

Chapter 13

Improving HIV Counseling and Testing in Tuberculosis Service Delivery in Ukraine: Profile of a Pilot Quality Improvement Team and Its Scale-Up Journey



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Abstract This case study describes the experience of a successful pilot team in Chervonograd, a mining city in Lviv Province of Western Ukraine, that participated in an effort beginning in March 2013 to use quality improvement (QI) methods to raise the rates of HIV counseling and testing (HCT) offered to all clients tested for tuberculosis (TB). With a population of close to 67,500, Chervonograd has a higher number of drug users than the rest of the country. State statistics revealed that 75% of AIDS patients diagnosed in the city in 2013 were coinfecting with TB, but only 4% of suspected TB cases citywide were offered HIV counseling by TB doctors and only 0.04% were actually tested for HIV. The efforts of Chervonograd's pilot QI team proved critical to both improving the rates of HCT for TB clients in the pilot sites and the overall success of the scale-up of this work throughout Lviv Province.

Keywords Collaborative improvement · Flowchart · HIV counseling and testing · Scale-up · TB/HIV coinfection · Time series charts · Tuberculosis · Ukraine

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Background

The health system in Ukraine is especially impacted by one of the highest tuberculosis (TB) disease burdens in Eurasia and by one of the fastest-growing HIV epidemics in the world (UNAIDS 2013). Only half of HIV-positive individuals in Ukraine are aware of their HIV status. Those who test positive for HIV are often diagnosed at a late stage of infection, leading to higher mortality rates. Fifty-three percent of people diagnosed with HIV and enrolled in care were at clinical stages 3 and 4, as defined by the World Health Organization (Ukrainian Center for Disease Control 2015).

The main coinfection and cause of death in AIDS patients in Ukraine is TB, which accounts for 53.5% of all AIDS deaths (Ukrainian Center for Disease Control 2015). In Ukraine, TB and HIV programs, which function separately as vertical programs (i.e., those that focus on specific health conditions), lack true collaboration and integration of services. This often leads to a loss of patients and poor quality of services. Because TB also occurs earlier in the course of HIV infection than many other opportunistic infections, its existence presents a window of opportunity for diagnosing HIV at an earlier phase of infection.

The work described in this case was spearheaded by a United States Agency for International Development (USAID)-funded project, which used QI methodology to improve HIV services for key populations and to strengthen the capacity of government and civil society organizations to reduce levels of HIV transmission among these populations. The study's authors participated on the QI team and documented its progress through observation, coaching reports, and qualitative interviews conducted 18 months after the initiation of the QI work.

Organizing the Improvement Effort

Choosing Improvement Priorities

With technical assistance from a USAID-funded project, Ukraine's Ministry of Health (MOH) in March 2013 launched a collaborative improvement effort to increase HIV counseling and testing (HCT) service coverage and ensure the continuity of HIV care for those who are diagnosed with HIV (Institute for Healthcare Improvement 2003). It was agreed with the MOH from the beginning that the collaborative would start with fewer sites and over time would be extended to more sites with the accumulation of learning, will, and successes of the pilot sites. Three civil society organizations—organizations that advocate for and monitor the implementation of democratic practices and good governance reforms—also partnered with the QI initiative. Participating organizations provided data suggesting that TB providers were missing opportunities to identify the coinfection of HIV among

patients with TB, despite the existence of a new regional policy mandating that all TB patients should be offered voluntary HIV testing after counseling.

During a two-day collaborative launch meeting held in Kyiv, participants drafted an improvement charter with the goal of improving HCT and enrollment in care. Since this was the first time that modern QI methods were to be applied to a public health issue in Ukraine, the pilot initiative was limited to Lviv, a province with one of the most severe TB and HIV situations of the 27 provinces in the country. The meeting participants selected two TB clinics in the districts of Chervonograd and Zhovkva to serve as pilot sites, with the expectation of later expanding to more sites.

Health System Culture in Ukraine

In 1991, when the country gained independence, Ukraine inherited an extensive and highly centralized health system (Lekhan et al. 2015). Although considerable decentralization has taken place since independence, the system continues to initiate changes and improvements through issuance of regional orders. Wide gaps exist between hierarchical levels; the system's culture presents challenges to implementing changes at the facility level. Health workers were not used to communicating with higher-level authorities and often expressed to project leaders that their workloads were already too heavy to take on duties for which they had not been trained. Thus, the culture of the system presented inherent barriers to QI projects, which relied on teams of frontline health workers who interacted directly with patients to take actions to improve care quality.

QI Team Formation

During the collaborative launch meeting held in Kyiv, an experienced TB doctor, who served at the province level, emerged as a champion for the project. In the initial months of the launch, she acted as QI mentor and coach for the two pilot sites and guided the selection of the Chervonograd TB dispensary as a pilot site based in part on the doctor's knowledge of the clinic staff.

Chervonograd TB dispensary, a typical TB facility, was staffed by four doctors and four nurses. Before visiting the pilot site, the doctor and two QI experts from the USAID-funded project planned a QI team recruitment strategy that would address the obstacles they faced. The three experts were aware that they would be attempting to recruit staff who were likely to have reservations about taking on additional responsibilities. The team's strategy was to visit the clinic, listen to and address the staff's concerns, and help them envision the potential results of putting QI interventions into place.

