Eastern Europe and Central Asia Regional Training

TB Monitoring and Evaluation and Surveillance Capacity Strengthening for National TB Programs

February 2023

USAID
FROM THE AMERICAN PEOPLE

TB DIAH
Tuberculosis Data, Impact Assessment and Communications Hub

Eastern Europe and Central Asia Regional Training

TB Monitoring and Evaluation and Surveillance Capacity Strengthening for National TB Programs

February 2023

TB DIAH

University of North Carolina
123 West Franklin Street, Suite 330
Chapel Hill, North Carolina 27516 USA
Phone: 919-445-6949 | Fax: 919-445-9353
hub@tbdiah.org
www.tbdiah.org

This publication was produced with the support of the United States Agency for International Development (USAID) under the terms of the TB Data, Impact Assessment and Communications Hub (TB DIAH) Associate Award No. 7200AA18LA00007. TB DIAH is implemented by the University of North Carolina at Chapel Hill, in partnership with John Snow, Inc. Views expressed are not necessarily those of USAID or the United States government. Publication ID Number SR-23-176 TB

Acknowledgements

This report was produced by Nina Javakhishvili, TB Data, Impact Assessment, and Communications Hub (TB DIAH) consultant, and reviewed by Bridgit Adamou and Ezra Tessera, TB DIAH. Special appreciation goes to Alexander Asatiani, TB DIAH Regional Consultant for Eastern Europe and Eurasia, who worked tirelessly to help plan the regional training along with the TB DIAH support staff. We acknowledge The Universal Consulting (TUC) Group who helped organize the event, and the United States Agency for International Development (USAID) for its financial support. In particular, we would like to acknowledge Sevim Ahmedov, USAID AOR for TB DIAH, for his contributions to shaping the workshop agenda. We would also like to thank the World Health Organization/European Region and the Global Fund to Fight AIDS, Tuberculosis, and Malaria for their collaboration. Lastly but most importantly, we thank the staff at the National Center for Disease Control and Public Health (NCDC) and the National Center for Tuberculosis and Lung Diseases (NCTLD) for their help with organizing the training and hosting the event in their beautiful city.

All photos featured in this report are the property of TB DIAH. All individuals appearing in these photos were training participants and facilitators.

Suggested citation:

Eastern Europe and Central Asia Regional Training: TB Monitoring and Evaluation and Surveillance Capacity Strengthening for National TB Programs. February 2023. TB DIAH, University of North Carolina at Chapel Hill.

Contents

Abbreviations

ARC	Assessment of Data Collection, Reporting, and Analysis Capacity
COE	Center of Excellence
DR	drug-resistant
DS	drug-sensitive
D2AC	Data-to-Action Continuum
EEE	Eastern Europe and Eurasia
IP	implementing partner
MDR	multidrug-resistant
M&E	monitoring and evaluation
MESSA	Monitoring and Evaluation and Surveillance System Analysis
MEL	monitoring, evaluation, and learning
MoH	ministry of health
MoILHSA	Ministry of Internally Displaced Persons, Labour, Health, and Social Affairs
NCDC	National Center for Disease Control and Public Health
NCTLD	National Center for Tuberculosis and Lung Diseases
NGO	non-governmental organization
NSP	national TB strategic plan
NTP	national TB program
PBMEF	Performance-Based Monitoring and Evaluation Framework
QTSA	Quality of TB Services Assessment
RR	rifampicin-resistant
SMART	specific, measurable, achievable, relevant, and time-bound
STEP	Surveillance System Strengthening Plan
TA	technical assistance
TB	tuberculosis
TB DIAH	TB Data, Impact Assessment, and Communications Hub
TPT	TB preventive treatment
USAID	United States Agency for International Development
WHO	World Health Organization
WHO/Europe	WHO Regional Office for Europe
WRD	WHO-recommended rapid diagnostic
XDR	extensively drug-resistant

Executive Summary

Background

The TB Data, Impact Assessment, and Communications Hub (TB DIAH), funded by the United States Agency for International Development (USAID), is part of USAID's programmatic approach to fight tuberculosis (TB): the Global Accelerator to End TB (the Accelerator). TB DIAH aims to ensure optimal demand for and analysis of routine and non-routine TB data and their appropriate use to support interventions, policies, and performance management. To achieve this, TB DIAH supports national TB programs (NTPs) in strengthening TB surveillance systems and improving data use, building capacity to report on countries' TB Roadmap indicators, strengthening monitoring and evaluation (M&E) skills, and developing and promoting online data resources.

TB DIAH's approach in the Eastern Europe and Eurasia (EEE) region, which is comprised of Armenia, Azerbaijan, Georgia, Moldova, and Ukraine, is centered on a Center of Excellence (COE) model as a means of providing technical assistance (TA). The TB DIAH project established a virtual EEE COE in TB M&E and Surveillance in May 2022 in Georgia. The COE is hosted by Georgia's National Center for Disease Control and Public Health (NCDC) together with the country's National Center for Tuberculosis and Lung Diseases (NCTLD). The COE's purpose is to model, test, and share best practices in TB M&E in the region; serve as a hub for TB DIAH support in the region; and ensure synergy and effective use of resources.

About the Training Event

To address the overarching need to strengthen the capacity of NTP staff to improve TB data collection, reporting, analysis, and use, TB DIAH, through the COE framework, hosted a "Regional Training Workshop on TB M&E and Surveillance Capacity Strengthening" for EEE NTPs. The in-person workshop took place in Tbilisi, Georgia, from November 30 through December 2, 2022.

More than 90 participants from the five EEE countries and five Central Asian countries (Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan) attended a mix of presentations and individual and group activities. The event engaged NTP representatives, civil society organizations working in community-based TB M&E, USAID mission health staff, and USAID-funded TB implementing partners (IPs), including TB advisers. USAID/Washington staff and representatives from the World Health Organization Regional Office for Europe (WHO/Europe) and The Global Fund were also engaged.

Day One

The first day introduced the TB DIAH project, COE strategy, and Performance-based Monitoring and Evaluation Framework (PBMEF) and related tools and resources; covered the fundamentals of M&E; and shared WHO/Europe updates in relation to TB M&E.

The day started with opening remarks from key participants speaking about the importance of strengthening TB data collection and analysis and having the opportunity to share knowledge and experiences, identify common solutions to common problems, and learn from each other.

Participants were presented with an overview of TB DIAH and the PBMEF. The PBMEF is a key element of USAID's efforts to ensure effective accountability of investments in TB at global, regional, and country levels. The framework is organized around the strategic areas of reach, cure, prevent, and sustain. To monitor improvements toward reaching global TB milestones and

targets, the framework contains standard WHO indicators as well as additional (i.e., extended) indicators to measure progress along the TB treatment cascades and pathways of care.

To support the PBMEF, TB DIAH developed several tools and resources to assess the TB M&E and surveillance systems at the country level. Another TB DIAH resource, the Data Hub, is an online portal for TB program managers, TB technical advisors, and key country stakeholders to access global and national-level data to support performance-based management of their TB programs.

The session on the COE strategy and plans explained how the COE has been designed to provide leadership and coordination; establish and promote best practices; provide appropriate recommendations, support, and education; and perform other similar functions in specific areas considered critical to the success of the overall organization or practice that the COE supports. Hosting the COE in Georgia allows Georgian partners to serve as a model for other countries in the region and will establish a foundation for intercountry collaboration and cross-fertilization of TB M&E knowledge and skills to ensure synergy, sustainability, and effective use of resources.

The next session on M&E fundamentals described general M&E concepts, frameworks, structure and content of M&E plans, considerations, and objective setting, including the concept of having SMART (specific, measurable, achievable, relevant, and time-bound) objectives. In a small group activity, countries were asked to review their national strategic plans to assess how "SMART" the objectives were.

Representatives from WHO/Europe presented the M&E framework in the new "Tuberculosis Action Plan for the WHO European Region 2023–2030." During alignment with the new action plan, the terminology and definitions of two indicators were changed: extensively drug-resistant (XDR)-TB and pre-XDR-TB. Three additional indicators were introduced. Baseline values were updated with the latest data.

