (incidence of 0.2 / 1,000 population), basically unchanged over the last decade.

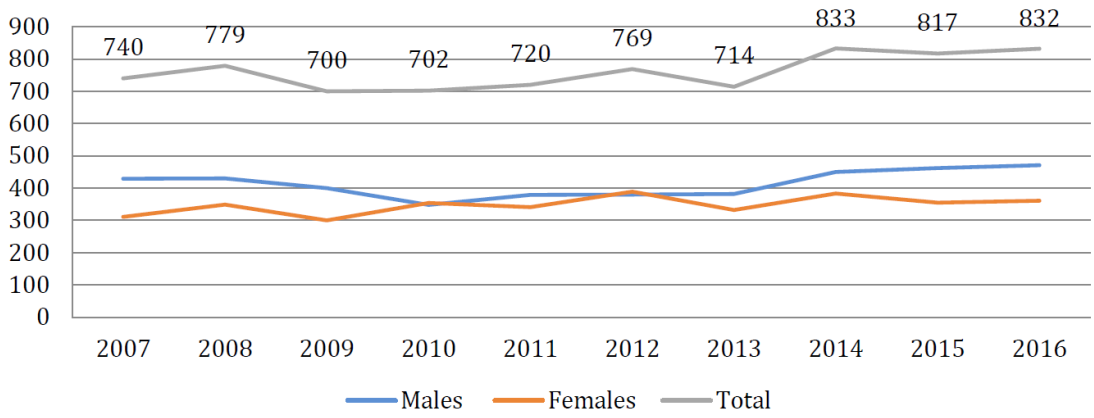


***Figure**. Number of new HIV+ registered cases in Moldova, 2007-2016 (Source NAP Moldova).*

The predominant mode of HIV transmission in 2016 remained heterosexual sex that accounted for 85.8% of new cases. No substantial gender difference was observed. Incidence was approximately three-fold higher in left bank compared to right bank.

Altogether, reported cases represented 52.7% of the estimated number of PLHIV being present in the Country in 2016.

Data show that the share of cases found in the prevention programs were about 35.9% of all cases reported in 2016. The majority of newly identified cases were presenting to hospitals with symptoms, as pregnant women or for voluntary testing.

About 50% of new diagnosed cases in 2016 are at the AIDS stage. The level of CD4 cell count at HIV diagnosis was known for 642 (77.2%) PLHIV newly diagnosed in 2016: of them 309 (48.1%) had late diagnosis (CD4 < 350) and 229 (35.7%) very late diagnosis (CD4 < 200).

The cumulative number of AIDS related death at the end of 2016 was 3,137. There were 157 registered deaths among PLHIV in 2016, with a mortality of 3.9 / 100,000. This rate was two-fold higher in the left bank compared to the right bank.

There are seven facilities dispensing ARV (4 in the right bank, 3 in the left bank), none experienced ARV stock-outs in 2016.

According to current ARV treatment guidelines the cumulative number of PLHIV who are eligible for ARV is 5,506 and 4,491 (81.6%) have started it. The number of PLHIV who have started ARV in 2016 was 924.

Viral load was assessed in 3,389 treated PLHIV (75.5%) and it was undetectable in 2,509 (74.0%).

In 2015 of the 954 PLHIV who had started ARV, 797 (83.4%) were still on treatment after 12 months. Of the remaining PLHIV 43 (4.5%) were known to have died, 111 (12.0%) had stopped therapy, and 3 (0.3%) were lost to follow-up.

TB/HIV

According to the WHO Global TB report 2017 the estimated number of TB/HIV co-infected patients in 2016 was 370 (C.I. 310 – 430), with an estimated incidence rate of 9.2 /100,000 (C.I. 7.8 – 11 / 100,000). The estimated number of deaths was 62 (C.I. 46 – 80), with a mortality rate of 1.5 / 100,000 (C.I. 1.1 – 2 / 200,000). The number of TB/HIV deaths in 2016 was 62 (C.I. 46 – 80) with a fatality rate of 17%.

According to national reports, of the 829 PLHIV newly diagnosed in 2016 112 (13.5%) had TB. The number of notified TB/HIV cases in 2016 was 293 (79.1% of the estimates). The number is still on the increase.

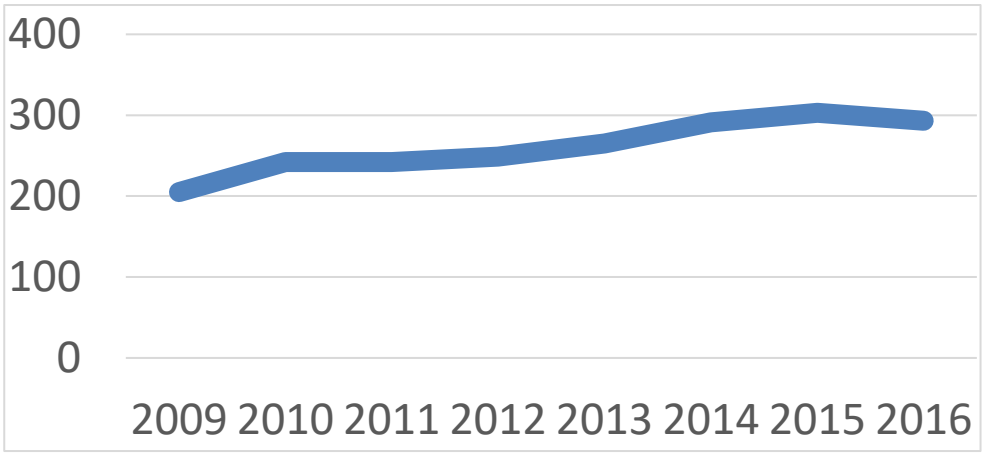


***Figure**. Number of reported TB/HIV cases, 2009-2016 (Source: SIME-TB, Republic of Moldova).*

The proportion of new and relapse notified TB cases who knew their HIV status was as high as 94%. HIV positivity rate among TB patients was 8.2%.

Among all HIV deaths, about 67.4 % are HIV related, the main death cause remaining TB - 52.9%.

Of the 829 PLHIV newly diagnosed in 2016 112 (13.5%) had TB.

The TB treatment success rate in PLHIV in the 2015 cohort (n=227) was only 55%.

According to NAP data, ARV coverage of TB/HIV patients increased from 39% to 48% and 69% in 2014, 2015, and 2016.

During 2016, there were 193 (52.2%) PLHIV who developed TB and received ARV.

None of the newly diagnosed PLHIV was started on preventive therapy.

The treatment success rate in the 2015 cohort (n=227) was only 55%. The proportion of people dying during TB treatment remained very high in both the TB-susceptible and the MDR-TB cohorts.

