

Study Report

Provision of medical and social services to key populations with higher risk of TB exposure and infection:

TB detection and treatment adherence services implemented within the framework of international technical assistance programmes in 2011-2017 in Ukraine

Kyiv - 2018

Case Study Report: Provision of medical and social services to key populations with higher risk of TB exposure and infection: TB detection and treatment adherence services implemented within the framework of international technical assistance programmes in 2011-2017 in Ukraine. – Kyiv, 2018.

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The Study collects interesting and innovative practices implemented in Ukraine to address TB among key populations facing higher risk of TB exposure and infection.

The Study will be useful for those aiming to improve the access of risk group populations to TB detection and treatment services, including decision makers, parliamentarians and practitioners developing programs to address TB at different levels. The Study is the response to the request of the Parliament Platform of TB Control.

The scope of cases chosen for analysis was determined in close collaboration and under the recommendation of the Alliance of Public Health expert team to establish a pool of good practices and facilitate experience exchange among all stakeholders to enhance the implementation of the Stop TB Strategy in Ukraine.

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Acronyms

AIDS	Acquired Immunodeficiency Syndrome
AR Crimea	Autonomous Republic of Crimea
ART	Antiretroviral Therapy
DOT	Directly Observed Treatment
HCF	Healthcare facility
HIV	Human Immunodeficiency Virus
LHSI	Labor and Health Social Initiatives
MDR-TB	Multidrug-resistant tuberculosis
NGO	Non-governmental Organization
PHC	Primary health care
PLWH	People Living with HIV
PWID	People who Inject Drugs
RIF	Rifampicin resistance
TB	Tuberculosis
TB-REACH	Stop TB partnership program
WHO	World Health Organization
UAH	Ukrainian Hryvnia
URCS	Ukrainian Red Cross Society
USAID	United States Agency for International Development
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria

Introduction

Despite progress made in TB control in Ukraine, the epidemic remains a burning public health issue. This is especially true for Multidrug-Resistant Tuberculosis (MDR-TB) burden. Ukraine is one of the 30 countries of the WHO European Region with the highest burden of MDR-TB¹. Treatment of such cases is complicated, long and expensive. Timely TB detection is the key factor of treatment effectiveness and prevention of TB transmission. According to the WHO, in 2016 the estimated TB morbidity in Ukraine was 87 per 100 000 of population², while the notification rate was 60.6 per 100 000 of population (meaning that about 30% of TB cases were not detected, registered and linked to treatment). These undetected cases refer to populations of high risk to TB who have limited access to health services: homeless people, migrants, refugees, internally displaced people, etc.

Ukraine is now in transition from TB in-patient treatment models to out-patient models re-enforcing the role of primary healthcare and out-patient TB treatment. To transit to the models ensuring effective TB detection and treatment linkage, it is essential to develop multi-sectoral approaches to socio-medical care, implement best practices, and ensure cooperation between health and social service facilities at different levels, public and private sectors, and NGO involvement. The proposed changes should provide for high level of motivation for healthcare personnel, social workers and other staff involved in TB diagnostics and treatment.

It should be noted that in Ukraine there are some institutional prerequisites for multi-sectoral engagement, such as participation of social services in multi-sectoral care of TB patients. The new National Strategy of Ensuring Sustainable TB Response, including MDR-TB, and HIV-infection/AIDS Epidemics until 2020, approved by the Cabinet of Ministers of Ukraine on March 22, 2017³, includes the section "Improving organization and provision of medical care and social services".

Ukraine has a strong NGO sector and a large number of specialized health NGOs that are a legacy of country being one of the largest Global Fund recipients in European region. Ukraine has been an example of a GF-supported focus to engage civil society and those affected by the diseases in service provision. A number of projects engaging NGOs in TB detection, diagnostics and treatment, were implemented in recent years, most of them focusing on improving access of high risk populations to health and social services. The examples and models of service delivery based on inter-agency cooperation between public and private health and social services were piloted with international donor support. These models laid the foundation for the present study. Model selection was based on the criteria of service availability to the key population, patient-oriented approach and model sustainability.

The study examined five different models of TB medical and social care provision to various risk group populations that included both TB detection and treatment services, funded by international donor projects implemented in Ukraine in 2011-2017.

¹ «Global Tuberculosis Report 2016. Annex 4. TB burden estimates, notifications and treatment outcomes: for individual countries and territories, WHO regions and the world // Accessible at: http://www.who.int/tb/publications/global_report/gtbr2016_annex4.pdf?ua=1»

² Ukraine Tuberculosis profile. 2016. Estimates of TB and MDR-TB burden are produced by WHO // Accessible at: https://extranet.who.int/sree/Reports?op=Replet&name=%2FWHO_HQ_Reports%2FG2%2FPROD%2FEXT%2FTBCountryProfile&ISO2=UA&LAN=EN&outtype=htm

³ The strategy of achieving sustainable response to TB epidemics, including MDR-TB, and HIV/AIDS for the period until 2020. The Cabinet of Ministers of Ukraine. 2017. // Accessible at: <http://zakon3.rada.gov.ua/laws/show/248-2017-%D1%80#n9>

They included:

- Model 1. Social services centers for family, children and youth's social workers involvement to address TB: Improving TB detection and treatment adherence among high risk population groups in rural and small town areas of Ukraine (TB-REACH)
- Model 2. Active TB case finding among risk groups: Local NGO involvement
- Model 3. Improving access to treatment: Cooperation between TB facilities and PHC facilities
- Model 4. Improving access to treatment: Social supervision of TB patients by NGO, in particularly, Ukrainian Red Cross Society
- Model 5. Improving access to treatment: Partnership between public and private sector facilities

The objective of the study was to describe different models of health and social services provision to high risk groups to TB (detection and treatment) implemented with the help from international donors, rather than their comparison. While the geography of the study, its goal, target groups, model design and other parameters preclude extrapolating the findings onto a broader Ukrainian context, some generalizations regarding the success and efficiency of the reviewed practices were formulated. In particular, patient referral routes and ways of establishing inter-agency partnerships were believed to be sustainable and flexible, as demonstrated in projects.

Resources needed for successful functioning of the models (legal, financial, technical, human) are outlined for each model described. Meeting even part of the needs may significantly increase the efficiency of operation, and add sustainability to the models.

Experience of cooperation between stakeholders at different levels and different sectors gained by projects in various settings, is seen as an important factor to facilitate further communication and promote patient-centered services at the basic level among specialists immediately involved in TB detection and treatment.

As noted above, projects were implemented with the help from international technical assistance programs. To have a significant impact on TB epidemic in Ukraine, sustainability of these models is essential, which requires support and financial commitments from state and local authorities and from society. There are concerns in Ukraine and a broader EECA region, as stakeholders prepare for a gradual reduction of GF support, as to whether governments are likely to increase domestic TB funding. Most frequently, it is suggested that government TB spending may be constrained by budget restrictions and other priorities of state funding and thus, dilemmas of funding innovative TB service models remain.