Organogram of an Improvement Effort in Chervonograd

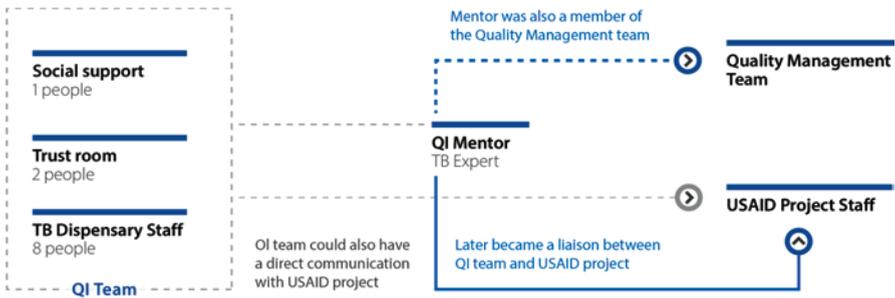


Fig. 13.1 Chervonograd quality improvement team organizational structure

The three visited the Chervonograd dispensary in March 2013 and listened to staff as they presented their concerns and reservations about initiating a project with unfamiliar techniques. Staff members cited an already heavy workload, a lack of resources, the need for rapid diagnostic tests (RDTs), a lack of privacy and confidentiality to conduct tests and counseling, and what they felt was their own lack of competency and knowledge about the HCT procedures. The TB doctor and project representatives generated enthusiasm by describing how QI procedures offer a way in which much-needed HCT procedures could be implemented by the TB dispensary staff. They spoke to what they knew to be the staff's deep commitment to clients' health. The visitors knew that frontline health workers, faced with high rates of TB and HIV coinfection, were acutely aware of the need for HCT. After 2 hours of discussion, a doctor and nurse agreed to serve as initial members of the QI team.

As the project progressed during the first weeks, the initial enthusiasm of the team and support from the USAID-funded project team encouraged others from the TB dispensary to join in the QI effort. Members of other vertical programs, including an infectious disease doctor and nurse from the trust room¹ of Chervonograd's primary health center and a social worker from the province's department of social services, also joined the team.

The TB staff met weekly in the TB dispensary and monthly as an expanded team that included the members from the Chervonograd primary health center and the social services department. They were sometimes joined by the QI mentor/coach and USAID-funded project QI advisors. The organizational structure of the QI effort is shown in Fig. 13.1.

¹Trust rooms, often part of primary care centers, are set up for confidentiality purposes and attended by an infectious diseases doctor and nurse to offer HCT to vulnerable, high-risk patients.

In addition to the other elements of the collaborative, the charter called for a patient's inclusion on the QI team. Project leaders and team members reported that the inclusion of patients proved valuable over time because they brought information about the stigma they experienced and other challenges of navigating the health system to the attention of the medical professionals. The medical staff, in turn, more acutely realized the need to prioritize treating clients with respect and according to their dignity. However, QI team members found this requirement challenging to implement in practice and struggled to determine the patient's role. They invited patients to learning sessions but grappled with which sessions were appropriate and how to make the participating patient comfortable in the role.

Quality Management Team

The overall team structure consisted of a facility-based QI team, which interacted with a quality management team, comprised of province-level decision makers as well as with project QI experts (Fig. 13.1). The quality management team's role included establishing collaboration with outside facilities and departments key to the improvement effort. The TB doctor, who acted as the QI team coach and mentor, served on the quality management team and played a major role in developing a local HCT protocol for TB providers and in providing continuous follow-up and advocacy for the scale-up of the improvement effort. In addition, a retired head of the TB facility also served on the quality management team; this team member's extensive network of contacts with health and government officials helped the team navigate government channels and interact with the region's other medical facilities. Quality management team members helped the facility tackle challenges that arose between sites that provided antiretroviral therapy (ART), the AIDS center, and other sites in the province.

Analyzing the Problem

The Chervonograd TB dispensary QI team developed a flowchart to identify problem areas within the delivery of HCT services to patients diagnosed with or suspected of having TB (Fig. 13.2).

The team was able to identify issues leading to patient loss in this fragmented process:

- When suspected or confirmed TB patients reach a TB doctor, the doctor prescribes tests to confirm TB and does not routinely offer HIV counseling. TB doctors are hesitant to counsel because they have not gone through certified HCT training and lack job aids, and TB facilities do not have resources for rapid testing on their own premises.

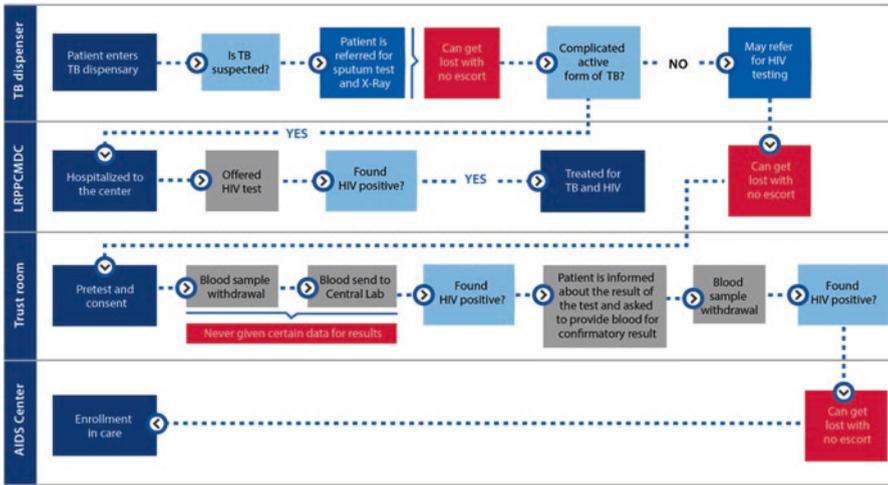


Fig. 13.2 Patient flow for HIV counseling and testing for TB patients in Chervonograd