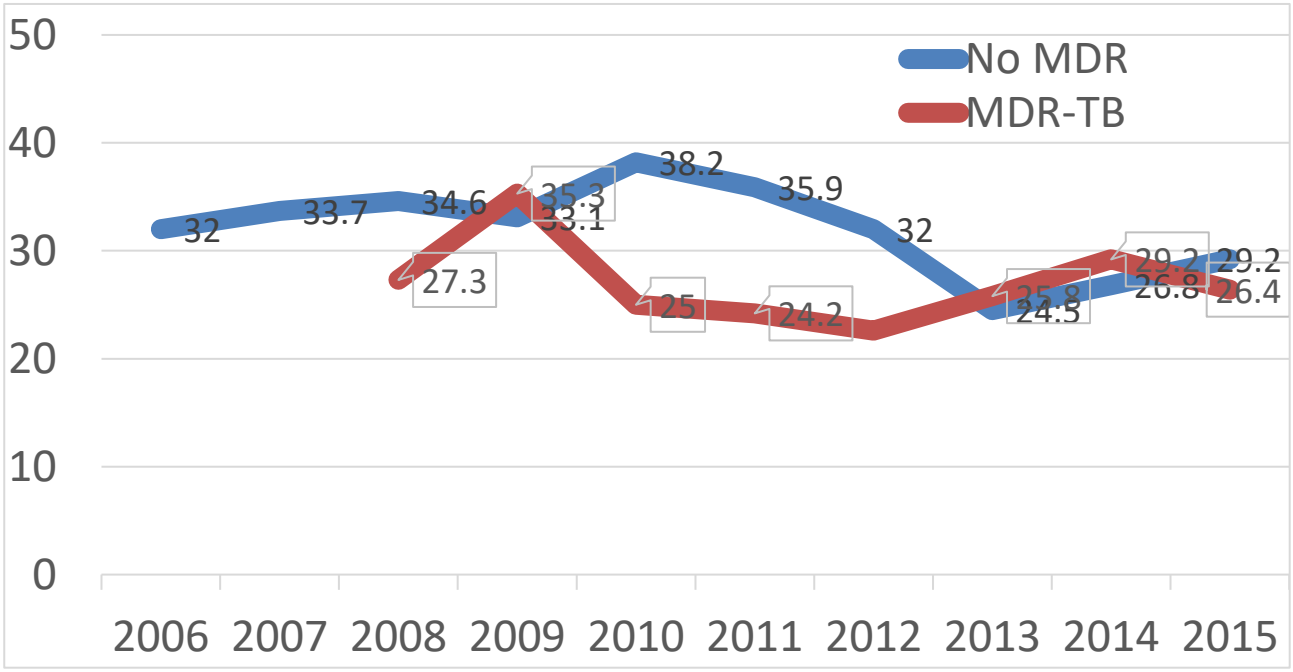


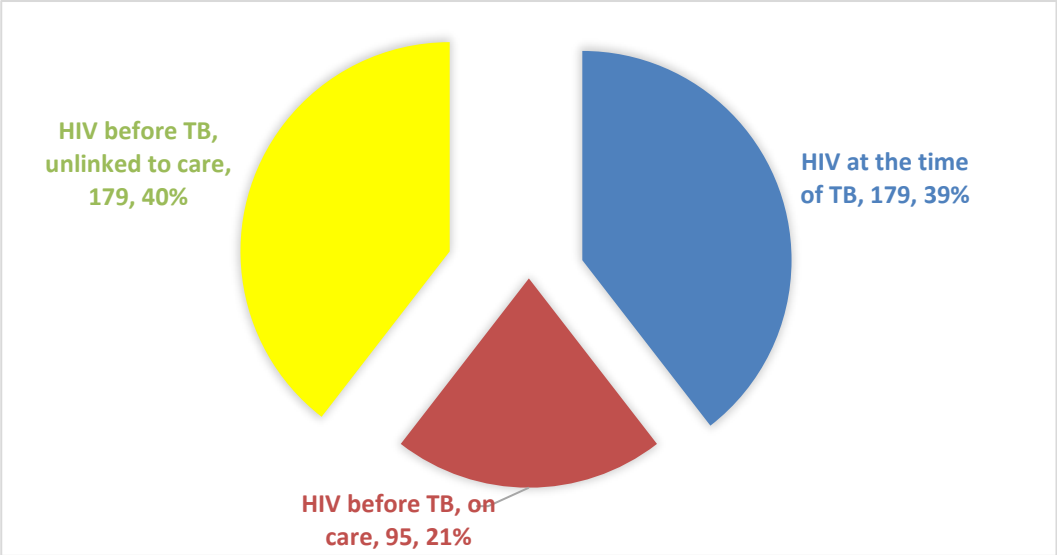
***Figure**. Proportion of TB/HIV cases dying during TB treatment, 2006-2015 (Source: SIME-TB, Republic of Moldova).*

The AUDIT of TB/HIV cases performed by PAS in 2016 (2012 – 2014 data) provides important clues on strengths and challenges of clinical management of TB/HIV in Moldova.

TB was diagnosed before or at the same time with HIV in 33.9% of cases, for another 24.7% TB was diagnosed within the first year after HIV diagnosis and for another fifth (20.7%) TB was diagnosed within 1-3 years after HIV diagnosis, and only for 20.7% TB occurred after 3-10 years after HIV diagnosis.

TB/HIV co-infection was common among late HIV presenters, as 40.0% were in stage C of HIV disease according to CDC classification. Among those who had lab exams performed, 46.1% had CD4 counts < 200 cells/mm3, and another 35.4% had CD4 counts between 201 and 499 cells/mm3.

- of 498 TB/HIV cases analyzed, 274 (63.9%) were aware of their HIV status at the moment of TB diagnosis, however 34.9% of patients were not registered in SIME-HIV (Figure)
- The majority were not on ART at the time of TB onset: a) 49% started ART within 8 weeks from TB treatment; b) 19% started ART after 8 weeks; c) 31% died before ART initiation
- For those with performed blood test (n=441), the average CD4 count was 284 cells/mm^3.
- Only 48.0% of TB/HIV patients had a consultation provided by ID specialist while in a TB hospital
- 10.3% of TB/HIV patients did not see an ID specialist throughout the duration of TB treatment.
- TB treatment outcome in the audited cohort confirmed official data: success rate 54.4%, death 26.4%, lost to follow-up 9.1%, treatment failure 5.2%, still on MDR TB treatment 3.8%. According to national mortality database, 39.4% of the audited cohort died in the reporting period.
- 97.5% of the cases were tested by microscopy (40.0% positive) and 95.3% examined by culture (57.8% positive). Overall, in almost 50% of the cases there was no information on the sensitivity status of the strain
- Of those with positive microbiology, drug sensitivity test (DST) was performed by phenotypic methods in 94.2% and 65.7% using Xpert MTB/RIF and 13.3% using rapid molecular methods.
- Data on treatment regimens among 135 MDR-TB/HIV patients showed that 93.1% started a standard 1st line TB regimen, 5.7% a standard 2nd line regimen, and 1.2% had individual regimen prescribed. At a later stage, the TB regimen was changed according to the type of resistance in 86 patients.
- On average it took 15 days from TB notification until the first pill was taken by the patient
- Treatment was initiated in a hospital setting in 79.1% of the cases, in an outpatient facility in 14.7% and in the in the penitentiary hospital in 6.2% of the cases
- With regards to TB case holding, of 435 TB/HIV patients who started TB treatment in hospital 33.8% either passed away or were lost to follow up, 66.2% continued treatment in outpatient facilities: 48.1% by family doctors, 29.8% by phthisiopneumologist in a city centre, 16.7% by phthisiopenumologist in a district center, and 5.4% by directly observed treatment (DOT) supporters part of NGOs and community centers.



Health system effectors of TB/HIV response

The public health response to TB and HIV is delegated to national programs that operate as vertical entities. Cooperation with the PHC network is envisaged, but far from being effectively implemented so far.

The state policy in the area of HIV/AIDS in Moldova is implemented through the National Program on Prevention and Control of HIV/AIDS and STI for 2016–2020 (NAP), approved by the Government Decision on 22 October 2016.