⁴ McGill, S. "Is sustainable domestic financing of TB response a reality in EECA region?," *Aidspace*, Issue 254, 30 Oct 2014, Accessible at: http://aidspace.org/gfo_article/sustainable-domestic-financing-tb-response-reality-eeca-region.



Model 1

SOCIAL SERVICES CENTERS FOR FAMILY, CHILDREN AND YOUTH'S SOCIAL WORKERS INVOLVEMENT TO ADDRESS TB IMPROVING TB DETECTION AND TREATMENT ADHERENCE AMONG HIGH RISK POPULATION GROUPS IN RURAL AND SMALL TOWN AREAS OF UKRAINE (TB-REACH)

Model design

The TB-REACH model engaged social service workers in TB detection by clinical signs in populations with high risk of TB. The model design envisaged elaboration of step-by-step cooperation algorithm with strict division of responsibilities among health and social workers. The TB-REACH model was based on delegating part of functional tasks in TB screening from health to social workers.

This model is an example of innovative approach, as it was designed and installed in the existing public system of social and health services, which ensured its sustainability and did not require significant costs to implement.

The model is conceptually linked to task shifting approach (delegating of tasks), which is relevant today and addresses the problem of shortage of health workers. The model is an example of rolling out a task shifting approach to the non-medical service sector.

TB detection in the project was based on sputum smear microscopy (in persons with high risk of contracting TB), rather than X-Ray diagnostics. The use of this technique implied certain requirements to organization of work, including timely transportation of samples to laboratory, maintaining thermal regimen, etc.

The TB-REACH project was implemented in 6 small towns and 16 rural rayons of four oblasts of Ukraine (Kharkiv, Ivano-Frankivsk, Luhansk and Lviv oblasts) in October 2011 – September 2012.

The main goal was improving TB diagnostic services in target groups with high risk of contracting TB at the local level through engagement of social workers of the local social centers for families, children and youth, into service provision.

Target groups:

- People Who Inject Drugs (PWIDs).
- Residents of villages with limited access to TB service facilities.
- Persons released from penitentiary facilities.
- Other clients of social service centers with limited access to healthcare facilities and services.

The principle of Model operation

Twenty-two multi-sectoral teams were established at each project location consisting of: 1 site manager, 2 social workers (rayon centers of family, children and youth services), 1 rayon TB specialist /TB physician, 1 nurse of TB site, 1 laboratory diagnostics specialist of sputum smear microscopy center, 1 outreach-worker (family, children and youth services center/NGO) and 1 warehouse controller /registrar (for document processing). The team was responsible for implementation of the project activities at the rayon level.

Families, children and youth services centers of city and rayon levels were involved in the project.

In locations where cooperation was established at raion level, clients were referred to PHC facilities (rural healthcare posts, PHC centers, etc.).

In towns with existing TB clinic where cooperation was centered around the municipal Family, children and youth services centers, PHC facilities were not included in the interaction chain, and clients were referred directly to TB dispensaries.

The project worked out the main algorithms of interaction between social and healthcare workers in TB prevention and detection activities:

- Algorithm 1 – to be applied to all categories of clients
- Algorithm 2 – to be applied to clients of the social services recently released from penitentiary facilities.
- Algorithm 3 – to be used on outreach routes (limitation –using this algorithm was possible only in case of established strong cooperation between the social center and the health facility).

Within the framework of these three algorithms, two options of service provision by the social worker were developed:

- A. Services are provided by the social worker jointly with the healthcare worker
- B. Services are provided by the social worker alone

'Cluster' approach to sputum collection in the field was specific to the TB-REACH model. Due to long distances within pilot oblasts and an option to refrigerate sputum for 3-4 days (while a laboratory specialist can process up to 20 smears per shift without compromising the quality), project rayons were clustered in order to reach the planned indicators.

Each rayon was divided into sectors, with a site in the center of each sector where collected smears were delivered from the nearby villages. Using the 'cluster' approach resulted in significant increase in the number of examinations, which would not be possible otherwise due to long distances to the laboratories.

Referral system

Referral⁵ was performed in cases when the service provider could not provide the service requested by the client. Under the Project's framework, clients with likelihood of TB signs as a result of the screening questionnaire, were referred to TB diagnostics in health-care facilities (see Chart 1). The project activities were designated to establish cooperation between social and healthcare services, facilitate organization of counseling and motivating difficult categories of population to test their sputum for TB mycobacteria.

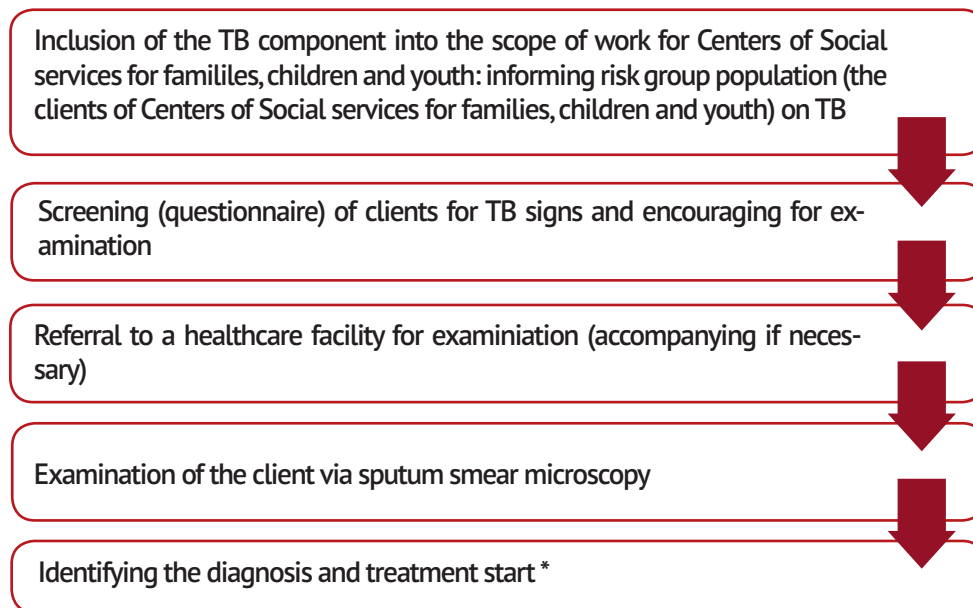
To ensure effective client referral, the Project identified:

- The network of healthcare facilities in the village, city, rayon, oblast, and contact information of persons to contact for examination and treatment;
- Together with relevant healthcare professionals, the forms of referral slips issued to Family, children and youth services centers clients to monitor their further actions;
- Communication in case of various questions, including urgent;
- Issues related to confidentiality of clients' personal information, forms of referral and their communication in the process of examination and treatment.