- If a patient has confirmed TB and has the complicated active form of TB, she/he is referred to Lviv Regional Phthisiatric-Pulmonary Clinical Medical Diagnostic Center for TB treatment. Only at that secondary-level center is the patient offered HIV testing.
- TB doctors potentially recommend that patients go to a separate primary health facility for HCT, which has a trust room and a lab that conducts testing on-site. Often patients did not reach this facility.
- Even if a patient makes it to the trust room, it typically takes approximately 2 weeks to get HIV test results based on the ELISA diagnostic technique, and often the laboratory cannot give an exact date for the patients to return for the results. Some patients who return their results find that they are not yet ready.
- If a patient tests positive for HIV, she/he is referred to the trust room again for posttest counseling and asked to provide blood for the confirmatory test and return for the results. If confirmed HIV positive, patients are asked to go to the regional AIDS center for enrollment in care.

Challenges to the Provision of Quality HCT Services

Under the existing system, the TB clinic was unable to test clients for HIV on-site. As a result, clinic providers referred patients to the primary health-care center, a separate facility. Unlike the TB clinic, the primary health-care center had a laboratory for processing blood samples and a separate area for HCT, referred to as a “trust room,” intended to ensure privacy and instill in patients a sense of confidentiality.

The TB clinic’s QI team had long felt that an inability to perform HIV testing on-site was the main obstacle to ensuring that TB patients were tested for HIV. Being

able to test clients on the clinic's premises, they asserted, would simplify the patient flow and make the process feel more secure. Administering the test to patients as part of TB services would present a more streamlined and efficient process, ensuring that a much greater number of clients would be tested. Without on-site testing, the TB clinic had to ask patients to travel to a different location for the HIV test, the results of which they were likely to be uneasy and fearful about. Asking patients to go to a separate location made it less convenient and more complicated for those who already had reasons to avoid taking the test.

Although no policy barrier existed to TB clinics offering rapid diagnostic testing, clinic staff had not, prior to the QI work, had the time or opportunity to meet as a group to consider how they might obtain a stock of RDTs to use on-site. After the team realized how many clients were being lost as a result of clients having to report to another location for testing, they began to seek ways to obtain a stock of RDTs. Eventually, they applied for and received a grant to receive RDTs from a charitable foundation.

The TB clinic also did not follow up with either patients or the primary health-care center to confirm that referrals were completed, further contributing to the gap in services. The result was that a majority of TB clients identified for HIV testing never actually received testing. With the guidance of the coach and USAID-funded project team, the facility QI team shifted their focus from budgetary and resource obstacles to putting in place simpler and less costly interventions that were within their budget and ability to implement.

Carrying Out the Improvement Effort

The Chervonograd team adapted the collaborative's original charter to define the aim of its QI intervention as well as to propose improvement objectives, change interventions, and indicators to assess the effectiveness of changes.

Problem Statement

TB dispensary clients are not offered HCT, leading to missed diagnoses and inadequate management of TB and HIV coinfection.

Aim

Integrate HCT into the process of care at TB clinics to address missed diagnosis of TB/HIV coinfection and ensure enrollment in care for HIV-positive patients.

Improvement Objectives

The Chervonograd QI team defined its improvement objectives as follows:

1. Increase the identification of HIV infection in key populations at the early stages of HIV infection.
2. Increase the percentage of clients screened for TB who receive HIV pretest counseling
3. Increase the percentage of TB facility clients (both suspected and confirmed TB cases) who get tested for HIV following HIV pretest counseling.
4. Increase the number of confirmed HIV-positive clients who are enrolled in care at a specialized clinic.

Development, Implementation, and Testing of Change Ideas

Team members used flowcharts to analyze where current gaps in service delivery existed and where changes could be made and used time series charts to track the effects of the changes made.

The team hypothesized that offering HCT to all TB clients—suspected, new, and chronic—at TB facilities would increase timely HIV detection and address TB/HIV coinfection. QI team members decided to address patient loss through offering HCT to TB clients at TB facilities and tracking client flow in the Chervonograd TB dispensary. The team was able to come up with change ideas based on their analysis of the problem and tested these ideas over time.

Proposed Changes

To reach their improvement objectives, the team proposed change ideas that were then validated through testing, regular measurement, and documentation of results.

- Develop a local HCT protocol with counseling messages and a streamlined patient flow.
- Develop checklists from the protocol for providers to use as reminders.
- Conduct on-the-job HCT training for TB doctors and nurses.
- Define inclusion and exclusion criteria for counseling specific groups of patients.
- Offer escorts from the TB dispensary to the trust room of the primary health center for HIV testing.
- Establish a collaboration between TB facilities and the local police to make sure that prisoners are referred for X-ray and HCT when they are released.
- Establish a collaboration with the rehabilitation center for people who inject drugs to offer them counseling and develop escorting and communication mechanisms.

Measuring Improvement

Indicators

To evaluate the effect of the proposed changes, the team tracked the following indicators:

- Percentage of TB patients receiving pretest HIV counseling
- Percentage of TB patients referred for HIV testing
- Proportion of TB patients provided with posttest HIV counseling
- The number of people living with HIV enrolled in care at the regional AIDS center

Moving Toward a Culture of Data Analysis

The TB dispensary head designated a TB nurse to serve as data collector. Project staff developed a data collection form to ensure that data collection of the new improvement indicators was consistent, and the QI team started an HCT logbook to register progress on these indicators. During the initial coaching visits, the USAID project team pretested the data collection form to make sure that indicators were relevant. The data was transferred to an Excel spreadsheet that automatically generated time series charts. Since at least two indicators required comparison of data across vertical programs, the team developed a QI data measurement algorithm that became part of the local HCT protocol. These developments became invaluable in the scale-up process, since they made the start-up for new teams much easier.