The overall coordination and oversight of the NAP is realized through the National Coordination Council for HIV, an inter-ministerial and intersectorial decision-making body that has under its auspices seven functional working groups and a permanent Secretariat.

The Hospital of Dermatology and Communicable Diseases (HDCD) is responsible for the overall coordination of prevention, diagnosis, care and support of PLHIV. In an integrative manner, the hospital, thereby, coordinates voluntary counselling and testing (VCT), the laboratory service, treatment, treatment monitoring, and palliative care and STI care. It incorporates the M&E unit.

The updated NAP pays greater attention to synergistic activities with other national programs, including TB, aiming at preventing and treating HIV among people with comorbidities.

Eight centres in the Country deliver ARV: four on the right bank (Chisinau, Balti, South Cahul, and one center in prison n. 16 for the penitentiary system). Transnistria has a separated system with 4 centres. Inpatient care is available only in Chisinau and in one hospital in Transnistria. It has been calculated that the maximum distance for PLHIV to reach the closer HIV centre is 130 Km. There is a proposal to establish ten additional HIV referral centres, to be placed in ten rayon centers of the right bank of Moldova. They should be positioned within the cabinets where both ID and TB specialist are available.

ARV is offered to PLHIV who have less than 500 CD4 cell /µl except for those with clinical signs of AIDS, patients with hepatitis, pregnant women, TB patients, and discordant couples. There are current plans to adopt the test and treat strategy in the Country.

Reportedly, there is no waiting list for ARV. The first line option for HIV treatment is efavirenz plus tenofovir/emtricitabine. The second line HIV regimen is based on protease inhibitors (approximately 10% of people on treatment). Darunavir is used in third line regimens (approximately 1% of people on treatment). Drugs of the integrase inhibitor class are not currently available in the Country.

PLHIV who are stable on ARV receive viral load and CD4 determinations every 6 months.

The issue of access to care for unregistered and uninsured people is controversial.

HIV guidelines are under revision, as well as screening protocols for HIV.

The national response to TB and MDR-TB is implemented by the national TB control program (NTP). Currently, the public healthcare facility Institute of Phthisiopneumology "Chiril Draganiuc" is accountable for the Program that through its constituency is performing the coordination of planning, implementation and monitoring of Program activities. The NTP operates according to the National Strategic Plan 2016-2020, a mid-term policy document covering the Governing priorities aiming at applying innovative strategies to cut down TB burden in the Republic of Moldova. The plan was developed in line with the provisions of several national laws on health care delivery, public health interventions, and prevention.

Currently, TB patients are managed in the TB sector even if they have HIV infection. There are reasons for this, including issues of infection control that cannot be ensured in ID hospital, and the fact that TB services only are entitled for reimbursement of costs associated to TB care.

Both HIV and TB programs have the mandate to deliver the respective interventions through the PHC system that, in Moldova, has been based on a family medicine model since the 1990s. Public medical facilities at primary and secondary levels belong to local public authorities and are autonomous self-financing non-profitmaking organizations that are directly contracted by the National Health Insurance Company for the provision of medical services under mandatory health insurance. PHC providers are responsible for TB treatment management after hospital discharge and early detection of TB: two performance indicators are available – TB active case finding through examination of risk groups and TB treatment completion.

The effective involvement of the PHC network in TB and HIV activities seems to be challenged by several barriers. These include: a) a high level of stigma, for both TB and HIV; b) staff shortage at PHC clinics and high staff attrition; c) weaknesses in the referral system between TB and HIV services and PHC clinics; d) lack of involvement of the PHC network in the recording and reporting system for TB and HIV; e) weakness of the training and supervision program in the PHC network.

Financing the TB and HIV response

The estimated cost per MDR-RR TB case treated in Moldova in 2016 ranges from 2,000 to over 5,000 US $.

The Republic of Moldova is one of the seven countries that have completed the surveys of costs faced by TB patients and their households. This show a high economic and financial burden due to TB disease, consistent with data showing that out-of-pocket expenditures on health account for a high proportion (>30%) of total health expenditures in most high TB burden countries.

During the last decade, the Government increased financial commitments. However, in view of complex and costly DR-TB management interventions, in 2014, the Republic of Moldova applied for new TB grant under the NFM of the GFTAM. The project is built on lessons learned during the implementation of previous Global Fund grants and existing capacity to address programmatic and financial gaps.

The Unit for Coordination, Implementation and Monitoring of the Project on Health System Restructuring (UCIMP) has served as one of the two principal recipients of GF TB and HIV grants (until December 2017), and is currently under negotiation with GF for the new grant 2018-2020 for a Joint TB and HIV proposal. The other PR has been the Centre for Health Policies and Studies (PAS).

The Ministry of Health (MoH) currently procures all first line TB drugs (FLDs) and a portion of second line TB drugs (SLDs). The Global Fund grant supports the country with procurement of the remaining portion of the SLDs. The contribution of the MoH to the procurement of SLDs increases every year.

Costs for HIV drugs used to be entirely covered on GF budget until 2014. Currently, the Government covers the costs for first line drugs, and half of the costs of second line drugs. GF continues to sustain the purchase of HIV drugs in Transnistria (until 2020), half of the costs of second line and full costs for third line HIV drugs.

GF is also supporting laboratory reagents, including HIV viral load tests, reagent for CD4 cell count, TB diagnostics including Bactec, Hein, and Xpert. The phasing out to the state of such procurement activities needs careful oversight.

Current health financing in Moldova is based on an insurance system provided by the Compania Naţională de Asigurări în Medicină (CNAM). CNAM credits the TB sector exclusively for reimbursement of any TB related intervention (diagnostic or therapeutic). Chest X-ray screening for early detection of TB can be reimbursed only if requested by the family physician (not by ID specialists at HIV clinics). This system does not facilitate the involvement of the HIV sector in TB prevention, early diagnosis, and management among PLHIV. Ideally, ID cabinets / HIV clinics should be autonomous in starting and completing the TB diagnostic procedure in PLHIV with presumptive TB.

Insurance does not cover costs of drugs or interventions to manage side effects of TB therapy in outpatients. Such costs must be covered out of the patient's pocket, and may be substantial, especially for second line treatment regimens. According to the national survey on catastrophic costs, costs of drugs for side effects represent the biggest burden for patients.

IMPLEMENTATION OF TB/HIV COLLABORATIVE ACTIVITIES

TB/HIV coordinating body

In early 2016, MOH decided to establish a TB/HIV working group. However, no functioning TB/HIV working group was available by the end of 2017.

Clinical services for TB and HIV dually affected patients

Clinical services for TB/HIV co-infected people are independently delivered by the two vertical programs (TB and HIV). Provisions of TB expertize at HIV centres and HIV expertize at TB hospital happens on occasional circumstances. There is no strategic plan to ensure that consultations from the two diseases will converge on the same patient at the right time. HIV drug are not available at TB centres and vice versa.

For outpatient care, TB and HIV services are also delivered independently, causing to affected individual the need to duplicate the consultations. Moreover, the referral of patients from one system to the other is poorly developed, with no formal procedure for referral. The outcome of referral cannot be monitored or evaluated, however significant losses may be estimated to occur, and delays are likely to lower the quality of care. Moreover, the current legal system prevents disclosure of the HIV status in a patient with TB signs or symptoms who is referred to TB specialist for a diagnostic procedure. This has a negative impact on the quality of care.