There are three pillars in the TB Action Plan, each with unique data challenges. WHO/Europe identified issues with reporting on specific indicators, discussed different data collection and reporting mistakes countries are making, and suggested ways to improve data quality. Participants were provided with tips on how to improve data quality and completeness based on the WHO's country experiences.

Day Two

The second day explained how NTPs can use the PBMEF and related resources as performance monitoring tools even if they do not have any USAID-funded TB projects, as well as the importance of data quality.

The day opened with a discussion around USAID's Global TB Strategy 2023-2030, including its results framework and strategic objectives. The PBMEF was discussed in more detail. There are 14 performance-based core (10 are core and four are core plus) and extended indicators that are reported to USAID missions. The extended indicators allow TB stakeholders to analyze data and dig deeper to identify program gaps. Accompanying this framework, TB DIAH has developed a guidance document containing the core and extended indicators as well as full indicator reference sheets. The guidance document is currently being updated.

Four countries —Tajikistan, Uzbekistan, Kyrgyz Republic, and Ukraine— shared their experiences with adapting to the new PBMEF indicators and how NTPs and IPs handled the process. Ukraine, for example, shared that aligning with the new indicators was not too challenging because the

monitoring, evaluation, and learning (MEL) plan was adaptable, and Ukraine worked with its IPs to incorporate missing indicators.

MEL reporting was extensively discussed, and participants were shown a new MEL plan template for USAID-funded projects that receive TB funds.

The TB Surveillance System Strengthening Plan (STEP) was presented. STEP uses findings from other TB DIAH-developed assessments, along with in-depth interviews with key informants, to systematically document the TB surveillance system's enabling environment, its structure or major components, and the management and use of data to identify strengths and gaps across the system. This systematic and multifaceted analysis of the TB surveillance system provides the foundation to develop a specific and costed plan for its improvement that will be led by the NTP with active engagement of relevant stakeholders**.** The TB DIAH Country Lead for the Kyrgyz Republic shared their experience implementing the STEP.

The next session was on dimensions of data quality. After the presentation, each country team worked together to identify five main data problems in their country, discuss how those problems affect data quality, and provide a solution. Four areas that affect data quality were identified: information systems, interoperability issues, M&E capacity, and the stigmatization of the disease. Several countries listed gaps or flaws in their electronic information systems as the number one data quality issue in their country. At the end of the session country representatives selected one indicator from their national report, assessed internal consistency, discussed possible reasons for the lack of consistency, and proposed actions that could improve data quality. Many countries mentioned the Covid-19 pandemic and how that negatively impacted TB data.

Day Three

The third day of the training drew from TB DIAH's TB M&E training materials, customized for the EEE and Central Asian regions, and covered data quality, visualization, communication, and use.

The first session of the day was on data analysis: cascade analysis, selection of appropriate charts, gap identification, and recommendations for improvement. Countries had to select indicators for a cascade analysis from national reports, project data, or other documents; organize data tables or create charts; and then interpret the data. They were asked to propose solutions for each identified problem. Three countries —Ukraine, the Kyrgyz Republic, and Azerbaijan— presented.

One of the 10 core indicators was then distributed to each country. Each country identified problems related to how their selected indicator may be incorrectly interpreted. This provided an opportunity for country teams to reflect on their data and data quality and share with the group their data challenges and solutions.

The session on data visualizations provided practical tips for what to do and what not to do when graphically presenting data and shared best practices in data visualization. The three steps for selecting visualizations are: (1) determine if a visualization is necessary, (2) identify your audience, and (3) figure out what information you want to show your audience.

Participants were then presented with how best to communicate data based on six principles: (1) establish your goal, (2) gather and use the right data, (3) create your visualizations, (4) consider the aesthetics, (5) select the medium and channel of communication, and (6) evaluate the results.

The training concluded with participants being asked about what type of support they would like from USAID. Uzbekistan commented that USAID support needs to concentrate on establishing

the M&E surveillance system. Armenia said that it will be most useful to think of the basic needs of countries individually since development levels are different. And Georgia suggested having TA to support the rollout of their new electronic information system, and from the COE perspective, conducting a follow-up workshop with more in-depth training on data analysis and data visualization.

Conclusion

The event laid a solid foundation and further strengthened the grounds for intercountry collaboration through the COE and was another important step towards strengthening the M&E and surveillance capacity in the EEE and Central Asian regions.

Background

The TB Data, Impact Assessment, and Communications Hub (TB DIAH) project, funded by the United States Agency for International Development (USAID), is part of USAID's new business model to fight tuberculosis (TB): the Global Accelerator to End TB. The Accelerator is designed to increase public and private sector investments to end the TB epidemic, while simultaneously building local commitment and capacity to achieve the goals set forth at the 2018 United Nations High-Level Meeting on TB. TB DIAH aims to ensure optimal demand for and analysis of routine and non-routine TB data and their appropriate use to support interventions, policies, and performance management. To achieve this, TB DIAH supports national TB programs (NTPs) in strengthening TB surveillance systems and improving data use, building capacity to report on countries' TB Roadmap indicators, strengthening monitoring and evaluation (M&E) skills, and developing and promoting online data resources.

TB DIAH's approach in the Eastern Europe and Eurasia (EEE) region builds upon the Center of Excellence (COE) model as a means of providing technical assistance (TA) to five EEE countries that USAID provides bilateral and regional TB support to: Armenia, Azerbaijan, Georgia, Moldova, and Ukraine.

In 2021, TB DIAH embarked on the detailed process of selecting a COE host country in the EEE region based on five qualitative and quantitative factors. After Georgia was selected, TB DIAH organized in-person meetings in Georgia in January 2022 to discuss the COE model and partnership framework with Georgia's National Center for Disease Control and Public Health (NCDC) and National Center for TB and Lung Diseases (NCTLD). In May 2022, a Founding Event was held at the NCDC in Tbilisi, Georgia to formally establish the virtual COE in TB M&E and Surveillance for the EEE region. The COE is hosted by the NCDC, together with the NCTLD. The COE's purpose is to model, test, and share best practices in TB M&E in the region; serve as a hub for TB DIAH regional support; and ensure synergy and effective use of resources.

Soon after the COE's establishment, the Center convened its first regional consultative meeting in Tbilisi, Georgia, in July 2022, hosted by the NCDC and NCTLD. It aimed to kick-start work in two core directions of the COE: a) identifying common bottlenecks, categorizing, and prioritizing areas requiring attention, and developing roadmaps for M&E and surveillance systems strengthening in respective intervention countries; and b) documenting current, successful practices, as well as experiences addressing identified areas for improvement. The meeting achieved its objectives and was a great success with more than 40 participants from Armenia, Azerbaijan, Georgia, and Moldova, providing opportunities for knowledge exchange and important interactions. It laid a solid foundation for collaboration and effective country engagement. During the intensive two-day workshop, countries identified common challenges across different TB M&E and surveillance systems domains. The discussions focused on governance (including policy and regulatory issues), TB information systems (including standardization and interoperability), reporting (including alignment with international standards), and data use and communications.

The workshop was particularly significant since it helped TB DIAH and the COE with identifying country- and region-specific follow-up actions. While consultations revealed common challenges across countries, it also showed that a context-specific approach was required to effectively address pressing needs. For this reason, the COE conducted national review meetings in each of the intervention countries in October and November 2022.

About the Training Event

To address the overarching need to strengthen the capacity of NTP staff to improve TB data collection, reporting, analysis, and use, TB DIAH, through the COE framework, hosted a Regional Training Workshop on TB M&E and Surveillance Capacity Strengthening for EEE and Central Asian NTPs.

The three-day in-person workshop took place at the Sheraton Grand Tbilisi Metechi Palace in Tbilisi, Georgia, from Wednesday, November 30 through Friday, December 2, 2022. Over 90 participants came from five EEE countries (Armenia, Azerbaijan, Georgia, Moldova, and Ukraine) and five Central Asian countries (Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan), as well as Denmark, Switzerland, and the United States. The participants attended a mix of lectures/presentations and individual/group activities. The event engaged NTPs, civil society organizations working in community-based TB M&E, USAID mission health staff, and USAID TB implementing partners (IPs) from participating countries. Three USAID/Washington staff and two representatives from the World Health Organization (WHO) Regional Office for Europe were also engaged.