Establishing partnerships

Cooperation agreements were concluded among all stakeholders at the local level; multi-sectoral teams consisting of service provider representatives and other persons involved in the planning of services (through service mapping tools, intersectoral agreements to ensure the legal framework for the activities and to establish links between the Project and social service centers, needle exchange stations, TB dispensaries, AIDS Centers, narcology clinics, primary healthcare facilities network, local health administrations); the interaction mechanism between the healthcare facilities and Family, children and youth social service centers for client referral were identified; the roles and individual tasks for each of the services involved were written out.

⁵ Quality referral implies contacting the institution/ facility/ organization where the client is referred to, booking an appointment for a particular client, transporting or accompanying the client to the institution (when necessary), and follow-up to check whether the service was provided and the outcome.



* If necessary, a social worker is engaged in communicating with the client and encouraging him/her for treatment

Chart 1. General algorithm of Model 1

Essential resources

Legal. The Project developed the template for orders to be issued jointly by oblast Family, children and youth social service centers and oblast health administrations regulating the mechanism of TB diagnostics and referral for treatment for difficult to reach population. Implementation of such orders will require funding from local budgets.

Technical. Besides equipment for the DOT sites, computers were procured for each raion covered by the project. They were used for data collection and submitting information on the work performed. This equipment is continued to be used locally in further TB detection activities.

Financial. Payment caps to TB physicians, nurses and the social workers for reporting additional data collection and consolidation (tracing patient’s path along the algorithm proposed by the project from the moment of informing the client about the sign suspicious of TB, to the moment of case detection and registration for further treatment). Besides the remuneration, the project budgeted for informational materials, motivation packages for risk groups, procurement of sputum collection containers, fridges, and the costs of transporting sputum to laboratory. All these were financed only during project implementation; there have been no other funding sources. The Project participants also found it useful to issue motivational sets and payments to clients as an important factor of TB detection among difficult to reach group of clients.

Human. To sustain the efficiency of new TB case detection model with the involvement of the social workers, it is necessary to increase their number in the staffing plan of Family, children and youth social service centers and ensure adequate funding at the national and local levels. Recruiting additional social workers on consultancy basis at the cost of new international projects and programs, including the Global Fund, is a possible alternative.

TB-REACH model implementation identified two key sustainability factors to focus on for further rolling-out and replication of the model:

- 1) Difficult access to high epidemic risk groups on TB requires significant improvement of accessibility of healthcare services for people not officially employed, “not organized”, people without any fulltime or official job.
- 2) Lack of knowledge and skills of TB detection in social workers supports the concerns of the clients regarding the safety of the sputum collection procedure.

Model achievements

During the project implementation, over 12 000 persons from high risk groups to TB were provided examination/diagnostics, TB detection and prevention services (see Table 1). The guiding principles and practices developed by the project, were disseminated over the healthcare facilities and social services over the territory of Ukraine, among the relevant ministries and other stakeholders in the government and public society at the national level.

For the first time the guidelines were developed and social workers were trained on TB awareness, TB symptoms, examination and treatment, hygiene and labor safety for daily service provision to clients with contagious form of TB. Social workers received instructions at the workplace regarding using individual protection means of a social worker.

Table 1. Quantitative results of Model 1 project (December 2011 – September 2012)

Risk group	Informed about TB	Referred	Examined		Smear+		All forms		Treatment onset
			persons	%	persons	%	persons	%	
Released from penitentiary	2672	883	551	62	62	11	100	18	96
PWID	3439	721	419	58	25	6	47	11	46
Clients of the Center of Social services for Family, Children and Youth	256314	6149	4993	81	225	5	409	8	400
Rural population	229800	6856	6119	89	149	2	275	4	270
Total	492225	14609	12082	83	461	4	831	7	812

Conclusions and recommendations

Implementation of new diagnostic tools, such as GeneXpert MTB / RIF test, in primary healthcare facilities, as envisaged by the new TB treatment protocol, establishes new requirements for patient selection for TB testing. As this is an expensive technique, its effective use is possible only in case of targeted patient selection for the screening procedures and ensuring even and uninterrupted load of equipment (test flow). Therefore, the significance of inter-agency cooperation between medical and non-medical services in the regions, sustaining and developing the referral mechanism, as demonstrated in the TB-REACH model, acquires even more significance, and this model can and must be rolled out to other regions of Ukraine.



Model 2

ACTIVE TB CASE FINDING AMONG RISK GROUPS LOCAL NGO INVOLVEMENT

Model design

The work of Roma socio-medical mediators of the International charitable organization “Roma women foundation “Chiricli” with members of Roma communities vulnerable for TB, was organized on the “peer-to-peer” basis nationwide. All regions of Ukraine, except AR Crimea, participated in the Project. In 2013 the Project involved 36 NGOs in 15 regions, in 2015 – 79 NGOs in 25 regions.

The need to engage Roma mediators was crucial, as many Roma believe that one can live a long life with TB and it is not the disease to treat; most Roma do not trust conventional healthcare as well.

Cases are frequent among Roma population of delayed seeking of care, delayed examination, treatment interruption, treatment defaults, all of which may lead to multidrug-resistant TB.

Many problems in providing healthcare services to Roma are directly linked to low level of education and extreme poverty of the majority of Roma population in Ukraine.

The goal of the model was to implement a set of patient-oriented interventions of TB detection, aiming at preventing TB transmission, reducing TB morbidity in Roma population, and mobilizing communities, civil population and decision-makers.

The principle of Model operation

Roma community representatives completed training on working with Roma people, established contacts with healthcare staff for further diagnostics, making them to become mediators between the Roma community and healthcare facilities.