There is no current pilot of the “one-stop-shop” strategy for service delivery system.

According to interviews to both health staff and patients, there appears to be a large gap between perception of quality of care between health care deliverers and beneficiaries. The former usually report satisfaction concerning the care delivery system, while the latter tend to identify vast areas of potential improvement. This may be partly justified by the vertical structure of the two programs, and by limited awareness of the social components of the two diseases.

TB/HIV collaborative activities plan and policies

A comprehensive plan for integrated collaborative TB/HIV activities is not yet available in the country, although elements of a TB/HIV response have been included into the TB national strategic plan.

HIV testing of TB patients

The current HIV testing strategy in Moldova requires two positive ELISA from different blood samples and a confirmatory Western Blot test for a notifiable HIV case.

The testing coverage in 2016 in TB patients in Moldova appeared to be as high as 94% and the proportion of TB cases being HIV infected measured at 8.2%, with a slightly increasing trend in the last five years (see epidemiological section above).

While coverage performance is optimal, problems persist in the modality of the offer of the HIV test and the timing of HIV testing for TB patients. HIV testing of TB patients managed in hospital (currently representing the large majority of the cases), follows procedures that are well defined and organized; however, representatives of patient associations complain that clear and exhaustive information is not given and the right to refusal of the test is not discussed – patients are said to be poorly oriented on the benefits of testing, the implication of a positive test in terms of care options, quality of life and life expectancy. Current HIV testing procedures result in late HIV diagnosis in TB patients (up to one month lapse time between TB diagnosis and HIV testing) and prevents timely initiation of ARV.

Reportedly, presumptive TB patients are tested for HIV but there is no figure on number of tests performed and positivity rate.

TB screening and early detection of TB among PLHIV.

Regular TB screening and early diagnosis among PLHIV may be particularly important in Moldova because, according to available data (see audit reports), the number of TB cases who develop the disease after HIV diagnosis is higher than the number of new TB cases who have a newly identified HIV infection.

Since 2014, by order from MoH on risk groups for active TB case detection, PLHIV are listed in the vulnerable groups that should benefit of regular TB screening. According to this law, screening is requested by the GP, once per year, and based on chest X-ray, regardless of clinical symptoms. There are no available records on the coverage and yield of such screening.

In HIV clinics, TB screening is reportedly performed using the WHO/recommended questionnaire tool (4 questions), however, this activity is not recorded and reported, hence coverage and yield cannot be assessed as well.

According to conducted interviews among stakeholders, the diagnostic process for TB among PLHIV is cumbersome and lengthy, taking up to two months to be completed. The distribution of responsibilities in this process is unclear and referral mechanisms are not standardized. Cases presenting with potential signs or symptoms of extrapulmonary TB are particularly challenging.

Potentially, Xpert could be extensively used because machines are available at each HIV clinic and cartridges are purchased on GF funds. However, the site visit in Balti showed that only one of twenty PLHIV in the cohort who developed TB in 2016 was detected by Xpert performed at the HIV clinic. Most TB cases in PLHIV are diagnosed at Rayon level, rather than at the HIV clinic. Moreover, the results of Xpert are not exploited at best: ID specialist cannot start TB treatment on the basis of a positive Xpert and should still refer the patient to the TB sector where TB investigation are repeated once again. PLHIV with presumptive TB and negative Xpert must be referred to TB specialists for treatment decision. At TB clinics, presumptive TB cases systematically undergo culture in addition to microscopy and DST if an isolate is obtained. TB treatment decision may be delayed, in the absence of microbiological confirmation and this may contribute to increased mortality in TB/HIV patients. The presence of TB specialists at HIV cabinets might be a solution to this problem.

The concept of presumptive TB treatment with the aim to decrease mortality among PLHIV is accepted by the TB sector. However, clinical algorithms should be prepared and agreed by HIV and TB programs on a standardized sequence of tests and decisions for PLHIV who have signs and symptoms of TB. Two separate algorithms should be considered, one for ambulatory and one for severe cases. In the latter, expedite initiation of presumptive TB treatment (with 5 days from suspicion) should be incorporated.

Data from the audit conducted by PAS in 2017 showed that only 10.5% of the audited TB/HIV cases had evidence of screening for TB in the 12 months preceding TB diagnosis. Of the others, 30.0% had not been screened, while for 59.5% there was no record. For most patients, screening had been conducted by X-ray. Only one case in the five-year period had records of being tested for TB using smear microscopy in the 12 months preceding TB diagnosis at the DCDH.
Among TB/HIV dually affected patients, 65.0% were symptomatic, 19.1% were detected based on screening results and 15.9% had no record.

Tuberculosis laboratory services

The laboratory network in the Republic Moldova is well developed, with a well-performing national reference laboratory (NRL) and a network of reference laboratories. Proficiency testing of the NRL is conducted by the Supranational TB Reference Laboratory in Borstel, Germany.

Xpert MTB/RIF machines (57 in total) are available in all smear microscopy labs.

The diagnostic flowchart includes drug sensitivity testing (DST) on BACTEC and Lowenstein-Jensen media for FLDs and SLDs on all isolated strains.

There is still uncertainties about the role of LPA tests for first and second line drugs within the national document on programmatic management of drug resistant TB. The test is used occasionally, although it is foreseen in the algorithm, usually in retreatment cases, unsuccessful treatment, and when the case is severe and an immediate response is needed. The main reason of the limited use is the shortage of lab manpower.

Laboratory results are directly entered into the SIME TB electronic database and the clinicians can have early access to the results (expected lead-times are reported to be respected).
Sensitivity data for pyrazinamide on national strains are rarely conducted and no information is available for cycloserine, linezolid, bedaquiline and delamanid.

Infection control in TB hospitals

Transmission of *M.tuberculosis* in TB hospitals is a significant challenge to TB control and puts patients, visitors and health staff at higher risk of getting TB. An operational research study conducted in 2012 on the prevalence of nosocomial transmission of MDR-TB through DNA genotyping of *M.tuberculosis* strains showed the occurrence of re-infection (hospital-acquired transmission) in 68% of patients; hence, the admission of TB patients to hospitals is driving the number of DR-TB cases up.

The single most important measure to reduce *M.tuberculosis* transmission in health care settings is the new MoH policy to shift towards out-patient TB care whenever the clinical condition allows it.

In theory, TB patients with recognized MDR-TB are admitted to hospital in separate wards. However, less that 50% of MDR-TB cases are identified as such at country level. Moreover, in identified cases, the diagnostic process may take very long and over this period of time nosocomial transmission is likely to occur. In practice, it is very difficult to avoid that HIV infected patients may mix, in TB hospitals, with patients with possible MDR-TB.

The NTP attempts to minimize the risks of nosocomial TB transmission by 1) selection and stratification of patients, with concentration of MDR-TB cases in only two hospitals in the Country (Chisinau and Vorniceni, in addition to Grenoble Street Hospital in Chisinau for children); 2) refurbishment of the Vorniceni hospital

with a new 200-bed DR-TB ward; 3) settlement of UV lights; 4) admission of two patients per room sorted by sensitivity pattern; 5) surgical masks for patients; 6) forced ventilation in Vorniceni

Isoniazid preventive therapy (IPT).

Up to the beginning of 2017 IPT had not been prescribed to any PLHIV.