The objectives of the training were threefold:

1. Provide an in-depth introduction to the Performance-Based M&E Framework (PBMEF): how the indicators are incorporated into USAID's TB portfolios, how they link to national TB strategic plans (NSPs), how they align with WHO indicators, and how the PBMEF and related tools can be used as a performance management resource.
2. Improve participants' understanding of TB data quality, analysis, communication, visualization, and use.
3. Familiarize participants with the M&E aspects of WHO's "Tuberculosis Action Plan for the WHO European Region 2023–2030," including indicator reporting requirements.

Day 1, November 30, 2022

Welcome and Opening Remarks

The first day served as an introduction to the TB DIAH project and the concept of the PBMEF. WHO/Europe staff presented the M&E framework in the new "Tuberculosis Action Plan for the WHO European Region 2023–2030." The reporting requirements for the WHO global TB data collection and practical aspects were also covered during a dedicated session.

Tamar Gabunia, Deputy Minister of the Ministry of Internally Displaced Persons, Labour, Health, and Social Affairs of Georgia (MoILHSA) welcomed event participants and outlined the importance of the event taking place in Georgia and the NCDC and NCTLD being selected as stewards of the COE for the TB DIAH project.

The Deputy Minister talked about the country's progress in fighting TB with the support of international organizations like USAID, the US Centers for Disease Control and Prevention, WHO, and Global Fund. Since 2015, incidents of drug-sensitive (DS) and drug-resistant (DR)-TB rates have decreased by 50 percent. This means that the interventions that are being implemented are working successfully and meeting the global TB targets in a way that is realistic for Georgia.

Gabunia outlined the importance of the sessions concerning building and strengthening country-level capacity for TB M&E and surveillance systems, because without robust data on the TB epidemic and TB program performance, it will be impossible to identify gaps and respond adequately.

Gabunia thanked the event organizers for the opportunity to share knowledge and experiences and identify common solutions to common problems.

On behalf of the COE and its host, NCDC, **Irma Khonelidze, NCDC Deputy Director General, Director of the Global Fund Programs**, once again emphasized the significance of establishing the COE specifically geared towards M&E and surveillance capacity strengthening in the region. As she welcomed event attendees, Khonelidze acknowledged ample representation of TB stakeholders, NTP representatives, USAID mission staff, and IPs.

Referring to the COE, Khonelidze talked about the importance of partnership and how partnership, together with expertise and shared vision, can be converted to opportunity for knowledge sharing and mutual capacity strengthening of NTPs in the region. She described how the COE was created due to long-standing collaboration between NCDC, NCTLD, and TB stakeholders in the region and thanked TB DIAH for supporting this initiative. She accentuated another example and outcome of sound collaboration, which is the WHO Collaborating Center on Viral Hepatitis Elimination that NCDC will be hosting soon.

Khonelidze noted that initial steps and activities undertaken by the COE were successful and productive since they helped the team to identify common challenges, needs, and areas for

improvement at regional and country levels. The current training is an important step to tackle overarching challenges and strengthen the grounds for robust national M&E and surveillance systems.

Khonelidze stressed that the NCDC, a leading public health institution in Georgia, is highly committed to implementing, strengthening and sustaining the COE model as a platform for collaboration, partnership, knowledge-sharing, and documenting best practices.

Zaza Avaliani, Director of the NCTLD, thanked USAID and TB DIAH for strengthening the capacity of NTP staff in TB data collection, reporting, analyses, and data use. He mentioned how it was good timing for the training as it will support the implementation of the framework of the new TB action plan of the WHO European Region. He also talked about the expectation of the training to meet all the objectives of strengthening TB in the region that will form a solid basis for accomplishing the TB regional action plan targets for 2023- 2030. He once again thanked USAID and other international donors for their continued support.

"Without TB data analysis of programmatic interventions, it will be vague and not targeted to acute needs. Low-quality data may lead to wrong directions and without performance monitoring, it will be impossible to show progress." – Zaza Avaliani.

Stephanie Mullen, TB DIAH Project Director, thanked colleagues from MoILHSA, NCDC, and NCTLD for hosting the workshop and being active facilitators and participants. She acknowledged USAID's support for the workshop and their commitment to strengthening TB M&E and surveillance in EEE and Central Asia.

Mullen spoke about the commitment and significance that data plays in the everyday management of TB programs and how critical data is for providing people-centered care to those in need. The demand on NTPs for data is driven by the need to better target TB programming to reach people and identify missing cases, effectively plan and advocate for resources, improve the quality and efficiency of TB services, and hold TB programs and institutions accountable for the use of resources and results. As such, TB M&E and surveillance systems need to be fully functional and able to address the many data demands of stakeholders, including ministry of health (MoH) officials, district and facility managers, individual providers, legislative bodies, civil society, and communities.

Finally, Mullen encouraged participants to use the opportunity to share experiences, best practices, and lessons learned within the country teams and with colleagues from countries across the region.

Sevim Ahmedov, TB/HIV Prevention and M&E Team Lead, USAID, Bureau for Global Health, TB Division, expressed appreciation to the TB DIAH team for bringing representatives from 10 countries to the EEE and Central Asia Regional Training.

Ahmedov talked about the meaning of data use at the national level to demystify TB data, look critically at what interventions need to be in place, and see how to improve TB programs. The countries in the EEE and Central Asian regions are leaders in making progress in reducing TB incidence and mortality rates globally. To achieve the TB elimination goal, robust quality data and surveillance systems must be able to pinpoint the status of the TB epidemic at any time.

Ahmedov showed a slide of the TB cascade from contact investigation to successful TB treatment. The steps that need to be taken before successful TB treatment are screening, assessing presumptive TB, evaluation, testing, confirmation, notification, and treatment. It is very important to know how many people were screened for TB, how many people had presumptive TB, the steps that were taken for evaluation, how many were tested for TB, how many had confirmed TB, and the percentage of notified cases. These steps are currently not being systematically taken, nor are they standardized in such a way to allow for routine reporting. The PBMEF was created to facilitate more standardized data collection, which will allow us to construct more complete cascades and have a better understanding of where the TB epidemic is.

TB DIAH Overview and Introduction to the PBMEF

After **Bridgit Adamou, TB DIAH Senior M&E Advisor**, reviewed the meeting format and objectives, **Stephanie Mullen** provided an overview of TB DIAH and introduced the PBMEF.

TB DIAH is a global, five-year cooperative agreement —one of the first projects funded by USAID in 2018 to support the Accelerator. TB DIAH's overall strategic objective is to ensure optimal demand, analysis, and use of TB data to inform NTPs and USAID interventions and policies.

TB DIAH has three result areas that are intrinsically linked: surveillance (data), reporting (information), and communications (knowledge). It supports NTPs and partners to strengthen the collection, analysis, and use of TB data; improve performance-based M&E frameworks and information-gathering processes, including new tools and methodologies; and strengthen reporting and communication practices to address knowledge gaps and share methods, tools, and approaches, making sure data is being packaged and communicated in a way that can be easily digested and used by a wide audience.

TB DIAH is working in USAID's 24 TB-priority countries. TB DIAH received additional field funding to respond to direct requests from countries. Currently, it has field funding from Cambodia, the Democratic Republic of Congo, the Kyrgyz Republic, Nigeria, and the EEE region, which includes Armenia, Azerbaijan, Georgia, Moldova, and Ukraine.

Although each scope of work is different, the project has common themes designed to improve the integration of and enhance access to existing TB data platforms and strengthen the M&E capacity of staff involved in the collection, analysis, and use of TB data.

TB DIAH offers several products to support decision makers with the collection, analysis, and use of quality data to inform and scale up effective TB services. This suite of tools, data, and other resources can help at any point in the TB M&E and surveillance process. Taken together, they can provide a holistic view of a country's TB M&E and surveillance system.

TB DIAH works to give stakeholders in USAID's TB-priority countries a 360-degree perspective on what's happening with TB in a country, why it's happening, and how best to improve outcomes.