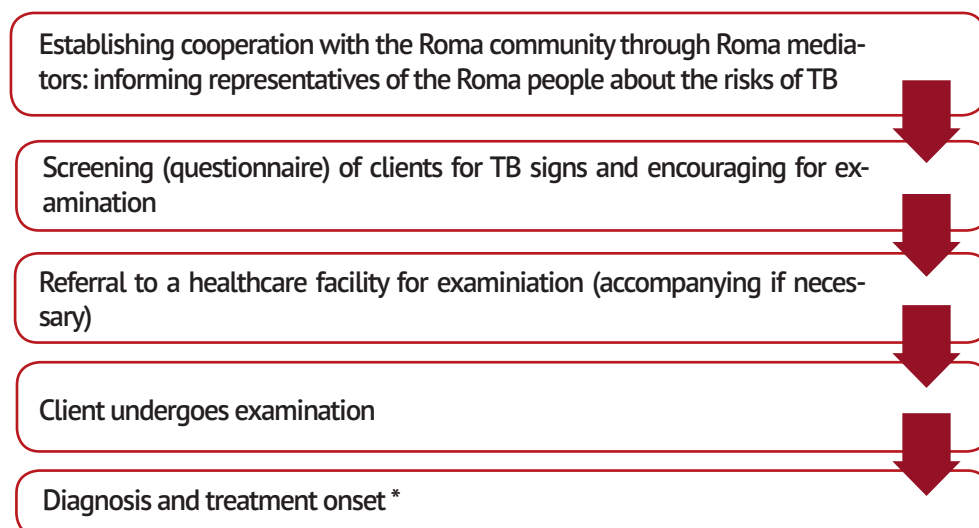
Roma social-medical mediator is a person supporting healthcare staff in medical activities, facilitating dialogue between the Roma community and representatives of government institutions(healthcare staff), strengthening the links between the community and various governmental institutions, identifying social and medical problems of the Roma population and helping to find solutions.

The Roma socio-medical mediators work in communities, organize meetings with families, group counseling, bring doctors to such counseling sessions, conduct individual meetings with Roma community leaders and other organizations that may be helpful. The Roma socio-medical mediators were tasked to:

- ✓ Establish collaboration and cooperate with healthcare facilities, informing them about Roma population requiring medical care (including TB care and other conditions);
- ✓ Facilitate fluorography examination, vaccination and preventative examinations of the Roma population;
- ✓ Inform the Roma population about the services provided by the healthcare facilities and social service providers, the procedures of applying for such services (including dissemination of information and reference materials and guidelines).

Referral system

The mediators worked daily in Roma communities conducting screening questionnaires. In case of a positive screening results and signs suspicious for TB, the client was referred to a hospital. The mediator accompanied the client to the healthcare facility, in most cases. In case of confirmation of the TB diagnosis, the doctor initiated treatment, while the mediator communicated with the family explaining about prevention of TB transmission. The referral system is shown in Chart 2 in detail



* A Roma mediator is involved when needed to establish contact and motivate the client

Chart 2. Referral system with mediator involvement in Roma communities

Essential resources

Legal. The President of Ukraine issued a Decree “On the strategy of protection and integration into the Ukrainian society of Roma national minority until 2020 “Supporting integration of Roma community at the local level”. This Strategy covers the issues related to healthcare and to the implementation of the “Improving access to TB medical services for Roma population through Roma medical mediators” project.

Organizational. Meetings with the representatives of public agencies – TB specialists, family doctors, representatives of employment centers, deputies and employees of city and village councils, heads of passport offices. Ensuring free TB examination of the Roma people and close cooperation with oblast TB services.

Financial. Separate funding for TB screening, including: Payment incentive to social workers for each case of seeking diagnostic procedures; client motivation to undergo diagnostic procedures; payment to TB physicians and nurses for the work performed beyond healthcare facility (lectures to mediators and their clients, sputum collection in the locations of the clients’ gatherings).

Human. Specially trained Roma mediators for socio-medical support.

Establishing partnership

Cooperation was established between healthcare facilities (TB service (doctor, nurse), social workers, NGOs and recruited socio-medical mediators who completed a special training.

To support the work of Roma mediators in regions and successful cooperation with doctors at the beginning of the Project, in 2012 the Ukrainian Center of TB Control assigned 12 coordinators to cooperate with mediators in the regions. These coordinators facilitated activities related to examination of Roma population such as: supplying film for X-Ray examination, booking special hours for appointments for Roma population, etc. Various communities worked out individual mechanisms of cooperation between the mediators and healthcare providers, convenient for all involved

Model achievements

The key achievement of the Model is the increase of TB detection and treatment rates in the Roma communities (see Table 2).

Table 2. Model 2 implementation results 2 (2013-2015)

	2013	2014	9 month 2015 .
Covered with screening, persons	55549	38720	125482
Examined in healthcare facilities, persons	5 698	5214	10496
Need additional examination, persons	12305	6123	12697
Including those in whom TB was detected	626	510	405

Conclusions and recommendations

The Model has proven effective for the Roma population of Ukraine, and similar practices can be applied to other specific social risk groups, as well as other ethnic minorities. However, taking into account the fact that this project has been implemented in Ukraine since 2012 with international donor funds, the perspective of its further implementation after the Global Fund grant is over, is unclear.

To ensure its sustainability, a number of measures should be taken:

1. Ensure training of all social and medical Roma mediators planning to implement the TB control component, on the sets of questions related to TB care organization, new diagnostics techniques, shifting to TB outpatient care, control activities, as well.
2. Organize informational and awareness-raising activities for representatives of the Roma community to increase their awareness about human rights (namely, the right to receive medical care).
3. Conduct informational and awareness-raising activities for healthcare staff, aiming at overcoming biased attitude towards representatives of the Roma community.
4. Support members of the Roma community lawfully staying in the territory of Ukraine, in obtaining documents certifying identity and citizenship (for receiving comprehensive medical care).
5. Institutionalize the position of socio-medical Roma mediator and envisage funds in the local budgets to support their work (including for the purposes of implementing this Model).



Model 3

IMPROVING ACCESS TO TREATMENT COOPERATION BETWEEN TB FACILITIES AND PHC FACILITIES

The internationally recognized approach of outpatient TB care organization was actively implemented in Kryvyi Rih, Dnipropetrovsk oblast by USAID-funded “Strengthening TB control in Ukraine” project⁶. The project was based in Kryvyi Rih due to the high burden of TB and TB/HIV co-infection (in 2013, the TB morbidity was 104.9 per 100 000, the TB/HIV morbidity– 27.9 per 100 000 of population)⁷.

The TB care providers to the city population are KryvyiRih TB dispensary # 2 (500 inpatient beds and 45 day-care beds) and two TB care resorts for children (75 and 65 beds, respectively). Under the healthcare reform, 7 PHC centers were established in the city, each including several PHC outpatient clinics. In 2013, step-by-step involvement of the entire PHC network started.

The goal of the model – implementation of the most effective TB and TB/HIV outpatient care models, with preference given to treatment based in PHC facilities.

Model design

The model of TB and TB/HIV treatment with priority of PHC facilities is a mechanism for rational use of resources in healthcare (according to WHO-recommended care model). Similar to TB-REACH model described above, this model is conceptually linked to task shifting approach, which implies delegating certain tasks to other implementers.

The pilot project focused on the following TB care models:

- Combined model of care–inpatient TB treatment, with further outpatient treatment.
- TB outpatient treatment.

⁶TB outpatient care model implemented in Kryvyi Rih at: <http://stbcu.com.ua/2014/kryvyj-rih/>

⁷The findings of the retrospective study of cost-effectiveness of TB care organization models in Kryvyi Rih, Ukraine, 2014.