During 2017 the NAP launched IPT among PLHIV as a core intervention in HIV clinics. According to the approved procedure, isoniazid is prescribed by ID specialists as self-administered-treatment. The drug is dispensed together with ARVs at three-month intervals. PLHIV who are newly enrolled in HIV care are prioritized for IPT. However, there are plans to expand the intervention to all PLHIV who had not been treated, if they have no symptoms. No rule-in test for LTBI (i.e. the tuberculin skin test) is required to define eligibility of PLHIV for IPT. IPT targets PLHIV with no signs or symptoms suggestive of TB, but a negative chest X-ray is not required prior of treatment.

All individuals who received IPT in 2017 were followed at one single centre, the AIDS centre in Chisinau. During the visit in Balti it appeared that the HIV clinic was unaware of the launched IPT interventions and of the relevant approved procedures.

Cotrimoxazole (CTX) prophylaxis for TB/HIV co-infected patients

According to national policy PLHIV who have TB start CTP if their CD4 cell count is lower than 350 / μl.

Clinical management of TB/HIV patients including access to ARV

According to NAP data, ARV coverage of TB/HIV significantly improved in recent years reaching 69% in 2016. There is certainly common understanding that ARV should be started early during TB treatment in every patient with TB/HIV co-infection and it is accepted that CD4 count is not a prerequisite for starting ARV in patients with TB. However, no data is available concerning the timing of ART during TB therapy, and the high fatality rate in patients with dual disease suggests that timing may not be optimal. From conducted interviews, ID specialists are not consistently available at TB hospitals, which may generate delay in the decision to start ARV.

In the cohort of TB/HIV patients audited by PAS in 2017, one in four TB/HIV cases (27% or 245 cases) had not been seen by the ID specialist at DCDH at all and there was no clinical record in the HIV file. However, there was a trend towards improved data over the time, with only 24.4% of the cases seen before 2007. in the subsample of patients with CD4 counts less than 350 cells/mm3 (n=444), 42.6% were already on ARV, while only additional 14.0% had received ARV within the first 8 weeks after initiation of TB treatment. Of note, 132 patients (29.7%) did not receive ARV treatment at all and had died.

Mismatch between the TB treatment regimen and the *M.tuberculosis* strain sensitivity is another potential determinant of death in TB/HIV patients. In the audited cohort, 241 patients had been diagnosed with MDR-TB, but only 2.2% (20 cases) had received second line regimen. 68.8% have received treatment regimen I, indicated for new smear-positive cases, 25.5% have received treatment regimen II, for relapse cases. According to follow-up discussions with service providers, reasons for the mismatch could include delay in the availability of sensitivity test results, and patients refusing to change the regimen. These

observations point on the importance of rapid identification of drug resistance based on molecular methods.

An efavirenz-based regimen is the first choice for ARV in Moldova, and is fully compatible with standard and second line TB drugs (with the exception of bedaquiline containing-regimens). This regimen is appropriate for an estimate of 90% of TB/HIV co-infected patients. However, for the remainder 10% of PLHIV on second or third line ARV there are no currently available options, since integrase-inhibitor HIV drugs are not available on one side, and rifabutine is also not available on the other side.

The inflammatory immune reconstitution syndrome (IRIS) is a known phenomenon but does not seem to represent a major barrier for combined treatment. However, this perception may be affected by the delayed initiation of ART.

Second-line tuberculosis drug management

Two types of SLD regimens are used in the country:

- Individualized regimens to be used in pre-XDR and XDR-TB patients (approximately 200 cases per year). Amounts of drugs to be procured for individualized regimens were calculated based on DST data available on SIME TB.
- Standard regimen to be used in the remaining detected MDR-TB cases (approximately 800 cases per year) with drugs belonging to group A–C + pyrazinamide of the new WHO classification;

The duration of the standard second line treatment regimen is 18–20 months. The duration of pre-XDR and XDR-TB treatment is 20–24 months.

Short regimen cannot be used unless the national protocol are amended (cases would not be reimbursed) Bedaquiline is available in the country and started being used in May 2016. The drug is procured in the frame of the USAID donation program, for a limited number of cases (45 patients in 2016 and 45 in 2017).

MONITORING AND EVALUATION (M&E) AND REPORTING SYSTEMS

The SIMETB database is an individual case storage system of all TB patients in Moldova since 2007. Data entry is performed in all TB clinics electronically. Data are managed and analysed once per year centrally, by the NTP, at the department of M&E that employs six active staff. This database contains some, but not all the information that would be essential to measure TB/HIV indicators.

The equivalent database for individual case storage of all PLHIV had been finalized in September 2017 and data entry started in October 2017 at the HDCD. However, the system still need to be tested and it is reasonable to say that it will likely need a validation period before it could be expanded to other HIV clinics.

The NTP and NAP in Moldova have not yet initiated monitoring collaborative TB and HIV activities for two main reasons: first, a joint monitoring and evaluation plan between the two programs has not yet been developed. Second, data collection and analysis is not fully implemented. In particular, the electronic database containing epidemiological and clinical information of HIV infected persons on care is not exploited yet.

TRAINING AND SUPERVISION

The NTP performs monitoring visits all over the country 2-3 times / year. There are 44 TB clinics to be supervised (36 Rayons + Balti + Chisinau + 5 districts in Chisinau). Supervision is performed using a predefined checklist and concerns all clinical activities as well as data entry issues; a supervision report is prepared at the end of the visit.

CIVIL SOCIETY ENGAGEMENT IN THE TB/HIV RESPONSE

The network of NGOs engaged in the HIV arena is well developed and organized in Moldova, and a system for coordination of interventions among individual organizations is in place. A 5-year working plan for the network of NGOs involved in the HIV arena is available. A sustainability development program was recently signed between the Government and the GF to engage the civil society in the HIV response. However, financial resources appear to be strongly dependent on the GF and there are uncertainties for the future.

Civil society representative are part of several technical working groups created by the CCM. However, NGOs representative complain about transparency: for example, the last version of the proposal submitted to GF in autumn 2017 was neither seen, nor approved by NGOs.

NGOs contribute to increasing retention in HIV care. According to the NAP, people defaulting from HIV treatment are notified to an NGO that starts individual tracing. NGOs representatives are aware of the need to document by standard indicators their work, but have still limited capacity for recording and reporting, and for data analysis to show results. They have an 80% target for retention in HIV care at 12 month, and reached a result of 78% in 2016.

According to interviewed NGO coordinators, patient incentives is a suitable tool to increase retention in HIV care and TB case holding.

In Moldova four Social Regional Centers operate, which are State Institution active since 2013, funded jointly by the Ministry of Labor and Social Protection and Health and by the Municipality. The centers were started by the GF, and then transitioned to the State. Two main NGOs, Credentia and Positive Initiative, are partners of the initiative. Beneficiaries are represented by HIV positive individuals mostly from Chisinau municipality and 14 Rayons. The centres deliver social, psychological, and legal services, promote mutual assistance groups, and assist special populations like children of clients. They intervene in patients referral, awareness raising activities, and patients education, organize social events like visit to museums and theatres, and promote HIV prevention in schools.

On the TB side, TB patients complain for limited flexibility of the health services in delivering TB treatment. To ensure treatment adherence TB pills are dispensed at the TB clinic and patients need to collect treatment regularly at the clinic. Reportedly, this interferes with working activities, clashes with potential family problems (i.e. kids who may be sick), and is costly in terms of transportation. There is no provision of joint care for persons who are on opioid substitution therapy (OST) and who must queue at two sites.