The PBMEF is a key element of USAID's efforts to ensure effective accountability of investments in TB at global, regional, and country levels. The framework is organized around the strategic areas of reach, cure, prevent, and sustain. The framework streamlines and prioritizes indicators for monitoring progress toward reaching global TB milestones and targets such as those from the UN High-Level Meeting on TB and the End TB strategy.

The framework consists of standard WHO indicators as well as additional (i.e., extended) indicators to measure progress along the TB treatment cascades and pathways of care. The framework contains 10 high-level core indicators used to demonstrate the impact and effectiveness of the Accelerator in the 24 TB-priority countries. The extended indicators provide data to monitor progress toward the 10 core indicators. These more granular data are useful for explaining why a country may or may not be achieving its targets, what course corrections may be needed by technical area, and which gaps in programming may require additional resources.

To accompany this framework, TB DIAH has developed a guidance document that contains the core and extended indicators as well as full indicator reference sheets for the 10 core indicators, with standard definitions and calculations to allow for better data analysis and use of TB data.

USAID is in the process of updating the guide to reflect changes in WHO guidelines and TB objectives in a new bill called the *End TB Now Act 2021* that is being considered in the United States Congress. When approved, it will have additional reporting requirements.

To support the PBMEF, TB DIAH created a series of tools to assess the TB M&E and surveillance systems at the country level. The first tool is the TB M&E and Surveillance System Analysis (MESSA). This includes a desk review of the 24 priority countries to develop country profiles that include a robust overview of each country's TB M&E and Surveillance systems. It also highlights gaps and opportunities to inform future TB M&E system strengthening strategies and provides a baseline for the TB data systems in each of the 24 countries.

The second tool is the Assessment of Data Collection, Reporting, and Analysis Capacity (ARC). The ARC builds on the PBMEF and MESSA to map the readiness and capacity of current TB surveillance systems in collecting, reporting, and using the various data elements of the core and extended PBMEF indicators. The results provide a critical step toward strengthening a country's TB M&E and surveillance system to collect, analyze, and use PBMEF indicators by highlighting the gaps and opportunities to inform future TB M&E system strengthening strategies and interventions. The ARC has been conducted in 23 countries.

The final tool in this series is the TB Surveillance System Strengthening Plan (STEP). The STEP uses the findings from the MESSA, ARC, and other key assessments, along with in-depth interviews with key informants, to systematically document the TB surveillance system's enabling environment, its structure or major components, and the management and use of data to identify strengths and gaps across the system. This systematic and multifaceted analysis of the TB surveillance system provides the foundation to develop a specific and costed plan for its improvement that will be led by the NTP with active engagement of relevant stakeholders.

Other tools and methodologies have been developed to measure the quality of TB diagnosis and care services in high-burden TB countries. The Quality of TB Services Assessment (QTSA) is a facility-based survey that measures the quality of TB services from the perspectives of facility staff, TB providers, and people with TB. Thus far, TB DIAH has conducted QTSAs in Afghanistan, the Democratic Republic of Congo, Ethiopia, Nigeria, the Philippines, and Uganda, and is beginning one in Vietnam. NTPs have used the results from these assessments to inform their NSPs, provide justification for Global Fund grants, and develop action plans to improve the quality of TB care services.

The next tool, the Data-to-Action Continuum (D2AC), is based on the levels of maturity of the TB M&E surveillance system. It measures the progress of countries as they work towards improving their TB M&E and surveillance systems from data collection to data use. D2AC provides national policymakers, development partners, civil society, and the private sector with guidance on where to

invest in a select number of interventions and tools that synergistically have the greatest impact on the quality, availability, analysis, use, and accessibility of TB data. The D2AC was piloted in Ghana in early 2022 and then rolled out in the Kyrgyz Republic and Nigeria.

Another key aspect of data use is making information publicly available. Building on findings of a 2020 assessment on the governance of TB programs conducted by the Stop TB Partnership, TB DIAH is supporting NTPs to promote data use and transparency by ensuring that each of the TB priority countries' NTPs has a working website or dedicated page on their respective MoH website.

A key feature of TB DIAH is its interactive website, www.tbdiah.org, which has two functions: the Data Hub and Knowledge Hub that provide a one-stop shop for TB data and key resources.

The Knowledge Hub is a searchable archive of TB M&E guidelines, tools, and resources to facilitate learning, innovation, and sharing of best practices. The Knowledge Hub offers guidance and tools from TB DIAH and other key technical organizations, including the WHO, USAID, MoHs, and NTPs. It contains a series of e-learning courses; infographics illustrating key data and technical concepts; journal and news articles published by TB DIAH, as well as the latest from peer-reviewed and grey literature; training materials produced by USAID, TB DIAH, WHO, MoHs and NTPs; and reports and briefs based on findings from research and assessments done by TB DIAH and other projects and organizations.

The Data Hub is an online portal for TB program managers, TB technical advisors, and key country stakeholders to access global and national-level data to support their performance-based management of TB programs. The Data Hub offers visualizations of publicly available WHO data. It also provides a secure, password-protected work area for stakeholders in the priority countries to enter, analyze, and review their TB data. One important feature of the Data Hub is the Data Explorer. The Data Explorer allows users to create data visualizations using TB data provided each year by NTPs and submitted to WHO. The Data Explorer enables users to quickly build a table or chart for an indicator or set of indicators, track one or more indicators over time or across geographies, compare regions or countries' performance in one or more indicators, and download any chart or table they create.

The Data Explorer also directs users to the PBMEF, which helps TB programmers and policymakers formulate questions that generate data to offer a holistic view of the status of TB in their country.

COE Strategy and Plans

Ezra Tessera, TB DIAH Senior TB M&E Technical Adviser, continued the first session with a presentation of the COE strategy, workplan for EEE, and key workstreams.

The EEE workplan falls under two of TB DIAH's intermediate results: (1) strengthened collection, analysis, and use of routine health TB data and (2) improved design and implementation of M&E

frameworks and information-gathering processes, including tools, methodologies, and technical guidance to meet users' needs.

The EEE workplan is being implemented in Armenia, Azerbaijan, Georgia, Moldova, and Ukraine. It contains three objectives: (1) establish a regional COE to strengthen the M&E capacity of NTPs and other TB partner staff in data management, collection, quality, analysis, and visualization and to promote ownership and use of the TB surveillance system; (2) assess the current TB M&E and surveillance systems in the five EEE countries in collaboration with NTPs and other key stakeholders (e.g., WHO) to identify bottlenecks, categorize areas requiring attention, and develop a roadmap/action plan for improvements; and (3) improve the use of TB data for decision making through robust data analytics around program performance, resource allocation, procurement, and supply management and for advocacy at all levels of the health system.

Expected outcomes for these objectives are an established COE in the region for sharing experiences and best practices and building TB M&E capacity, improved access to nationwide TB data across the public and private sectors, and improved use of TB M&E and surveillance data for evidence-based decision making.

Over the course of one year, nine activities were implemented under three workstreams aligned with the three objectives.

The COE has been designed to provide leadership and coordination; establish and promote best practices; provide appropriate recommendations, support, and education; and perform other similar functions in specific areas considered critical to the success of the overall organization or practice that the COE supports.

The goal was to establish a COE in one EEE country to serve as a model for best practices in TB M&E and surveillance. The COE objectives are to strengthen the TB M&E system in the region, document and share successful practices and experiences addressing identified areas for improvement, promote intercountry collaboration, foster knowledge sharing, and promote a community of practice.

The primary guiding principle is partnership. It will not fix all the problems, but it will help collectively address the problem and find solutions.

The five criteria for COE country selection were (1) the NTP has a well-functioning TB M&E system, preferably electronic; (2) the country has strong TB data collection, analysis, use, and dissemination; (3) there is interest and commitment from the respective USAID mission and NTP; (4) there is government commitment of resource allocation to ensure sustainability and self-reliance; and (5) other qualitative factors to consider, such as the geopolitical situation in the country, NTP staffing, etc. In 2019, TB DIAH created a scoring matrix to assess the criteria for each of the five EEE countries. Through a desk review and consultations

with the respective USAID missions, Georgia scored the highest and was therefore selected as the COE country.