During the initial coaching visits, project representatives and the QI mentor conducted sample-based quality assurance of the data and analysis. Initially, the team reacted to this practice with resistance, but very rapidly data became an engaging tool for generating ideas for improvement (see Box 13.1). According to one QI team member, there was not really a culture of data analysis and reflection before the improvement effort: *“Before, we collected some data, but didn’t analyze it. We knew nothing about...how to interpret time series charts.”*

Box 13.1 A Snapshot: Changing to a Data Analysis Culture

The act of data collection empowered a nurse from the TB facility to link and integrate care across vertical health-care programs. To ensure that all TB clients referred for HIV testing actually reached the trust room laboratory, she spoke with the trust room nurse on a weekly basis. After the first HIV-positive clients were identified, the nurse established check-in calls with the AIDS center to ensure that HIV-positive clients were enrolled in care. The nurse said, *“Measuring motivates people to work better. It makes them more organized and gives them the opportunity to be proud of results.”*

Use of Time Series Charts

Initially, project QI experts worked closely with the Chervonograd QI team to help them analyze the data by looking at trends before and after the introduction of changes, brainstorm ideas, and present results and lessons at the learning sessions.

Through the use of time series charts, the QI team was able to identify effective and ineffective changes, honing the program's focus. They used the charts to analyze why the original change package was not yielding the intended results; specifically, they were not identifying many HIV-positive clients. As a result, they decided to target high-risk key populations, such as released prisoners and people who inject drugs, to reach more potentially HIV-positive clients and link them to care.

Once the team narrowed the focus of the interventions, they began to develop criteria to take steps to reach the target populations and measure results. The head of the Chervonograd TB dispensary established referral systems with the local police and with a Chervonograd drug rehabilitation center to refer released prisoners and people who inject drugs for TB and HIV screening. The QI team developed a referral form to simplify and standardize the process.

The QI team also used the charts to identify which changes they had to abandon or change. For example, after finding that patients were unwilling to wait the length of time it took for escorts to arrive from the social services department, the proposed idea of providing escorts was abandoned. Instead, when HIV rapid testing became available in the dispensary, the medical staff provided counseling for HIV-positive patients and then called the trust room to let them know that a new patient should be coming there. If, after a week, the patient did not come to the trust room, TB dispensary staff would follow up by calling the patient.

Analysis of time series charts also helped reveal a problem that if gone unrecognized could have led to an abject failure in the system. At one point, almost no testing was taking place. In analyzing the time series graphs, the QI team quickly noticed this negative trend and began exploring the underlying reasons why it was occurring. They discovered that the cause appeared to be rooted in provider concerns about whether sharing client information between clinics maintained patient confidentiality. The team was able to conduct a conflict resolution process to address staff concerns and define the process for sharing of client information between the clinics.

Table 13.1 presents the issues that were discerned from analyzing the time series charts and the change ideas on which the team reached a consensus after analyzing the results. It shows the interventions tested and introduced over the course of the project.

Support for Improvement

The TB doctor who was key to launching the effort in Chervonograd initially served voluntarily as mentor and coach for the two pilot sites. After 9 months, the project made the QI mentor job a paid position and defined the role more specifically to

Table 13.1 Change ideas introduced over time

Underlying issue or hypothesis	Change ideas tested
Pretest counseling for HIV	
Because TB doctors were not trained in HCT, they were not comfortable with administering tests or providing counseling	On-the-job HCT training for TB doctors and nurses was conducted by the AIDS center, resulting in a larger number of HIV-trained TB medical staff
Some TB providers were still reluctant to offer counseling since they felt that messages were not customized for TB clients	A local HCT protocol with counseling messages and a patient flow diagram were developed
Initially, despite a lot of tests that were performed, very few positive cases were identified. The team then developed more specific criteria for identification and counseling of high-risk groups	<ol style="list-style-type: none"> 1. The inclusion and exclusion criteria for counseling specific groups of patients were defined 2. Established links with the local police to screen released prisoners for TB and HIV 3. Established links with the local drug rehabilitation center to screen people who inject drugs for TB and HIV
Demand for HIV counseling grew, and it was hard for doctors to cope with increasing demand	To cope with a large number of new TB patients that were supposed to be counseled on HIV, doctors started shifting HIV counseling to nurses
Testing for HIV	
After referring to HIV testing, TB facility would not know if all referred patients were actually tested for HIV	<ol style="list-style-type: none"> 1. Regular communication and data exchange were established between TB doctors and the infectious disease specialist from the trust room on the number of patients tested and results received 2. The social workers from the rehabilitation center offered to escort clients from the TB dispensary to the trust room or the AIDS center 3. With support from the USAID project team, the TB dispensary applied for a grant to receive RDTs through a charitable organization and started using them to provide, for the first time, on-site HIV testing
Posttest counseling	
Patients forget when to come for posttest counseling because of the 2–3-week time to get the confirmatory result	<ol style="list-style-type: none"> 1. TB nurse called patients to remind them to come for posttest counseling 2. The TB nurse followed up by phone with the trust room nurse to track whether patients reached the trust room on the same day referred 3. If the patient has not reached the site within 3 days, the patients' contact information was shared with the social service to enable them to find the lost patients
Patients were concerned about confidentiality since they received pretest counseling in the TB dispensary while posttest counseling was provided in the trust room	A regional order was issued that enabled TB dispensary to do both pretest counseling and posttest counseling to TB patients even though testing was done at primary care center laboratory