Implementation of this model was ensured in establishment of outpatient facilities providing TB and TB/HIV care meeting the requirements set forth in the national regulations, including: opening DOT-sites in each PHC Center, ensuring provision of DOT-based services in each PHC clinic, introduction of “home-based hospitals”; reduction in the duration of hospital stay due to immediate discharge to outpatient care after smear conversion.

Patients were informed about possible options of treatment organization, and such flexibility gave them opportunity to select most convenient treatment mode, in close proximity to their homes or for other personal conveniences.

Providing care to patients in severe condition implied hospital treatment for all TB patients regardless of their sputum positivity, during the entire intensive phase (until stabilization of the general condition), and outpatient care during continuation phase, mainly in TB facilities.

Providing outpatient care to smear-negative TB patients depending on the needs of the patient implied using two forms of outpatient care:

- In a day-care hospital (for the period of choosing the proper drugs), with further referral to DOT-sites in PHC facilities;
- In a DOT-site of a PHC facility during the entire treatment.

Providing outpatient care to smear-positive TB patients implied referral to PHC facilities after completion of the intensive treatment phase in a TB facility and smear conversion.

In case of TB/HIV co-infection two models of outpatient care were developed:

1. Treatment of smear negative TB/HIV co-infected patients in severe condition exclusively in the inpatient department of infectious disease hospital.
2. Treatment of smear positive TB/HIV co-infected patients in severe condition in a TB hospital (if possible – infectious diseases hospital) until condition stabilizes, provided adherence to infection control requirements and ART administration, with further outpatient treatment in a DOT-site at a PHC facility.

Ternivskyi raion (district) of Kryvyi Rih city was selected for piloting the TB outpatient care model. The pilot results were analyzed and compared with the results of the control area – Central City raion, with further dissemination over the entire city and all patient groups (not only risk groups).

The referral system

Overall, patients could receive up to 8 medical services. Relevant referral system was chosen based on the TB form and selected model of care (see Chart 3).

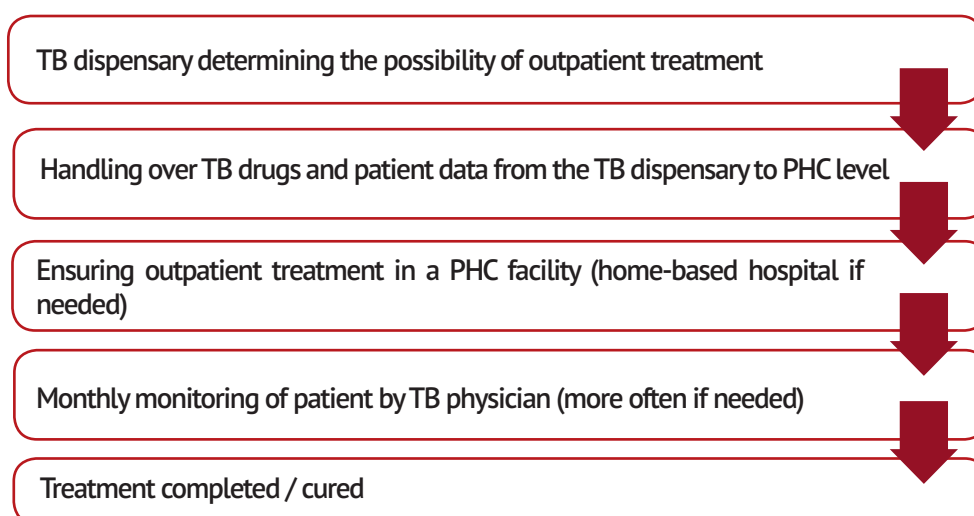


Chart 3. Interaction between service providers in Model 3

Establishing partnership

The three main participants of the Model were the state TB service, PHC service and NGOs. Food motivation package support from Ukrainian Red Cross Society and support to TB/HIV co-infected patients from the Alliance were important for the patients helping them to adhere to treatment. The Model was implemented in several organizational forms, depending on the participants in Kryvyi Rih: DOT-sites in PHC facilities; DOT-based services in TB facilities; home-based hospital of the TB service; patient support services by NGOs.

Essential resources

Legal. The framework regulating outpatient treatment in DOT-sites of healthcare facilities at various levels of care (including patient pathways) was developed. The mechanism of cooperation and feedback between healthcare facilities was established. Documentation on engaging PHC in TB detection and treatment at the continuation stage of treatment was developed.

Organizational. Among the innovative models, the model of “home-based hospital” was estimated as more cost-effective than full-time hospital stay. A selection committee identifying the organization of patient treatment at the outpatient stage, was established.

Financial. Payment provided for the services of TB physician, nurse and social worker per case of outpatient care. The local authorities fully supported this model by budgeting funds for food motivation packages (starting at 300,000 UAH at the start of the project, to 500 000 UAH in 2017)

Human. The key staff to sustain model efficiency are family doctors and nurses. Their number must be increased and adequate funding must be budgeted at the national and local levels. A possible alternative is hiring additional staff on a consultancy basis at the cost of the new international projects and programmes (including the Global Fund projects), and NGO involvement.

Project achievements and results

As a result of Model implementation, the reduction of patient hospitalization rate and the increase of successful TB outpatient treatment rate (see Table 3) were observed. Also, the number of patients treated in a PHC facility in both the continuation phase and the full treatment phase, significantly increased. This reduced the burden on TB service and improved cooperation between the services. Besides, smear-negative TB/HIV co-infected patients in severe condition were treated exclusively at the infectious disease hospital, which substantially reduced the risk of re-infection.

Table 3. TB outpatient treatment in Kryvyi Rih, 2016-2017

Types of outpatient treatment	Number of patients	
	2016 p.	2017 p.
Day-care hospital	186	117
DOT – TB facility	300	417
DOT – PHC facility	348	328
URCS support	95	235
PLWH support	190	187
Total	1119	1284

In the majority of cases, it was shown that providing TB care in outpatient facilities and greater involvement of PHC facilities did not reduce treatment effectiveness. This conclusion may allow for further cuts in hospitalization days of TB patients and using more cost-effective approaches to treatment (the cost of a hospitalization day in a TB hospital was 187 UAH, while the costs of TB case treatment in a day-care hospital and by nurse in a DOT-site were 28 UAH and 11 UAH, respectively)⁸.

The main achievements of the project are:

- Development and implementation of the interaction algorithm for different services locally.
- Building capacity of PHC (by the end of 2017, 16 DOT-sites and 20 directly observed treatment stations were established in PHC facilities).
- Implementation of continuous professional training system of PHC providers.
- Evidence of the cost-effectiveness of TB outpatient care models.