The COE's specific role is documenting best practices, organizing regional and national trainings, developing new tools and templates, organizing regional workshops for experience sharing and networking, and creating a comprehensive and user-friendly COE website. TB DIAH, USAID, and NTPs are the main players in this process.

Hosting the COE in Georgia allows Georgian partners to serve as a model for other countries in the region and will establish a foundation for intercountry collaboration and cross-fertilization of TB M&E knowledge and skills and ensure synergy, sustainability, and effective use of resources.

The COE progress achieved within one year is selecting Georgia as the COE host country, signing a memorandum of partnership among TB DIAH, the NCDC, and NCTLD, starting implementation of TB DIAH tools like ARC and MESSA in four countries, conducting the Regional Consultative Meeting in Tbilisi in July 2022, conducting in-country consultations/meetings, and establishing a COE website prototype.

The next steps are to work on the year 2 work plan, for which the process has already started. A needs assessment and gap analyses have already been completed. Workplan activities will realistically start in January 2023, but officially they started in October 2022 according to USAID's fiscal year.

In response to a question about the role and possibility of other countries from the Central Asia region joining the process of establishing the COE, **Sevim Ahmedov** described various projects and funding opportunities for Central Asian countries.

Currently, four countries in the EEE and Central Asian regions receive direct USAID funding for TB: the Kyrgyz Republic, Tajikistan, Ukraine, and Uzbekistan. The funding level is different for each country. These four countries are part of the 24 TB-priority countries that USAID has a similar approach to funding. It is based on the burden of disease.

Two other countries, Kazakhstan and Turkmenistan, receive funding from the TB allocation, but they receive it under the Central Asia regional umbrella.

Within the EEE region, Armenia, Azerbaijan, Georgia, and Moldova are part of regional funding. Regional funding is relatively small. All the work can be shared with them and the NTPs can consider using existing resources, knowledge, and tools. Because Armenia, Azerbaijan, Georgia, and Moldova do not have USAID-funded TB projects specifically from the regional

platform, there is no expectation for those countries to report on the PBMEF indicators except for the ones they are already reporting to WHO and Global Fund.

USAID is expected to have another regional TB project that will also include the Kyrgyz Republic and Turkmenistan with a similar approach and with specific indicators for reporting.

For the regional platform that Ezra presented, the focus is on five EEE countries. But this does not mean that the activities or products cannot benefit other countries globally. The bottom line is that all countries can benefit from the COE.

General M&E Principles and Basic Functions with a TB Focus

Bridgit Adamou opened a second session dedicated to general M&E fundamentals. In her presentation, Adamou described general M&E concepts, frameworks, structure and content of M&E plans, considerations, and objective setting. She shared key links to various platforms.

After covering each section of the presentation, Adamou facilitated group discussions/exercises to make sure all the participants successfully processed the shared information. **Ezra Tessera** explained what SMART (specific, measurable, achievable, relevant, and time-bound) objectives are and managed small group work that focused on checking how much the M&E theories matched with practice in each participant country's NSPs. Three countries were selected to present during this session.

Objective 1 in **Armenia's** NSP is to find at least 95 percent of all people with TB and ensure early detection and diagnosis of all types of the disease by 2025. When comparing this to the SMART principles, it is time-bound because the year is indicated, it is specific because it specifies who should be covered, it is measurable since the percentage is identified, and it is relevant because it specifies the action of detecting and diagnosing all types of disease. The only thing missing from the list is "achievable".

An expected result in the **Kyrgyz Republic's** NSP is the reduction of TB morbidity for 2026 at the level of 95 cases per 100,000 residents. Before 2019, this number was over 100 (107-109, to be exact). In 2020-2021, during the pandemic, this number fell. The objective is relevant because the country has a high morbidity and mortality rate, it is achievable because a specific action plan has been created, and it is time-bound because the objective needs to be met by 2026. Therefore, it matches the SMART objectives. In terms of measurability, there are some moments when the volume of measurements is unknown.

Among several objectives in **Moldova's** NSP, the one they selected as an example was confirming at least 95 percent of TB cases out of the total presumptive cases. Moldova's NSP objective answers to all SMART questions —what the country wants to achieve, how, the expected outcome, by when, and why in terms of relevance.

Introduction to the PBMEF

After the group discussion, **Ezra Tessera** continued with an in-depth presentation on the PBMEF. Tessera described the framework, explained the development process for the PBMEF, presented each of the 10-core TB indicators, introduced the TB indicator guide, described the extended indicators and indicator cascades, and provided information on where data collected should be reported.

M&E Framework of the TB Action Plan for the WHO European Region 2023-2030: Indicators, Targets and Milestones

The next presenter **Giorgi Kuchukhidze, Epidemiologist with the WHO Regional Office for Europe, TB Division,** opened the second session dedicated to the M&E framework, an integral part of the TB action plan for the WHO European Region 2023-2030. All 53 member states attended 72nd Regional Committee Meeting in September 2022 where the committee adopted the new Regional Action Plan. The final document will be available by the end of 2022.

During the alignment with the TB Action Plan, 2023-2030, the terminology and definitions of two indicators were changed. The new definition of *pre-extensively DR-TB (XDR-TB)* is TB caused by Mycobacterium TB strains that fulfil the definition of multidrug-resistant (MDR) and rifampicin-resistant (RR)-TB and which are also resistant to any fluoroquinolone. The updated definition of *XDR-TB* is TB caused by Mycobacterium TB strains that fulfil the definition of MDR/RR-TB and which are also resistant to any fluoroquinolone and at least one additional Group A drug. (Group A drugs are the most potent group of drugs in the ranking of second-line medicines for the treatment of DR forms of TB using longer treatment regimens and comprise levofloxacin, moxifloxacin, bedaquiline and linezolid).

Additional indicators were also introduced: coverage with fluoroquinolone susceptibility testing among MDR/RR-TB, screening TB patients for mental and substance use disorders, and proportion of individuals who received TB treatment using digital technologies. Baseline values were updated with the latest data.

There are three pillars in the TB Action Plan: (1) integrated people-centered care and prevention; (2) bold policies and supportive systems; and (3) intensified research and innovation.

For each indicator, the baseline, milestone, target, frequency of assessment, data source, group of countries, monitoring mechanism, detailed definition, and three levels of indicators are specified.

Data reported by country shows that only seven countries report to both the Joint United Nations Programme on HIV/AIDS (UNAIDS) and international organizations through the Global TB database.

Kuchukhidze identified several issues under the pillar 1 indicators. In many countries, TB preventive treatment (TPT) among people living with HIV is provided by NTPs and not by national AIDS programs. There is a gap between actual coverage and what international organizations receive at the regional level. Kuchukhidze encouraged NTPs to collaborate with national AIDS programs to make sure the data is reported in global monitoring reports.

Another identified issue is misinterpreting the definition of percent of TPT coverage in childhood TB contacts ages under five years. The WHO publishes childhood TB estimates and coverage that can be used as a denominator at the country level.

Coverage of contacts with systematic screening for active TB is also misinterpreted. Many countries refer to those contacts that went to facilities for further screening. Close contacts are also those identified by epidemiologists but never show up in the TB system because they didn't go to a TB facility. Thus, there are more contacts in the country than are being reported. The WHO identified reliable sources for this indicator, which are household size and composition which can be used by countries.

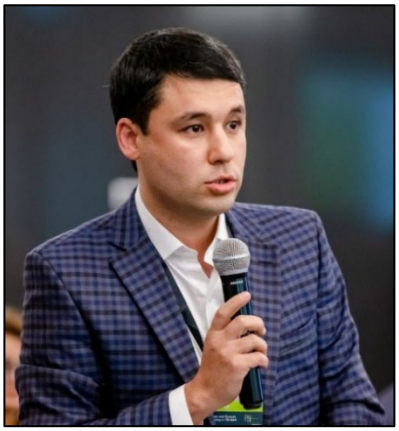
There are also issues with data quality. There is a very important indicator included under the TB diagnoses component, which is the percentage of notified new and relapsed TB patients tested using WHO-recommended rapid diagnostics (WRD). Because the laboratory information system is not linked with the national TB surveillance system in many countries, there are duplicate cases. Some of the tests are not diagnostic tests, and some countries cannot distinguish between new, relapsed, and retreated cases and results are not accurate.