According to NGO representative opinion, access to care is not as easy as reported officially: to be taken in charge by the out-patient TB care system, a valid residence address is essential. Persons without residence address are excluded from care (i.e. persons released from prison, immigrants).

In general, according to the opinion of social workers, the conditions of PLHIV in rural areas are much meager than for those living in urban centres: vulnerability and poverty are more common, and health

services are less at reach. Stigma and discrimination are more of a problem in rural areas. In terms of HIV care, family doctors are not trained to offer a quality service to PLHIV, and ID specialists cannot deliver treatment outside the eight available ARV centres. After 2008 incentives for transportation to ARV centres ceased, with reported negative impact on retention on HIV care.

The network of NGOs operating in the TB sector is less developed, with 11 NGOs operating all over the country, and just two being present before 2012. AFI, the main NGO, is engaged in developing community groups in villages that include community leaders (major, GP; nurse, police, priest, etc.) to help mobilize resources for patients and families affected by TB. They contribute to piloting video observed therapy (VOT) projects as an alternative to DOT.

According to NGOs coordinators, the quality of care received by people dually affected by HIV and TB is significantly affected by social determinants that are not taken care for by the health services. The very high default rate observed specifically in TB/HIV patients might be explained in this way. Greater attention is needed to economic and social barriers to TB and HIV treatment, and the civil society can be helpful in finding a response.

SERVICES FOR MOST AT RISK POPULATIONS

The NAP is focused on prevention of HIV focused on preventing further transmission of HIV within key population (PWID, SWs, MSM, prisoners) through providing access to harm reduction programs and testing, which will cover at least 60% of the estimated number of beneficiaries (PWID and SW, MSM - 40%) by 2020. NAP promotes integrated medical, psychological and social services, as well as inter-sectorial reference mechanisms. There is gradual shift from donor's to Government funding according to the national sustainability plan.

The legal frame is controversial. From one side HIV transmission is criminalized, with violation of the rights of people living with HIV, and exacerbation of their marginalization. On the other side a number of law attempt to ensure sustainability of preventive actions: Law on Health Protection (1995), Law on Reproductive Health and Family Planning (2001), Law on Migration (2003), Law on Equal Opportunities (2012), Law on AIDS Prevention and Control (2007 modified in December, 2012), Law on Combating Domestic Violence (2008), Law on Social Assistance (2008), Law on donors and blood transfusions (2009).

Services for prisoners

The policies for TB/HIV co-infection management applies to the prison sector as well as to the civilian sector. However, the M&E system is separated and based on different indicators. The source of funding for activities is the Ministry of Justice, rather than that of Health.

Services for people who use drugs

The number of people who inject drugs (PWID) in Moldova is estimated to be at over 30,000. Although use of drugs is not the main route of transmission of HIV in the Country (< 5% of all PLHIV), an average HIV prevalence of 8.5% is registered among PWID. Combined OST and TB and HIV reduction interventions would be justified.

Moldova has one of the most progressive legal environments around harm reduction and decriminalizing drug possession. Since 2008 personal drug use is decriminalized. The illegal purchase or possession of narcotic drugs or psychotropic substances in small quantities without the intention to distribute them, as well as their consumption without a medical prescription, is sanctioned by a fine or community service.

Moldova is known as being an example of best practice in terms of scale-up of harm reduction programmes among MARPs, both in the civil sector (IDUs, SWs, MSM) and in penitentiaries (IDUs) adopting a human-health-rights centered approaches towards drug control.

Despite the wide network of harm reduction projects (both need and syringe programs, and opioid substitution programs), joint TB and HIV prevention activities are still limited. In particular, four community-based OST support sites established their services as 'one stop shopping', thereby, providing additional services outreach work, HIV testing and counseling, harm reduction, linking with other services including TB/HIV.

Other HIV key populations

Moldova has a concentrated HIV epidemic – harm reduction programs for MSM and sex workers, including TB in addition to HIV as a single package would be beneficial. In the Moldovan legal framework man who have sex with another man (MSM) do not make an offence. Selling sex is an administrative misdemeanor; pimping is a criminal offence.

COMMENTS AND RECOMMENDATIONS

The main objective of strengthened TB/HIV interventions in Moldova should be the reduction of mortality in dually affected patients. This could be obtained through three main directives:

4. Improve early HIV diagnosis, linkage to care and retention in care for PLHIV. The result would be a lower incidence of TB through better prevention by ART and IPT. These interventions depend fundamentally by the strengthening of the NAP.
5. Improve TB screening and early TB diagnosis and scale-up IPT for PLHIV. These interventions fall under the primary responsibilities of the HIV clinic network, but require an effective referral system towards TB services and efficient collaboration with TB services for timely initiation of TB treatment.
6. Improve care for patients with dual HIV and TB disease. This requires timely ARV initiation (dependent on HIV testing strategy and HIV service effectiveness) and optimal matching between *M.tuberculosis* strain sensitivity and TB treatment regimens (dependent on laboratory and TB services effectiveness). This also requires strengthen case holding, especially for MDR-TB/HIV cases, possibly through scale-up of community care interventions in collaboration with the civil society.

Modifying the model of delivery of TB/HIV services, using a more integrated approach, does not seem appropriate for Moldova, where more than 90% of TB cases are not associated with HIV. Hence, referral systems between services should be set-up and optimized to meet the needs of affected populations. Regular presence of ID specialists at TB hospitals should be ensured to guarantee timely and appropriate delivery of HIV care in TB patients. Regular presence of TB specialists at HIV clinics should be ensured to facilitate diagnostic algorithms and early TB treatment initiation.

To facilitate planning and monitoring and evaluation, and to provide a ground for regular exchange of opinions, a TB/HIV working group should be established at the Ministry of Health. Under the working group, a task force of M&E specialist from the HIV and TB programs should be instituted to implement the TB/HIV M&E plan prepare the annual report on achievements and challenges.

To standardize and enhance the quality of TB/HIV care a clinical protocol for TB/HIV activities should be prepared and endorsed, which includes the following main items:

6. Definition of shared responsibilities between TB and HIV services and description of referral pathways, with adoption of tools for the evaluation of referral effectiveness
7. Early detection of TB among HIV patients by clinical screening and standardized diagnostic algorithms
8. Empowerment of services dedicated to HIV care in the TB diagnostic process and better integration with curative TB services
9. Isoniazid based prevention of TB among all PLHIV
10. Management of the risk of TB infection based on administrative procedures, which include a shift from hospital to ambulatory care of TB patients
11. HIV testing procedures of TB patients, which minimize the time between TB detection and HIV confirmation

RECOMMENDATIONS

HEALTH FINANCING

MoH should enter in a dialogue with CNAM to center the reimbursement system on the patient (i.e. the TB patient, PLHIV) rather than the health sector (i.e. TB sector, PHC).

Health coverage should be universal (i.e. TB care should not be limited by availability of residence permit) and comprehensive (should cover drugs for side effects of treatment).

Social protection scheme should be developed to minimize catastrophic costs on TB and HIV families; the civil society should be involved in this process.

Costs of TB and HIV diagnosis and treatment currently covered by the GF should be comprehensively covered by the Government during the GF scale-out phase.