⁸The findings of the retrospective study of cost-effectiveness of TB care organization models in Kryvyi Rih, Ukraine..

Conclusions and recommendations

The main conclusion supports the broad implementation of TB outpatient care, and rolling out positive and progressive experience of Kryvyi Rih nationwide. To ensure sustainability of the model of improving access to TB treatment through cooperation of TB and PHC facilities and its dissemination, following measures are proposed:

- Changing the approach to funding of medical facilities of different levels, shifting from being based on number of hospitalization days, to being based on patients' needs and conditions.
- Using the rate of treatment effectiveness as an indicator to analyze TB outpatient care effectiveness.
- Developing local stimuli system based on healthcare quality indicators and identifying possibilities to apply the existing system of offering payment caps to PHC professionals for providing TB care.
- Ensuring uninterrupted flow of diagnostic supplies and TB drugs.
- Continuous implementation of information and advocacy campaigns.
- Reducing the document workload and abolishing documents that have not been officially approved.
- Introduction of electronic document flow and training medical staff to operate electronic databases.
- Including the possibility of outpatient treatment of pediatric TB patients in the Unified Clinical Protocol.



Model 4

IMPROVING ACCESS TO TREATMENT

SOCIAL SUPERVISION OF TB PATIENTS BY NGO, IN PARTICULARLY, UKRAINIAN RED CROSS SOCIETY

Ukrainian Red Cross Society (URCS) has a strong nurse patronage service providing free healthcare, support and social services to the elderly, people unable to work, disabled persons, veterans of war and labor, and conducts health education and prevention campaigns among the general population. URCS possesses extensive experience of providing medical care and social support to TB patients.

The goal of the Model is implementation of psychosocial support activities for MDR-TB patients at risk of treatment default, aimed at preventing MDR-TB transmission and reducing TB burden.

Model design

The Model is an example of inter-agency collaboration to provide socio-medical support to TB patients at outpatient treatment stage. The model implementation combines the resources of state TB services and URCS. MDR-TB patients from high risk groups, after finishing the hospital treatment stage are referred, with an accompanying letter from TB service, to outpatient treatment, with socio-medical support being provided by URCS.

URCS visiting nurses obtain patient information, contact information and residence address, as well as contacts of the physician managing the case, treatment regimen and medications. After that, the nurses contact the patient to arrange a place and time to deliver TB drugs (see Chart 4).

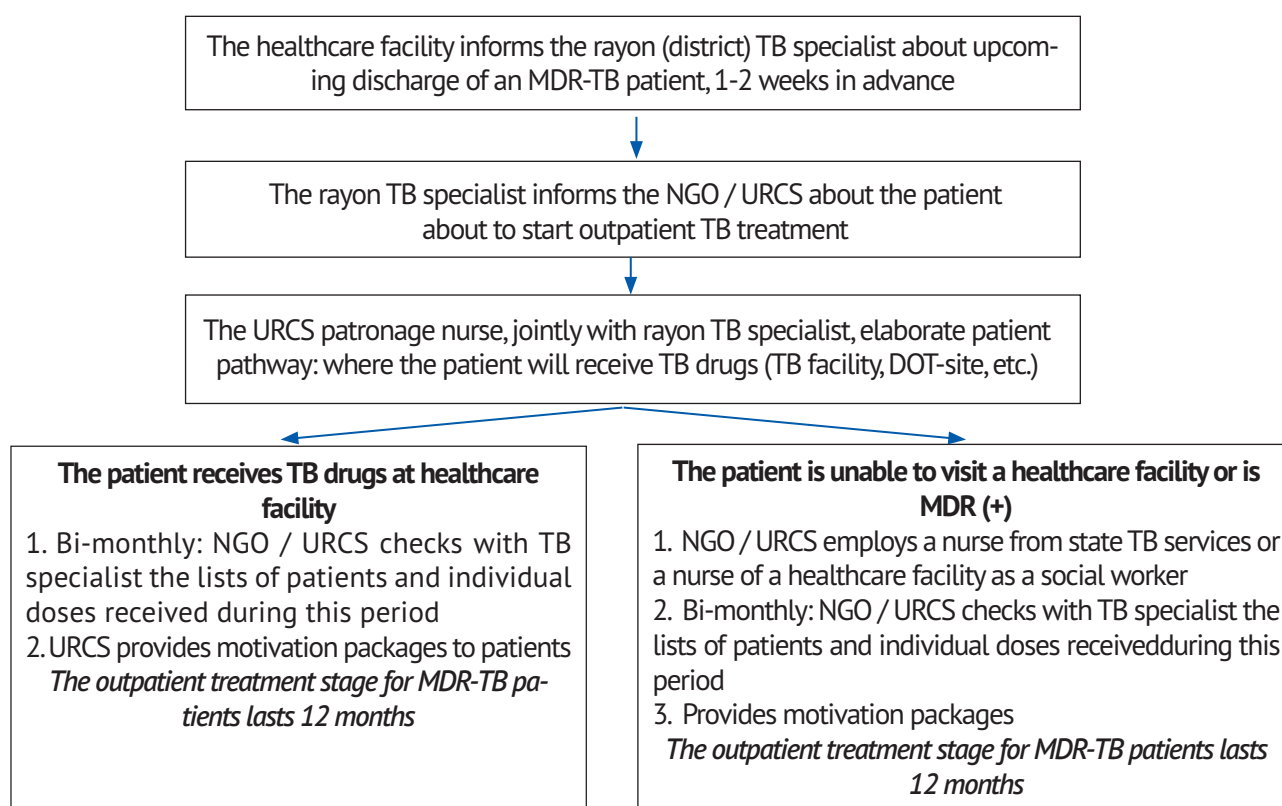


Chart 4. Cooperation between social and health workers in providing socio-medical support and forming MDR-TB treatment adherence (support was provided to smear-negative patients)

Referral system

The algorithm of interaction between social and health workers in providing socio-medical support and forming MDR-TB treatment adherence was based on shared responsibilities (see Chart 5).