Another example of misinterpreting data relates to testing for drug resistance: percentage of people diagnosed with bacteriologically confirmed TB who had a documented susceptibility test result for rifampicin. Almost 100 percent of pulmonary TB cases are tested for susceptibility to rifampicin. The indicator shows good performance with the drug susceptibility testing coverage for rifampicin —92 percent are with documented test results. But the issue is that this indicator cannot be interpreted on its own. It is impossible to identify if the country manages to provide drug susceptibility testing to all eligible TB patients. The solution is to look at the relevant

indicator for bacteriological confirmation. It is very important to increase bacteriological confirmations. The current rate on a regional level is 67 percent, which is low.

The data quality-related issue is obvious in the percentage of notified MDR/RR-TB patients. It is assumed that all notified cases are enrolled in treatment, which is not true.

A new list of indicators was created to monitor progress under pillar 2. There are four new indicators to engage civil society organizations. The WHO collaborates with the TB Europe Coalition which will be helping with data collection for the four indicators. Additional surveys will be needed for specific indicators.



Under pillar 3 there is an implementation research area with relevant indicators. The WHO expects to have plans for TB research in stand-alone documents in countries' NSPs.

Indicators and progress in reaching targets and milestones will be described in the annual TB Surveillance and Monitoring in Europe report. The next one is expected March 2023.

Kuchukhidze finished the presentation by sharing the news that the WHO will release guidance on TB surveillance which includes revisions to the existing definitions. New terms will be presented, and some additional indicators will be included that countries will be encouraged to collect at the national level.

TB Data Collection in the WHO European Region: Processes and Important Dates

The next topic Kuchukhidze covered focused on how TB data is collected and reported in the WHO European Region. The WHO global TB data collection system is a platform where countries can report TB data. Out of 53 member countries, 30 report case-based data through the European surveillance system. The remaining 23 countries report directly to the global TB database. Later data exchanges are happening, and all aggregated data ends up in the global TB database.

Every April, all TB program staff receive an email with a request to report TB annual data to the WHO. The deadline is usually the end of May. June is used for reviewing the data and making clarifications among countries. In July, the WHO headquarters produces TB estimates on the TB disease burden. In early August, countries review their TB estimates in the draft country profiles with the process supported by regional offices. In late August, the WHO headquarters finalizes the estimates and continues to analyze the data and prepare the tables that go into the global report.

All TB data collection forms (identification, diagnoses and treatment, surveys and services, finance, multi-sectoral accountability, and additional questions from European countries) are accessible on SharePoint and are revised and updated annually.

The WHO makes the annual Global TB Report available around October. Country, regional, and global profiles; provisional TB notifications; downloadable CSV files; and the Global TB Report mobile app can be found on the WHO website.

Common Challenges in Calculating and Reporting TB Data and WHO-Recommended Programmatic Indicators

Araksya Hovhannesyan, Consultant for the WHO European Regional Office, was the final presenter of the day. The Global TB Report relies on data submitted by countries. After publishing the report, the WHO focuses on regional monitoring and produces a surveillance report with more detailed analyses. Other sources used to judge the completeness of TB data quality are TB epidemiological reviews and special data audits.

The TB regional monitoring and surveillance report has been published annually since 2007 jointly with the European Centre for Disease Prevention and Control. Over 25 epidemiological reviews have been conducted since 2013.

To ensure data accuracy and completeness, the following data elements are required: contact tracing, TPT, rapid diagnostic treatment, RR-TB cases, treatment outcomes, prison TB cases, and Group A-type resistance. Before 2015, TB surveillance focused on TB diagnoses until the end of treatment. Recently the focus has shifted to screening, prevention, and follow-up after treatment, although countries still focus on capturing the data and ending with the TB outcome.

Hovhannesyan discussed the issues with reporting on contact tracing, TPT, TB patients tested with WRD, and the number of MRD/RR-TB patients enrolled into treatment. She presented specific examples of reporting problems to the audience, talked about different data collection and reporting mistakes countries are making, and suggested ways to improve data quality.

During the discussion of specific cases by country, it was decided that during epidemiological reviews, visits, and missions to countries, the WHO representatives need to investigate and learn more about reporting discrepancies and the justification behind the discrepancies.

Hovhannesyan talked about the large discrepancy between TB/HIV cases reported the previous year and cohort size or lack of data. There is a huge discrepancy in the data sent to the WHO about the cohort size that is reported in a specific year and the cohort size to which countries report treatment outcomes after one or two years. This is a problem with other cohorts but it is particularly obvious with TB/HIV.

There are issues with reporting prison TB data. Prison TB notification data is not included in the surveillance report. Hovhannesyan shared a source of prison TB data available from the National Statistical Yearbook: www.prisonstudies.org.

Following Giorgi Kuchukhidze's presentation, Hovhannesyan discussed the updates to the pre-XDR and XDR definitions.

By the end of the presentation, Hovhannesyan shared tips on how to improve data quality and completeness based on the WHO's experiences with countries. A good opportunity can be to provide feedback to the people who are collecting routine TB data at the facility level. People need to know what happens to the work they are doing. Produce annual surveillance reports and distribute them as widely as possible. And finally, improve capacity at the facility level to analyze, interpret, and use data.

Day 2, December 2, 2022

USAID Global TB Strategy 2023-2030

Sevim Ahmedov opened the first session presenting USAID's Global TB Strategy 2023-2030. The four elements in the previous strategy were reach, cure, prevent, and sustain. A fifth element, innovate, was added to the new strategy. USAID signed a $200,000,000 contract with a consortium of partners to support research activities around the globe.

Ahmedov shared the new strategy's vision, mission, and goal with the participants. He talked about the estimated TB mortality (including HIV) by incidence in USAID's 24 TB-priority countries that have become part of the analyses for a new strategy, results framework, and principles.

PBMEF in Detail: Framework, Indicators, and Guidance Document

Building off the PBMEF presentations on Day 1, **Ezra Tessera** continued the PBMEF series with a presentation of the PBMEF in detail: framework, core and extended indicators, and guidance documents. He emphasized the importance of understanding the indicators and speaking the same language across the region to achieve global TB goals.

There are 14 performance-based core and extended indicators that are reported to USAID missions. The extended indicators allow TB stakeholders to analyze data and dig deeper to identify program gaps. Out of the 14 indicators, 4 are core-plus and 10 are core: Contact Investigation Coverage, TB Case Detection Rate or TB Treatment Coverage; Bacteriological Diagnosis Coverage (Pulmonary TB), Childhood TB Notifications, DR-TB Notifications, Private Sector TB Notifications, TB Treatment Success Rate, DR-TB Treatment Success, TPT Coverage, and Percent of TB Financing Expected from Domestic Sources. Tessera described the definition, numerator, denominator, category, type unit of measure, data type, potential disaggregation, reporting level, and reporting frequency for each of the 10 indicators.

As mentioned earlier, extended indicators provide additional data to monitor progress toward the 10 core indicators. They allow more in-depth analysis of TB data and closer M&E of TB programs. They provide additional standard options to include in an M&E plan to bolster the justification for programming and funding for specific technical areas in the TB portfolio. They can be used to construct treatment cascades and patient pathways that are critical to understanding where there are gaps and where efforts need to be strengthened.

Cascade analyses are another element of the PBMEF. The framework has indicator cascades built into it so that TB data can be analyzed using the cascade approach to find gaps in programs. A cascade can quantify, track, and visualize how health and development programs are performing for the target population at progressive stages toward an expected outcome. The data can answer such questions as which TB services are not performing as well as expected: diagnostic or treatment services? Are specific target groups missing? Are specific geographic areas missing? And what other combinations of these gaps exist?

Monitoring, Evaluation, and Learning (MEL) Reporting

Stephanie Mullen continued with a presentation on MEL reporting. The session presented the findings from a systematic review of MEL plans that were submitted by partners implementing TB activities to USAID missions to see how well they aligned with the PBMEF, assess the overall strength of the plans, and identify where there may be room for improvement.