NATIONAL TB/HIV WORKING GROUP

MoH should clarify the position concerning the establishment of a formal TB/HIV coordinating mechanism in the country. The aim would be to strengthen the leadership to promote and guide a coordinated response to the problem of HIV-associated TB.

In the absence of a formal body, the MoH should identify an effective functional structure for joint planning of collaborative TB and HIV activities, as well as for a joint monitoring and evaluation program.

HIV TESTING OF TB PATIENTS

MOH and NAP should urgently finalize current discussions to revise the national policy on HIV testing procedures, adopting initial testing by third generation rapid tests (two positive tests) followed by confirmation by HIV-RNA detection on GeneXpert. This proposal would be ideal to improve TB/HIV management.

Testing coverage is very high and should be maintained at these levels, though improving pre- and post-test counselling capacity.

The target of decreasing the HIV positivity rate among TB patients to 5% in the next 2 years, set by the MOH, is probably unrealistic: at the light of the development of the two epidemics, co-infection rate will remain stable or increasing for several years in the future.

TB SCREENING AND EARLY TB DIAGNOSIS

TB screening and diagnostic procedures for PLHIV should be strengthened based on mutual agreement for better coordination of activities between TB and HIV services. NTP should accept to demand part of the responsibility of the TB screening and diagnostic process to HIV services (namely performance of microbiological and radiological investigations at the HIV clinic). HIV services should organize effective operating procedures for screening and diagnosis of TB at HIV clinics. Treatment decision could still be taken by the Consilium, but ID specialist should be part of it.

There is agreement between NTP and NAP that two screening alternative strategies could be adopted. First, GPs at PHC should implement annual screening by chest X-ray of the clients they know as being PLHIV. Second, PLHIV should be regularly screened using the questionnaire tool at every single consultation at HIV clinics. The quality of this last activity should be supported by enhanced training and supervision.

A facilitated path, with clearly established and shared procedures, should be developed for referral of PLHIV with presumptive TB who need to be referred to the TB system. causing delayed TB treatment. Mechanisms for evaluation of effectiveness of the system should be identified and implemented.

ISONIAZID PREVENTIVE THERAPY

NAP should rapidly roll-out the IPT intervention to national scale.

The procedures for IPT should be clearly defined in the national guidelines, and information should be disseminated to all HIV clinics in the country.

The following implementation procedures were agreed between the NAP and the NTP:

- Eligibility: all PLHIV followed-up at HIV clinics (prioritizing newly detected individuals)
- Exclusion criteria: presence of signs of symptoms that might be caused by active TB
- Treatment regimen: isoniazid 300 mg daily for six months
- Treatment assumption: self-administered
- Drug replenishment: monthly, at the HIV clinic
- Treatment monitoring: based on clinical symptoms. Haematochemical investigations (liver function tests) to be performed in case of symptoms
- Monitoring: IPT coverage and IPT completion rate to be included in core indicators of the TB/HIV M&E plan

INFECTION CONTROL

A national plan for infection control in line with WHO requirements is needed to improve infection control practices at all levels.

MONITORING AND EVALUATION (M&E) AND REPORTING SYSTEMS

The TB/HIV steering group of the MOH, with NTP and NAP should create the TB/HIV monitoring and evaluation plan. The following indicators are suggested for inclusion in the plan.

- Proportion of registered new and relapse TB patients with documented HIV status
- Proportion of registered new and relapse TB patients with documented HIV-positive status
- Proportion of PLHIV newly enrolled in HIV care with active TB disease
- Proportion of HIV-positive new and relapse TB patients on ART during TB treatment
- Proportion of PLHIV newly enrolled in HIV care started on TB preventive therapy
- Mortality among HIV-positive new and relapse TB patients
- Risk of TB among health care workers relative to general population, adjusted for age and sex

The data source should be represented by the TB and HIV individual digital databases.

INVOLVEMENT OF THE CIVIL SOCIETY

The legal frame that regulates the involvement of NGOs in delivery of TB and HIV care should be critically revise to become permissive of interventions like increasing early detection and treatment support (both TB and HIV). NAP and NTP should clearly define the areas of collaboration with civil society organization in the delivery of TB/HIV care. NGOs involvement may be particularly beneficial in home-based DOT for TB patients, in retention in care for PLHIV, and in referral of PLHIV between TB and HIV services.

The network of NGOs should continue lobbing for the recognition of their role by the Government, and for securing adequate financing of activities, especially at the time of transitioning of funding responsibilities from the GF to the state. Alternative source of funding, like the Municipality and other local or international donors, should be pursued.

NGOs should strengthen their capacity for recording and reporting of activities, using internationally acceptable indicators, and for exploiting data for advocacy purposes.

Acknowledgments

I am indebted with the coordinators and staff of the NAP and NTP who greatly contributed to the developed of my mission. My deepest appreciation goes to the staff of the Center for Health Policies and Studies, and particularly to the TB Programme Coordinator, Rita Seicas: her insight of the TB/HIV problem in the country was essential to draft this report, and her excellent links with national stakeholders allowed for the perfect organization of the agenda. Overall, I greatly enjoyed the friendly climate I discovered throughout the meetings I had in the Republic of Moldova.

Annex 1a. Visit to Moldova - 10-17 September 2017

Date	Time	Activity	Participants
10/09		Arrival in Chisinau	/
11/09	9.00 - 10.00	Briefing at PAS	Stela Bivol, Rita Seicas, Lucia Pirtina, Liliana Caraulan
	10.30 – 16.00	Meeting with AIDS programme staff and AIDS Center	Iulian Oltu, Iurie Climasevschi
	16.30 – 17.00	Briefing with Vice-Director of Public Health Department, MOH	Daniela Demiscan
12/09	8.30 – 12.30	Meeting with TB programme staff and TB Center	Sofia Alexandru, Valentina Vilc, Andrei Corloteanu
	13.00 – 14.00	Briefing at WHO and UNAIDS Country Offices	Silviu Ciobanu, Svetlana Plamadeala
	15.00 – 16.00	Meeting at UCIMP (Global Fund Principal Recipient)	Nicolae Jelamschi, Victor Volovei
	16.30 – 17.30	Meeting at PAS (Global Fund Principal Recipient)	Lucia Pirtina, Liliana Caraulan
13/09	8.30 – 12.30	Meeting with Regional Social Centre (Chisinau) and network of HIV NGOs	Rotaru Valerio, Director Untura Liudmila, President NGO ”Credinţa” Gaikovskaia Alla, Social worker Şcaruba Tatiana, Social worker Tcaci Olga, Social worker Mardari Natalia, Peer to peer consultant Stepanova Natalia, Social worker Bodarev Vladimir, Social worker Praviţchi Galina, Psychologist Chilicevschi Olga, M&E specialist Lefter Olga, Social worker Stefu Stepan, Social worker Țurcan Ion, Social worker Vizitiu Tatiana, Social worker
	13.00 – 14.00	Meeting with AFI NGO	Lilian Severin