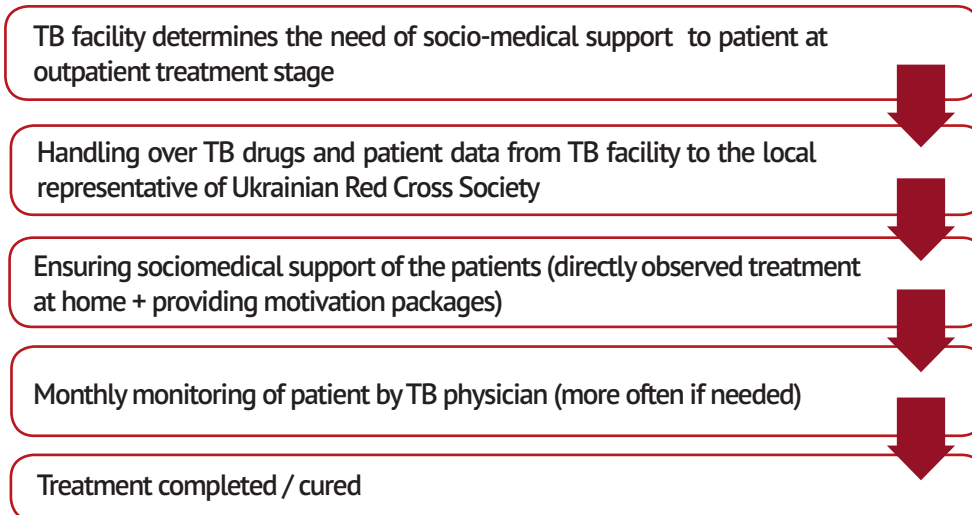


Chart 5. Cooperation between Model 4 participants - state TB services and URCS

Establishing partnership

The participants and partners in Project implementation were the Ukrainian Red Cross Society and its oblast branches, and oblast TB clinics (dispensaries).

Project achievements and results

During the period of Model implementation, significant results were achieved in treatment and support coverage, as well as increasing the number of TB patients adhering to treatment. From 2015 to December 2017, 9324 MDR-TB patients were receiving socio-medical support in 24 oblast branches and in Kyiv city office of URCS. This number included 7385 patients treated at the cost of the Global Fund and 1780 patients treated at the cost of the state budget.

The main advantages of this Model are: bringing treatment closer to the patient, saving costs of bed maintenance, possibility to attract additional funding through grants/international programmes (see Table 4).

Table 4. Treatment outcomes in patients with drug-susceptible TB (categories 1-3) receiving URCS socio-medical support under the Project (2011-2014)

Indicator	2011	2012	2013	2014
<i>Number of patients receiving support</i>	1656	4367	6224	4870
<i>Including those who completed support with effective treatment:</i>	475	3428	5464	4980
<i>Treatment failure</i>	22	205	384	240
<i>Treatment interruption</i>	19	60	33	42
<i>Transferred / moved out</i>	128	168	55	125
<i>Died</i>	18	108	89	88
<i>TB diagnosis cancelled</i>		7	6	2
Treatment effectiveness indicator (%):				
<i>- programmatic</i>	70	80	85	85
<i>- real</i>	71,75	86,21	90,59	90,92

Conclusions and recommendations

The Model has proven its efficiency. Patients who received treatment and support under this Model, completed their treatment successfully. However, a number of challenges have been identified that prevented a fully successful Model implementation, and efforts should be taken to remove them. This will facilitate establishing of more effective inter-agency links in TB patient treatment and support.

The general recommendations are:

- To the Ministry of Health of Ukraine: develop and improve the regulatory framework for TB outpatient treatment model organization, including a clear definition of patient pathways.
- To local authorities: implement the effective model of psycho-social support to TB patients on outpatient treatment engaging similar NGOs in patronage service.



Model 5

IMPROVING ACCESS TO TREATMENT PARTNERSHIP BETWEEN PUBLIC AND PRIVATE SECTOR FACILITIES

The model was implemented in Yuzhne city of Odesa oblast – the region with highest TB morbidity. Most of TB patients in Yuzhne are port workers, for whom it was crucial to retain employment and to return to the workplace as soon as possible after completion of active treatment. Such an algorithm facilitated treatment adherence, as healthcare was brought close to the patient's workplace.

The goal of the model - establishing a patient-oriented system of outpatient treatment in smear-negative patients, with directly observed treatment provided at the workplace. The implementer sought to identify the most effective patient-oriented TB care models.

Model description

The two examples are illustrative of uninterrupted TB treatment organization for patients in a condition permitting them to continue working

1. Having completed the intensive TB treatment phase at the hospital and TB service site of the city hospital, patients transferred for a continuation phase in the healthcare unit of Yuzhnyy Port.

In 2016, two patients received treatment in the port healthcare unit. These patients were allowed to resume work on the condition that they continue treatment at the workplace.

One of the patients worked shifts, therefore, besides receiving TB drugs in the healthcare unit, distance-based sessions via Skype were used to ensure directly observed treatment (blended control).

2. Another healthcare unit in another port-based enterprise, "TIC" Ltd., operated on the basis of agreement with St. Catherine private clinic. One patient received treatment in this healthcare unit. The nurse was trained. The patient would come to the medical unit each day, except Mondays. She received her medications for Monday one day before. The TB drugs and "TB 01 Directly Observed Treatment" patient file were transferred after the nurse signed the Act of Acceptance and Transfer. When necessary, the nurse called the TB physician.

This Model is an example of public-private partnership – a form of cooperation between the state or local government (state TB services) and private partners. Such relationship is based on an agreement implying joint implementation and co-funding of socially significant projects on long-term basis, sharing risks, responsibilities and rewards.⁹

General algorithm of service provision within the project framework

The Model implemented two options of service provision: cooperation with the port healthcare unit nurse and "Skype-therapy".

Option A. Service provision in healthcare unit of the port (Chart 6).

- The nurse of the healthcare unit trained in patient support, received TB drugs monthly, including the treatment regimen sheets with daily dosages, signed the Receipt-Transfer Act.
- Smear-negative patient who completed hospital treatment and was in treatment continuation phase, in took the drugs in presence and under the nurse observation.

Option B. "Skype-therapy": Drug intake control through Skype observation.

On the days when the employee is free from work and stays home, TB physician observes TB drug intake via Skype.

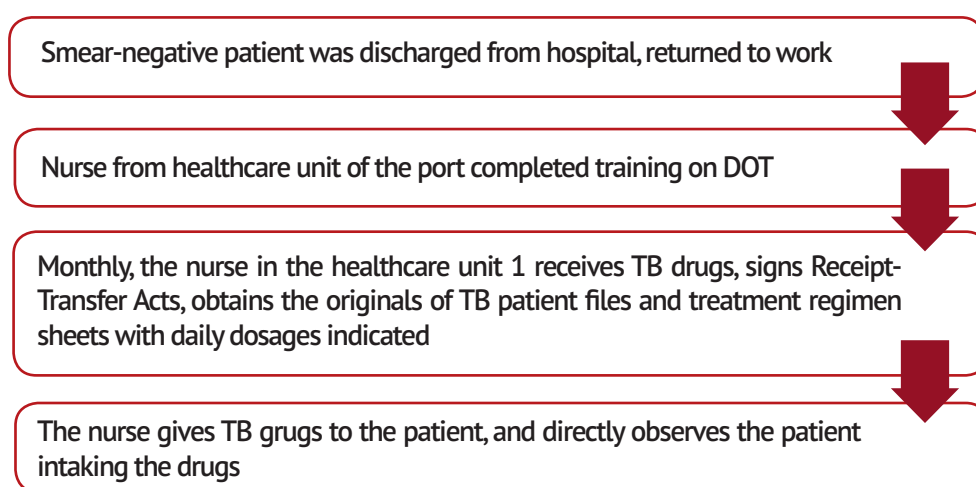


Chart 6. Step-by-step algorithm of TB outpatient care provision in a company healthcare unit

Resources required for Model implementation

Legal. Municipal targeted Program "HIV/AIDS prevention, treatment, care and support to HIV-positive persons for 2015-2018" (Resolution of Yuzhne municipal council as of 23.04.2015 #1396-VI); Municipal targeted Program "TB control for 2017 – 2021" (Resolution of Yuzhne municipal council as of 08.12.2016 #430-VII)¹⁰

Organizational. During the active project phase, a working group was established to coordinate the local stakeholders cooperation, conduct information activities for the community and develop information materials.