MEL plans are essential for many reasons. They measure whether a project is achieving results and generating learning based on evidence that is linked back to program planning and funding. They can help demonstrate the contribution and attribution of investments in TB programming. The plan should guide the implementation of M&E activities in a standardized and coordinated way, and it is a living document that should be adapted and updated at regular intervals to reflect changes in project activities.

The purpose of this review was to ensure that the MEL plans that IPs were required to submit to USAID were aligned with the core and extended indicators in the PBMEF. If they were not, TB DIAH was tasked with providing suggestions and recommendations that could be useful for USAID missions and IPs in revising and updating next year's MEL plans. This review analyzed 69 plans submitted by partners in 22 countries.

Almost half of the reviewed plans were submitted by bilateral programs, and the remaining were almost equally divided into TB Local Organizations Network projects and global or regional projects. Most of the plans were "stand-alone", meaning that the document was submitted separately from their work plan (with its own table of contents, introduction, body of the document, conclusions, etc.). Other plans were an annex to a work plan and consisted of only a couple of pages or even just an indicator table. In a small number of instances, it was difficult to tell the difference.

For the results, 15 percent of the plans corresponded to mission expectations, 50 percent included some of the expected core indicators, and 35 percent did not include any of the expected indicators. Almost 60 percent of the plans included at least one extended indicator.

The reviewers identified five key elements that should be included in a MEL plan: (1) clear goals and objectives, (2) a results or logic framework or theory of change, (3) a comprehensive list of

indicators in a table or matrix, (4) specific data sources identified, and (5) indicator reference sheets.

Mullen presented a SWOT analysis of the review: strengths, weaknesses, opportunities, and threats. Plans can be updated using the PBMEF Guide, which contains indicator reference sheets for the core indicators. TB DIAH is in the process of developing more indicator reference sheets to be included in the revised PBMEF Guide.

Opportunities included mapping indicators to a project's results framework to help pinpoint existing M&E gaps. Harmonizing core indicators across missions and implementing mechanisms where the work plans are the same can better enable cross-country comparisons. Standardized templates for TB MEL plans and guidance/instructions for missions and implementing mechanisms can help facilitate plan development. Indicator reference sheets can help to clearly define indicators and should be mandatory for core indicators and key extended and process indicators.

MEL plans without clear indicator definitions may encounter data collection and reporting issues. Poor data quality hinders data use for effective planning and implementation purposes.

For MEL plans that are heavy on process indicators, the lack of sufficient outcome indicators may make it difficult to track if the project is achieving its results and objectives. Without standardized MEL plan guidance and indicator definitions, missions may have difficulty comparing results across implementing mechanisms and aggregating contributions and attributions by implementing mechanisms toward USAID targets.

Bridgit Adamou continued with the MEL plan template. Adamou opened the document and walked participants through the template, showing components like a monitoring table, indicator matrix summary table, sample completed M&E plan, etc. She talked about the need to include a section on data management and quality assurance, an evaluation plan for internal and external evaluations, identifying resources needed, discussing how gender will be considered in the data collection, and so forth.

The MEL plan template checklist contains five areas: (1) summary background information including the project goals and objectives; (2) project result framework; (3) indicator matrix summary with the indicators, definitions, numerators, etc.; (4) table mapping project activities and interventions to PBMEF indicators; and (5) indicator reference sheets.

PBMEF Interactive Session: Reflections from Four Countries

Tajikistan – Tajikistan was in its fourth year of implementing a five-year regional-level project when the team received a new set of indicators. That was a surprise for the entire mission because

they were already in the habit of working with other criteria, but luckily, they started speaking the same language. New indicators were incorporated, and the impact was demonstrated at the national level.

It was important for the people working in the field to understand the importance of the changes and new indicators. Several non-governmental organization (NGO) representatives working on contact investigation did not want to report against the indicators, but after studying the topic they recognized the importance. Not all partners are using the new indicators on a regular basis, but they understand the idea behind it.

The country is currently updating its NSP which will be aligned with the new indicators. The NTP included the new indicators because they already have experience reporting them to the WHO. Because the new indicators match with the NTP indicators, it is easy to collect the data.

Uzbekistan – With the TB flagship project's MEL plan approved in 2018, Uzbekistan's NTP became involved in USAID's Global Accelerator model. First, it was helpful to learn about the MEL plan analysis, how indicators respond, and how they were aligned with numerators, denominators, etc. Being able to see the process is very important for the country, IPs, USAID Mission, and M&E specialists working in the field.

National data collection is taking place annually in Uzbekistan. Since it is a paper-based reporting system it is difficult to compile the data more frequently. The most challenging part for M&E specialists is disaggregating the data. Data analysis should improve the overall epidemiological situation in the country which is why data needs to be processed correctly and promptly.

Currently, Uzbekistan is on the threshold of launching a new project that is fully compliant with the new reporting requirements. This project will find it easier to build activities around the new indicators and assess them at the country level.

Kyrgyz Republic – The process of adapting to the new indicators was happening simultaneously for the NTP and IPs. It coincided with the development of the new five-year NSP, which helped the country incorporate most indicators painlessly. Bacteriological confirmation coverage and contact investigation coverage indicators were added to the NSP.

When the program started in 2019, there was a different M&E plan approved for year 1 of the activities. As the process went on, the M&E plan was changed according to USAID requirements. Initially, there were 24 indicators in the plan; currently, there are 35. Reporting forms were updated accordingly to make sure the necessary data was being collected.

The country developed an electronic TB registry which is being used for all registered TB cases. Since 2021 it has been connected to the reporting module. The registry is automatically connected to the lab database for lab data management. Doctors are comfortable working with the software

because all laboratory data can be accessed electronically, therefore, doctors can fill out the TB-02 form without requesting a hard copy of the lab data.

Eight core indicators from the PBMEF are included in the updated NSP. The private sector is not represented, and consultations are taking place for its inclusion.

Challenges remain with indicator definitions/interpretation. It is very important to once again review doubtful indicators to avoid discrepancies in the future.

Ukraine – Aligning with the new indicators was not too challenging because the MEL plan was adaptable, and Ukraine worked with its IPs to incorporate missing indicators. The Mission determined that IPs were ready to collect data based on the new indicators, but they needed to know about the changes in advance to prepare accordingly.

Ukraine implemented a case-based electronic system to keep all patient records in one place. Although the system is incomplete since there is some missing data, the system was never designed to capture specific information. In other words, it will not provide all the information requested. It takes time to provide high-quality data based on new indicators, but most of all it is important to build comprehensive electronic systems that have the capacity to analyze data based on the data users' needs.

Since Ukraine is currently experiencing war-related challenges like food shortages, electricity outages, and major infrastructure damage including healthcare facilities —along with doctors and patients being misplaced— it is hard to prioritize indicators and fulfill the reporting requirements promptly.

Ukraine's TB M&E plan is aligned with the NSP which covers three communicable diseases: TB, hepatitis, and HIV. The M&E plan includes core strategic documents, and the work is progressing in terms of details and checklists. The PBMEF supports practical work.

Ukraine is in a transition phase in terms of health system reform. The country is trying to connect existing M&E plans to electronic surveillance and health insurance systems. Although data reporting is electronic, it is supplemented with paper-based forms. This is being done for cross-checking to have a robust M&E system.

All the above-mentioned aspects help Ukraine have a comprehensive and overall vision. Data collection is considered a managerial tool for better TB program implementation. Since the program works successfully, domestic funding for TB increased in 2021.

STEP Tool

Tariq Azim, TB DIAH Senior TB M&E Technical Adviser, presented on the STEP tool. TB surveillance is an ongoing, systematic collection, analysis, and interpretation of TB data. TB is

moving to a case-based surveillance system where individual-level information from multiple service sources is systematically collected in a longitudinal and granular manner. It provides information on the entire spectrum of the clinical cascade from the initial diagnosis to the treatment outcome.

The STEP is organized by domains and subdomains. The three key domains to be considered are the TB surveillance system's enabling environment, surveillance system structure, and management and use.

In addition to understanding the internal mechanics of the surveillance system, it is important to focus on the overall context –how the NTP is organized and links to the MoH and how TB health services (e.g., diagnostics, treatment) are organized.