(continued)

Table 13.1 (continued)

Underlying issue or hypothesis	Change ideas tested
Enrollment in care for HIV-positive TB clients	
Patients forget or are reluctant to go to the AIDS center for enrollment in care	<ol style="list-style-type: none"> 1. TB nurse calls to remind patients to enroll in care 2. If the patient had not reached the AIDS center within 3 days, the patient's contact information was shared with the social service unit and the AIDS center to enable them to find the lost patient
Loss of an HIV patient would go unnoticed because the TB dispensary, AIDS center, and trust room did not have a system of information exchange	A regional order was issued that enabled the TB dispensary, trust room, and AIDS center to exchange regular information of newly identified HIV patients and ensure their enrollment in care

include both mentoring and coaching duties. During the initial visits, the coach supported the team in identifying and assessing indicators and developing plans to address performance gaps. As the project developed, she supported the staff to test and implement changes using a “plan-do-study-act” cycle. The coach conducted 20 visits to the Chervonograd clinic during the year that it served as a pilot site. Using techniques and methods such as role playing, observation, and immediate feedback, the coach mentored team members on how to implement QI change interventions and improve services. She worked with the team to use time series charts to track changes in the data and analyze QI measures.

Initially there was resistance among the TB doctors to provide HCT, a new practice. However, by the third coaching visit, they recognized the groundwork that was being laid for providing improved health-care services, diagnostics, and testing to clients. As they began to recognize the potential of the interventions and saw that the effort might actually bring needed change, their attitudes changed. In fact, the QI mentor reported that TB providers started working together to address technical issues, such as developing a facility-specific local protocol to conduct HCT as a guide for TB staff. By the fourth coaching visit, the QI mentor reported that the QI team had already established a new practice of counseling, testing, and data collection. And, to ensure testing for patients, the team was actively working to improve collaboration with staff at the trust room and social services. Starting from the fifth coaching visit, the QI mentor reported that the Chervonograd team was communicating about their QI efforts with the district and Provincial AIDS Council. By the seventh coaching visit, the team had expanded its relationship with the drug rehabilitation center and internal affairs department in order to reach more members of key populations.

The team was not provided with monetary support other than a minimal payment paid to the QI mentor. Other organizations did provide training and technical support: the local civil society organization provided HCT training; the AIDS center provided training in the use of RDTs; the Lviv social services department conducted an interpersonal communication training; and a charitable foundation provided HIV rapid test kits to the Chervonograd TB dispensary.

QI Team Dynamics

The evolution of the QI team's dynamics and relationships illustrates how changes that take place on the frontline can resonate throughout the system. Since QI team members were from discrete programs and departments, which operated in a vertical system, members' relationships had to develop and evolve. Over time, mutual respect between members grew, as one participant shared: "*Teamwork is no longer my way or the highway...it is more about we and us.*" The group eventually emerged as a committed and cohesive team which persisted in its efforts until goals were reached. As it developed and grew, the team faced various challenges which it met with enhanced communication between members and through the guidance of strong leaders.

In follow-up interviews, team members reported experiencing either no conflict within the team, or, if conflicts were reported (usually around miscommunication), they described confidence that the team could come to resolution due to its "open culture." These experiences likely contributed to the individual members functioning effectively, helping to support rapid formation of supportive team norms.

As the team became more organized and cohesive and more experienced with QI, they took on increasingly complex tasks. For example, if initially the group was thinking only about establishing a monitoring system, in later stages, it was implementing complex changes requiring strong coordination with a number of different institutions and programs. Almost from day one, the team demonstrated a willingness to cooperate between units from three vertical programs—the TB dispensary, the trust room, and the social support unit.

Results

Figures 13.3, 13.4, and 13.5 illustrate the effects of change interventions introduced by the Chervonograd QI team on HIV counseling and testing. After providing HIV counseling training to TB providers, the percentage rate of patients who received pretest counseling grew to 60% (Fig. 13.3). In July, after the TB dispensary team began to use the local facility-based HCT protocol and more health providers started to provide counseling, higher numbers of TB patients received services. To manage the higher demand, the team shifted counseling duties to nurses and narrowed the criteria for client selection. At about the same time, the drug rehabilitation center started to participate in the project and brought additional clients to the TB dispensary. The period between June and November 2014 was characterized by a decrease in performance due to a change in the dispensary's head. In January 2015, the TB staff acclimated to new management, and the performance again started to trend upward.

The process of requesting patients to schedule HIV testing at another facility (and travel to that facility for testing) resulted in many patients not following through. Providing a social worker to escort patients to the other site temporarily boosted testing rates, but the intervention proved unsustainable. Additionally, a staff