Infrastructure. Access to city TB service (TB physician) and to healthcare units of the companies (physician and/or nurse); providing Internet access to TB patients to organize directly observed treatment via Skype.

Human. The key staff to ensure model effectiveness are nurses in private companies healthcare units.

⁹ Study report: Public-private partnership as a mechanism of financing HIV prevention services in vulnerable populations of Ukraine. – K: - 2015. – P.14.

¹⁰ Healthcare programsat: <http://yuzhny.gov.ua/zdorovyie>.

Conclusions and recommendations

Today the most effective model, both economically and organizationally, is the model of TB outpatient treatment, particularly for working age population. The capacity of the “on-the-job” outpatient treatment model to reach treatment outcomes was proven, taking in consideration changes in labor regulations and current trends of outpatient treatment in Ukraine. Further application of similar models in cities with city-forming industrial enterprises may have a positive impact on treatment effectiveness for individual TB patients as well as on the reduction of unemployment rates among them. However, in the course of model implementation, it became clear that verbal agreements on public-private partnership between the TB service and the companies may not be enough to guarantee sustainability, especially in case of company management replacement.

Further on, following activities are also recommended:

- Monitor employee morbidity and implement measures to reduce the rates of morbidity and trauma among company employees;
- Maintain company healthcare facilities (healthcare post, healthcare unit, health resorts), provide them with their regular funding and equipping;
- Implement information and education activities among the employees to increase their TB awareness and motivate for medical examinations;
- Ensure regular quality medical examinations of employees;
- Allocate funds to improve the conditions of labor, recreation, and nutrition of employees diagnosed with TB (Art. 25 “Recovery and social protection of TB patients and their families” of the Law of Ukraine “On protection of the population against infectious diseases”, April 6, 2000 #1645-III);
- Including the information regarding benefits and social guarantees provision in case of contracting TB in the collective agreements.

Recommendations to trade union committees (employee representatives):

While signing collective agreements, bring the attention of the staff to benefits and social guarantees for employees diagnosed with TB.

- Plan additional costs in the collective agreement (salary caps, supplementary payments to nurses).
- Conduct TB awareness raising campaigns.
- Monitor for infringements of the rights of TB patients and their families.
- Facilitate cooperation of all relevant stakeholders in TB prevention, detection and treatment.
- Advocate for increased social responsibility of private sector, disseminate best practices of TB treatment at workplace.

Conclusions

Ensuring active TB detection, particularly in social risk groups, remains a challenge for primary healthcare providers. Often, the available resources are insufficient; target groups have certain characteristics, requiring additional effort to motivate them for TB examination. Such context prioritizes the need for multi-sectoral cooperation and engagement of state social workers and NGOs working with populations with high risk of TB. The model of Social services centers for family, children and youth's social workers involvement to address TB: Improving TB detection and treatment adherence among high risk population groups in rural and small town areas of Ukraine (TB-REACH) and the model of Active TB case finding among risk groups: Local NGO involvement using peer-to-peer communication strategy by Roma socio-medical community mediators in Ukraine, implemented by "Chiricli" International Charity Fund with the grant from the Global Fund, are examples of successful active TB detection in risk groups.

Sustaining and developing the patient referral mechanism, such as in the example of TB-REACH model, becomes increasingly important during the roll-out of the new diagnostic tools (GeneXpert MTB / RIF test) at primary healthcare level. The updated national protocol of TB care establishes new requirements of patient selection for screening and ensuring an even and uninterrupted test flow. A more active TB detection among populations at risk that are not adequately covered with health services, can affect the course of TB epidemics, prevent late detection and reduce the cost of further treatment.

For successful implementation of these models in the regions, it is important to train social service workers and NGO representatives on TB-related issues and specific skills of counseling and motivating clients for examination. There is a need to define more clearly cooperation algorithms between social and healthcare workers in TB prevention and detection for various categories of clients.

Reaching high rates of treatment effectiveness is possible only if directly observed treatment is ensured. This is the primary goal of the studied models on Improving access to treatment: Cooperation between TB facilities and PHC facilities implemented in the city of Kryvyi Rih; Improving access to treatment: Partnership between public and private sector facilities, implemented in city of Yuzhne, Odesa oblast. Combining these models lays out three possible ways of ensuring patient-oriented approach at the outpatient treatment stage, increasing the possibilities of directly observed treatment and treatment adherence rates. The model implemented in Kryvyi Rih allows patients to receive treatment in various settings, depending on the patient's convenience and the course of the disease (at home, in the nearest PHC facility, in non-TB hospital, etc.); the model implemented by URCS visiting patronage nurses allows the most vulnerable populations to receive treatment at home; and the model of directly observed treatment at the workplace implemented in Yuzhne aims at patients returning to work during the outpatient treatment phase.

Dissemination of the reviewed practices will be especially effective if implemented in the same setting, ensuring the patient receives a maximum TB treatment focus. Essential

prerequisites of the successful implementation of these models are: (1) training of participating healthcare staff, and (2) established and smooth algorithm of cooperation between healthcare professionals issuing TB drugs, and TB physician managing the case.

All the reviewed models were or continue to be implemented, with the support of international technical assistance programmes. In some cases, technical assistance was limited to advocacy support, while direct funding was provided from the state budget (Kryvyi Rih) or by private sector enterprise (the port of Yuzhne). There are risks that the efforts will not continue after the donor funding is over. In case of TB-REACH Model, significant cuts of publicly-funded activities have occurred: five years after the Model implementation, only fragments of the algorithm continue to operate in several territories. However, the model was more sustainable and less affected due to the involvement of public and donor resources at the very beginning of its implementation. Therefore, support for advocacy component aimed at raising TB awareness at the community, local government and private sector level, is vital, even with direct donor support of TB service programs.