	14.30 – 15.30	Meeting with Soros Foundation	Angelica Bordeianu, HIV program manager and Svetlana Hanganu, TB program manager
14/09	9.00	Departure to Balti	
	11.30 – 14.00	Visit of the Balti municipality Hospital	Serghei Rotari, Director of the Hospital Raissa Barbutsa, Vice-Director and head of the TB Department Valentina Stepanenko, ID specialist of the ARV territorial cabinet
	14.00 – 15.00	Visit to Balti Family Medicine Clinic	Valentina Dumbraveanu Deputy Director FMC Silvia Marco, Head family medicine department Pavlina Pelevaniuc, Family doctor Elena Antoc, Head Family Medicine Department Aliona Russo, Family Doctor
	15.00 – 15.30	Visit to the offices of the NGO "Speranza Terrei"	Teodora Rodiuocova, acting director
	15.30 – 16.00	Visit to the offices of the Moldovan National Association of TB patients	Alexandrina Reaboi, communication focal point
	16.00 – 16.30	Visit to the offices of the NGO "Youth have the right to live (TDV)"	Aliona Ciobanu, Project coordinator
	16.30	Travel to Chisinau	
15/09	10.00 – 11.30	Visit to the TB Institute in Chisinau	Constantin Yavorski Vice Director, TB institute Dr Anna Donika Medical Director Valeriu Crudu Head of the laboratory

	14.00 – 15.00	Debriefing session at MOH	Daniela Demiscan, Vive-Director of Public Health Department, MOH
16/09		Working on files	
17/09		Departure from Chisinau	

Annex 1b. Visit to Moldova - 13-15 November 2017

Date	Time	Activity	Participants
13/11		Arrival in Chisinau	/
14/11	9.00 - 10.00	Working on files	
	12.00 – 14.00	Briefing at PAS	Rita Seicas
	14.00 – 16.00	Meeting with TB programme staff and AIDS programme staff at Institute of Phthisiopneumology “Chiril Draganiuc”	Valentina Vilc, Svetlana Plamadeala
15/11	8.30 – 17.30	Implementation of the TB/HIV worskshop	
	18.00	Departure from Chisinau	

Annex 2. ELABORAREA GHIDURILOR NAȚIONALE TB/HIV – REPUBLICA MOLDOVA

15 noiembrie 2017, Chișinău

Context

Scop

Scopul general al atelierului național ține de elaborarea ghidurilor naționale pentru managementul pacienților co-infectați TB/HIV în conformitate cu politicile și standardele internaționale actualizate.

Obiectivele

La finele acestui atelier, participanții vor elabora un pachet de ghiduri naționale pentru activitățile în colaborare TB/HIV care urmează să fie propuse pentru a fi avizate și transpuse în documentele de politici naționale de către Ministerul Sănătății al Republicii Moldova.

Metodologia

Este un atelier foarte interactiv, orientat pe soluții și rezolvarea problemelor. Prezentările în fața tuturor vor fi utilizate pentru a ilustra acțiunile propuse și participanții vor fi rugați să contribuie până la atingerea unui consens final. Prezența comprehensivă a actorilor cointeresați și reprezentanților beneficiarilor va asigura atingerea unui consens vast și va promova colaborarea pe viitor la etapa de implementare.

Program

Programul atelierului este organizat în baza listei recomandate de OMS privind activitățile în colaborare TB/HIV.

PROGRAM

15 noiembrie 2017		
09:00 - 09:15	Cuvânt de salut	Ministerul Sănătății, Muncii si Protecției Sociale
09:15 - 09:30	Obiectivele, agenda, logistica	PNCT, PNPC HIV/SIDA si ITS, Centrul PAS
09:30 - 10:00	Prezentarea participanților	
10:00 - 10:30	Povara co-infecției TB/HIV în Moldova	Alberto Matteelli, Associate Professor, University of Brescia and Brescia Spedali Civili General Hospital WHO Collaborating Centre for TB/HIV and TB Elimination
10:30 - 10:45	*Pauza de cafea*	
10:45 – 11:15	Screening TB în rândul pacienților care trăiesc cu HIV	Alberto Matteelli, PNCT, PNPC HIV/SIDA si ITS

11:15 - 11:45	Diagnosticarea TB în rândul pacienţilor care trăiesc cu HIV	Alberto Matteelli, PNCT, PNPC HIV/SIDA si ITS
11.45 – 12.40	Tratarea TB în rândul pacienţilor care trăiesc cu HIV si Managementul HIV în rândul pacienţilor co-infectaţi TB/HIV	Alberto Matteelli, PNCT, PNPC HIV/SIDA si ITS
12:40 – 13:30	*Prânz*	
13:30 - 14.00	Terapia preventivă în rândul pacienţilor care trăiesc cu HIV	Alberto Matteelli, PNPC HIV/SIDA si ITS
14:00 – 14:30	Controlul infecţiei şi managementul TB multidrog-rezistente	Alberto Matteelli, PNCT
14.30 – 14.50	Testarea HIV în rândul pacienţilor TB	Alberto Matteelli, PNCT
14:50 - 15:05	*Pauza de cafea*	
15:05 - 15:20	CPT pentru pacienţii TB/HIV	Alberto Matteelli, PNCT, PNPC HIV/SIDA si ITS
15:20 - 15:45	Ghidare pentru ARV, legătura cu asistenţa în HIV şi reţinerea în asistenţa HIV	Alberto Matteelli, PNPC HIV/SIDA si ITS
15:45 - 16.15	Raportarea şi înregistrarea (R&R) şi monitorizarea şi evaluarea (M&E) pentru TB/HIV în Moldova	Alberto Matteelli, PNCT, PNPC HIV/SIDA si ITS
16:15 - 16:50	Locaţie de servicii integrate (comprehensive) pentru persoanele consumatoare de droguri care trăiesc cu HIV, infectaţi cu TB	Alberto Matteelli, PNCT, PNPC HIV/SIDA si ITS
16:50 - 17:30	Intervenţii de management al co-infecţiei TB/HIV în sistemul penitenciar	Alberto Matteelli, PNCT, PNPC HIV/SIDA si ITS, DIP
17:30 - 18:00	Implicarea comunităţii //Perspectiva pacienţilor	Alberto Matteelli, PNCT, PNPC HIV/SIDA si ITS
18:00 – 18:20	Remarci de încheiere	MSMPS, PNCT,PNCP HIV/SIDA , Alberto Matteelli, PAS

Annex 3. DEVELOPMENT OF NATIONAL TB/HIV PROTOCOLS – REPUBLIC OF MOLDOVA

List of participants:

1. Daniela Demiscan	Deputy head f Public Health Department, MOH
2. Sofia Alexandru	Director IFP,
3. Valentina Vilc	Deputy director IFP, Coordinator NTP
4. I. Oltu	Director SDMC
5. Iurie Climasevschi	Coordinator NP
6. Svetlana Popovici	Coordinator ARV treatment
7.	ME specialist, NP HIV/ ITS
8. Silviu Ciobanu,	Country WHO office
9. Svetlana Plamadeala	UNAIDS country manager
10. Lilian Severin	AFI NGO, Director
11. Serghei Rotari,	Director of the Municipal Hospital Balti
12. Raissa Barbutsa,	Head of the TB Department, Municipal Hospital Balti
13. Valentina Stepanenko,	ID specialist of the ARV territorial cabinet
14. Valentina Dumbraveanu	Deputy Director FMC
15. Silvia Marco,	Head family medicine department
16. Pavlina Pelevaniuc,	Family doctor
17. Elena Antoc,	Head Family Medicine Department
18. Aliona Russo,	Family Doctor
19. Dr Anna Donika	Medical Director IFP, head MDRTB ward
20. Valeriu Crudu	Head of the National Reference Laboratory

21. Teodora Rodiuocova,	acting director
22. Aliona Ciobanu	Project coordinator NGO “Youth have the right to live (TDV)”