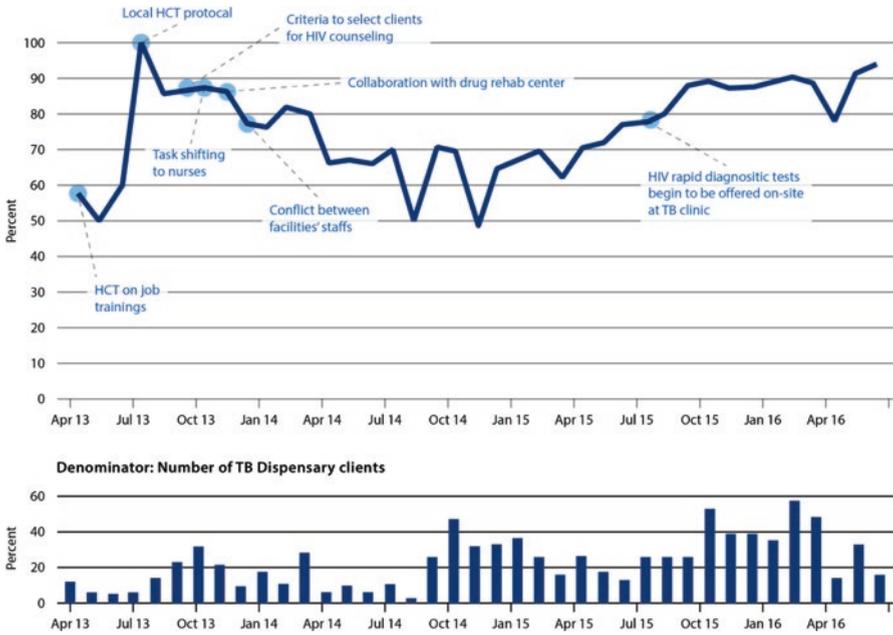


Fig. 13.3 Percentage of Chervonograd TB dispensary clients who received HIV pretest counseling (Apr 2013–Dec 2015)

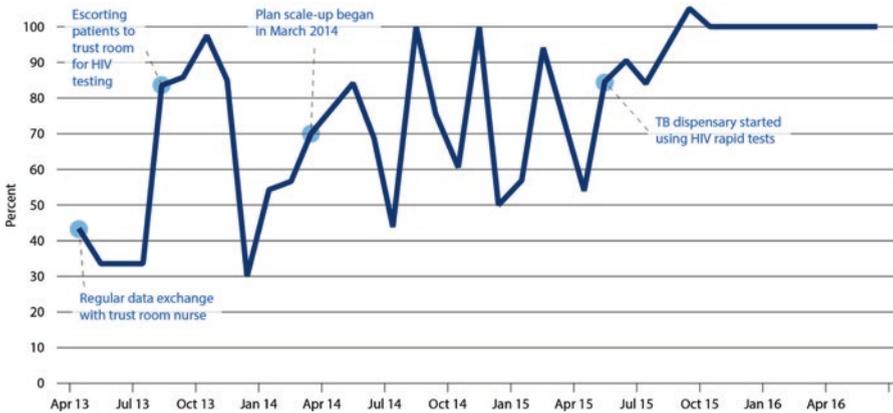


Fig. 13.4 Chervonograd TB dispensary clients who received HIV testing (Apr 2013–Dec 2015)

conflict in fall 2013 between the Chervonograd TB and trust room staff dramatically decreased the number of patients tested.

The number of patients again rose after the conflict was resolved, and the Chervonograd TB and trust room staff were asked to help plan the expansion of pilot work to new districts within Lviv. The request to assume new responsibilities

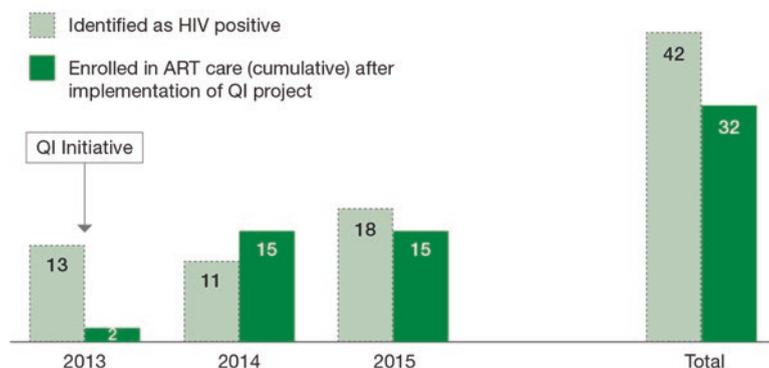


Fig. 13.5 Number of HIV-positive clients enrolled in HIV care by year and cumulative number (2013–2015)

reportedly boosted staff morale and helped to improve performance and ensure that patients were tested.

When the improvement effort started, only civil society organizations applied for funding to purchase and use HIV RDTs in Ukraine. The civil society organizations were Global Fund recipients, which procured rapid tests for them for HIV screening among key populations. Very few government health facilities were recipients of grants from any international organization at that time, and none of the health facilities in Lviv Region were recipients of grants.

To make diagnoses, public health facilities withdrew blood and sent samples to the laboratory for ELISA—a time-consuming diagnostic test process. The Chervonograd TB dispensary recognized that it could provide HCT services on-site to TB clients and, after applying for a grant to fund the initial purchase of rapid test kits, began in July 2015 to provide HCT services to clients on-site and even to offer it to clients of other facilities. Now, TB dispensaries throughout Lviv use on-site rapid testing. The convenience and confidentiality of on-site rapid testing have led to a sustainable and reliable HCT process for all TB clients (see Fig. 13.4) and to an increased number of HIV-positive clients enrolled in care. Initially, out of 24 patients identified as HIV-positive in 2013 and 2014, 17 were successfully enrolled in care. By 2015, this proportion improved to 15 patients enrolled in care out of 18 identified as HIV positive (Fig. 13.5).

Scaling Up the Improvement Effort

In March 2014, 1 year after the QI start-up, four new TB facilities joined the improvement effort; in 2015, an additional six sites came on board. Over the course of the initiative, the project held a QI coach training, five QI learning sessions, and eight trainings on how to administer and practice HCT. Coaches conducted 144 site visits.

The 12 participating sites used rapid tests provided by the charitable foundation or purchased out of their own budget. Chervonograd's successful collaboration with other programs and the province AIDS center led to an issuance of a new province-level policy in 2015 that called for a strong collaboration and exchange of information between TB facilities, the province AIDS center, and trust rooms throughout Lviv Province.

The project team followed the Breakthrough Series Collaborative improvement methodology to scale up the initiative (Massoud et al. 2006). Collaboratives operate on adult learning principles, require focused work by each team to adopt effective changes to their setting, use methods for accelerating improvement, and capitalize on shared learning and collaboration. The project adopted the methodology by intensifying coaching visits between learning sessions.

The scale-up initiative was largely peer-driven with members of the Chervonograd QI team serving as coaches and the QI mentor expanding her role to oversee the entire effort.

An initial training held for the new coaches covered a wide range of duties, such as:

- Working with the QI team to collect accurate data and analyze QI measures using time series charts
- Maintaining regular communication via meetings, email, or phone on QI activities with the quality management team and with the project officer
- Helping prepare teams to present their results (via storyboards or PowerPoint presentations) at learning sessions
- Facilitating discussions during learning sessions
- Reporting to the team, the district, and provincial managers

Under the leadership of the QI mentor, scale-up coaches visited each of the districts to explain the improvement concept and disseminate handouts critical to the process. For example, they provided a blank charter template with their own charter to use as an example and asked staff to develop their own district-specific charter.

Learning sessions presented opportunities to bring together all the teams, novice and experienced, on a quarterly basis to share their experiences with peers, discuss opportunities and challenges, and plan the next steps. Bringing together participants from different districts raised a healthy competition among peers and enabled them to share strategies and common challenges. The initial session focused on sharing learning from application of the QI model, analysis of results, and planning the next steps using plan-do-study-act cycles. An outside QI expert from Russia was invited to share their experience of implementing improvement efforts in HIV services. Subsequent learning sessions focused on the same goals plus sharing best practices and planning scale-up to new sites.

Chervonograd team members were paired with their peers in new districts: the retired TB doctor who was a member of the quality management team shared his experience with other TB doctors; the data collection nurse shared her experience with other potential data collection nurses. Learning sessions played a critical role in strengthening the cohesion of the Chervonograd team. At the sessions, the project

team introduced QI concepts and methods as well as ways to plan, implement, monitor, and refine changes in health-care processes. During small-group discussions, the project team supported participants in developing improvement aims, objectives, and changes. Each QI team from the 12 participating sites was oriented on how to use the data collection tools and how to select and analyze indicators that would allow the team to assess the effectiveness of change interventions.

Project staff and the team's QI mentor conducted coaching visits between trainings and learning sessions. The visits served as a mechanism to follow up on how improvement plans were progressing as well as providing an opportunity to discuss and brainstorm creative ideas to improve care processes. Coaches helped new teams to test and implement changes using plan-do-study-act cycles. Coaching visits were made on an almost monthly basis when the QI effort started. Over time, visits gradually became less frequent.

Figure 13.6 presents data showing that the TB facilities which joined the effort during the scale-up period performed better than their predecessors on the first objective (HIV counseling for all TB clients) within 4 months of initiating the work. By December 2014, their performance level for counseling TB patients on HIV reached 90%, whereas the proportion achieved by the pilot sites dropped to 50% during this time. The discrepancies in performance are attributed in part to the Chervonograd site's lack of a separate room for ensuring confidentiality during

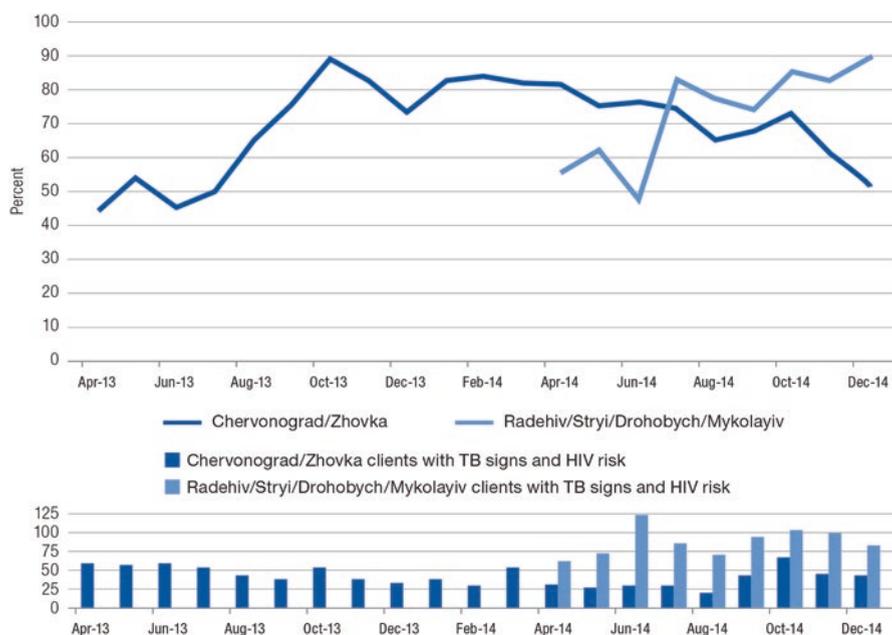


Fig. 13.6 Percentage of TB patients counseled for HIV in pilot and scale-up sites (Apr 2013–Dec 2014)

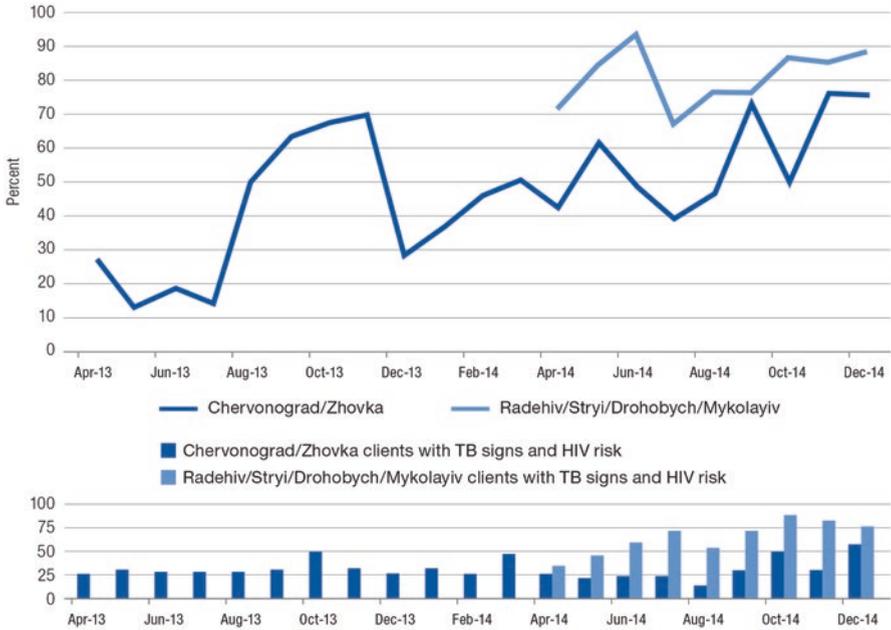


Fig. 13.7 Percentage of TB clients tested for HIV in pilot and scale-up sites (Apr 2013–Dec 2014)

counseling. Most importantly, however, the scale-up sites were more easily able to replicate the effective changes and learning generated by the pilot sites.

Figure 13.7 demonstrates a higher performance level in terms of the percentage of TB clients tested for HIV in the scale-up facilities. The main reason for this result is that the pilot TB facilities, at that time, still needed to refer counseled clients to a separate health facility for testing, while the four scale-up TB clinics started immediately procuring rapid tests using their own budgets and were therefore able to conduct diagnostic tests on the premises, which demonstrates that scale-up facilities went even further than pilot ones in some of their QI efforts.

The USAID-funded project completed its support in the third quarter of fiscal year 2016. The QI mentor continues to oversee the effort through:

- Scaling up of HCT in TB facilities to the rest of the 13 districts of Lviv Province and Lviv City
- Implementing HCT for the sexual partners of people living with HIV who were identified in TB facilities
- Advocating for procurement of rapid HIV tests from the local district budgets

Reflection

Piloting a collaborative improvement effort in a system that is new to QI is a labor- and resource-intensive endeavor. As evidenced by the number of coaching visits and learning sessions conducted and the level and amount of training provided, supplying technical support to pilot teams—especially those new to improvement efforts—requires a rigorous, large-scale effort.

The incremental changes that the Chervonograd team put in place to address the larger and costlier obstacle of being unable to perform testing on-site because they did not have RDTs was critical to the project's success. By demonstrating incremental successes, the clinic was recognized by the charitable organization and the provincial and facility health managers and, as a result, was eventually provided with the RDTs that allowed them to do on-site testing.

The success of the pilot program and the scale-up effort is due in large part to the commitment of the QI team in Chervonograd, a factor that illustrates how critical it is to select, especially for key roles in the scale-up process, a pilot team that has the strongest chance of being successful. It also highlights the very specific role of leadership, especially in the beginning. Without the retired head of the TB facility whose extensive network of contacts with health and government officials helped the team navigate government channels and interact with the region's other medical facilities, the team's effort may have stalled and never moved too far. This leader gave the team confidence to persevere and excel. In addition, it is critical to monitor the success of the team and to empower participants to take on more responsibilities and function more independently. This case shows that empowering high-performing teams to develop leadership potential also enables these same teams to support a spread strategy.

This case also clearly demonstrates that in rigid systems like the health system in Ukraine, it is important to work within the system's constraints to empower the team for changes and spread. Considering the fragmented and vertical nature of the Ukrainian health system, the USAID-funded project team proposed a multidisciplinary team structure with representation from various service delivery organizations. Reaching a balance between organizational structure and procedural flexibility enables teams to more effectively adopt the QI model to hierarchical systems similar to the system in Ukraine.

The Chervonograd team operated in a complex, dynamic environment. Collaboration across multiple vertical programs and among a variety of individuals was required to identify barriers to improvement in the targeted areas and to remove them. The participation of representatives from different public facilities on the Chervonograd QI team increased the effectiveness of the team as each QI team member provided a perspective from a different vantage point. As a QI leader pointed out: *"We worked a little with social services before the QI project started,*

but during the project we started collaborating with the trust room, the drug rehabilitation center, and even local police.”

These improvements would not have been possible without day-to-day support from the QI mentor and from the head of the AIDS center, both strong advocates of HCT in TB services. They also played a crucial role in the MOH’s issuance of decrees that facilitated the scale-up, and they continue supporting this effort province-wide. The team is certain that this work is sustainable. As one of the interviewed team members noted: *“We can’t go back to old way of working now. The changes we implemented are already permanent.”*

In conclusion, being part of the HCT improvement effort gave the Chervonograd TB team a new vision and, in fact, made them champions among other facilities. We believe that the journey of this team can serve as a role model for an improvement effort that is seeking pioneers that are able to meet the challenges of pioneer QI programs.

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