STEP's mission is to conduct a systematic and multifaceted landscape analysis of a country's TB surveillance system and develop a specific and costed plan for its improvement that will be owned by the NTP, with active engagement of relevant stakeholders for its implementation. This is done by reviewing past assessments (e.g., MESSA, ARC); conducting key informant interviews; assessing how the country collects, reports, and analyzes data; and assessing the country's TB M&E capacity.

Azim showed the STEP plan template which includes activities, a timeline, responsible organization, collaborative units, cost items, and assumptions. He also showed a costing tool template that needs to be completed by TB experts in the country. The tool contains information on activities, description input, measurement unit, the unit cost of input, number of units, and estimates cost.

At the conclusion of the presentation, Azim encouraged participants to visit the TB DIAH website and review the online instructions on using the STEP tool. This tool will help people instantly understand what is happening in a country in terms of data collection and reporting.

Country Experiences with Implementing TB M&E Tools

Marina Janjghava, Head of TB Management and Control Services at the NCTLD, shared the experience of implementing the ARC in Georgia. The ARC helps measure M&E capacity. It is an opportunity to check how well an NTP is collecting TB data. The instrument contains 17 sections but is user-friendly and does not require much time to fill out. It is a joint process and requires the

involvement of other stakeholders. ARC provides an opportunity to identify and review the gaps and deficiencies that were not noticeable before.

Tariq Azim continued with the MESSA desk review process for priority countries. MESSA helps guide the landscape analysis. Each MESSA profile was created and shared with the respective mission for an overview of the country's TB program. Every MESSA profile is available on the TB DIAH Data Hub. Azim listed the documents available on the platform.

Totugul Murzabekova, TB DIAH Country Lead for the Kyrgyz Republic, shared their experience implementing the STEP. She listed the documents collected during the process, discussed the in-depth interviews with key actors, and how the information was collected. Topics included department information, personnel profiles, problems, explanation of the problems, activity status, priority actions, and intervention optimization. Murzabekova also described the STEP's main domains and subdomains, the STEP working meeting program, the main directions of the activities, and lessons learned.

Dimensions of Data Quality

Marina Janjghava continued with a presentation on the importance of data quality and standardized methodology at the country level. Janjghava talked about how quality data supports managers in understanding real needs, relevantly planning and executing activities, reasonably distributing resources, and monitoring and sharing gained knowledge. Unless very well-trained personnel are hired, the data will not provide the same answers to the same questions.

The operational process of data management might be a source of low-quality data. Different groups might collect data in different ways. Extra financial and human resources may be required to correct errors, which may cause delays in program implementation.

Janjghava talked about the roles and responsibilities of staff at different levels of data collection starting from primary medical facilities where services are provided, continuing with the intermediate levels, and ending with the higher-up levels.

Janjghava shared instructions for the group work, which was to identify five main data problems in their country, discuss how those problems affect data quality, and provide a solution. Four areas that affect data quality were identified: information systems, interoperability issues, M&E capacity, and the stigmatization of the disease.

Kazakhstan – The most important and widespread issue that prevents quality data collection and input is the electronic information system. Because the country is large and there are many remote areas with rural settings, internet connection is limited or poor. It might

be one of the factors hindering timely data collection and input. Also, interoperability of the systems is not ensured. In some cases, information is duplicated.

The probable solution would be better integration of various information systems. As for the internet connection issue, it is not up to the NTP to solve this problem.

Moldova, Kyrgyzstan, and **Ukraine** also listed gaps/flaws in electronic information systems as the number one data quality issue in their country.

Armenia – The most challenging aspect of data monitoring is related to data collection. In Armenia, there is a unified electronic information system based on two data collection methods. At the primary healthcare level, data is collected with paper-based forms and entered manually. During the data input process, doctors miss certain information which affects data quality. It is directly related to a lack of knowledge and skills in working with an electronic database.

The solution to this issue would be training at the primary healthcare level, improving doctors' knowledge to understand correct definitions, and helping them develop skills in working with the electronic information system.

Uzbekistan – The biggest issue in ensuring data quality is the lack of skills, knowledge, and competence among the personnel who are responsible for data collection. The solution would be organizing regular trainings to teach personnel how to properly collect and report the data.

Turkmenistan and **Azerbaijan** – Both Turkmenistan and Azerbaijan named incomplete forms as the most important issue related to data quality. Countries are facing patient registration problems; in many cases, personal information is missing. To address this, it is important to go back to the primary healthcare level and fill in the gaps.

Another problem is the stigmatization of TB patients. Sometimes patients do not want to get treatment because of stigma, or they do not provide full information because they are scared.

The solution to these problems would be capacity building both on qualitative and quantitative aspects of data collection. As for the stigmatization issue, social structures, NGOs, and government agencies need to be involved in awareness raising and addressing this problem.

Marina Janjghava continued the presentation with a focus on grouping all the issues voiced by the various country representatives. If we look across the issues, reasons for these problems can be caused by technical, organizational, and personal factors.

Completeness, internal and external compliance, and knowledge of how to estimate and interpret the data quality indicators are key aspects of problem-solving. While discussing training necessities, it is important to include teaching people who will be collecting data how to collect and read the data. It requires a lot of effort, but to achieve global TB goals it is important to standardize methodology so that everybody speaks the same language.

Janjghava shared **Georgia's** experience with addressing data quality. The country's electronic M&E system was launched in 2003. Georgia has a unified/standardized system for data collection with clearly defined indicators. People working in this field are well trained and results oriented. Data collection at every institution is accurate, reliable, and timely.

During data verification, hard copies of data collection forms are compared to the electronic database. In 2023, it is expected that Georgia will have an electronic health system and all TB data will be entered into the system.

Even though there are protocols in Georgia that comply with WHO criteria, and M&E staff are provided with TA and are well trained, mistakes still happen in the field. Thus, mini-training sessions are conducted regularly, especially in the beginning when the system is just starting, so that M&E personnel feel supported.

Ezra Tessera continued the data quality session discussing the topic of internal and external consistency. At the end of the session, he facilitated a group exercise where country representatives had to select one indicator from their national report, assess internal consistency, discuss possible reasons for the lack of consistency, and propose actions that could improve data quality.

Armenia's example was DR-TB notification. Notifications dramatically decreased in 2020. After 2021, the number increased. The reason for the decrease in Armenia's notification rate relates to Covid-19. The country did a study on the impact of Covid-19 on the effectiveness of the TB program, and only a 37 percent detection rate was found in this period. This can be explained by the limited number of patients attending primary healthcare centers during the pandemic.

Tajikistan uses the WHO database for global TB reporting. Tajikistan went back to 2003 when the country had a very high rate of notifications. It was

linked to the DOTS program launch when notifications improved. The next year the rate dramatically dropped, which can be explained by drug accessibility. Drugs became free of charge for patients and treatment improved. In 2013, Tajikistan had another drop in notification registration and another one in 2020, only in this case the decrease in notifications was linked to the Covid-19 pandemic.

In **Uzbekistan,** country representatives discussed the high rate of DR-TB notifications in 2014. In the following years, the number of notifications diminished and followed a similar pattern. The reason for the high rate in 2014 was improved TB diagnosis of DR forms of TB and widespread use of molecular testing. In 2020 it dropped again which can be linked to the Covid-19 pandemic. Uzbekistan is observing growth in 2021, getting close to the median line.

Kazakhstan decided to discuss incidence of new TB cases. Since 2014, the TB incidence indicator has been gradually dropping from 11 percent to 1 percent. In 2020, like in many other countries, the rate changed dramatically because of Covid-19. Otherwise, there were no drastic changes; the rate is within the 10 percent range.

Turkmenistan showed the indicator, TB treatment success rate, from 2012 to 2020. Gradual improvement has been noticeable except for 2013, with stability in the rest of the years observed.

From 2013 through 2020, the TB treatment success rate in **Azerbaijan** was mostly stable. In 2020, the 84 percent standard rate dropped down to 82 percent because of Covid-19.

And finally, **Kyrgyzstan** presented childhood (ages 0-14) TB notifications from 2013–2022. When compared to the adult incident rate, children's cases are dropping proportionally to the general incidence rate, except for 2021 when it grew a little again.

Day 3, December 2, 2022

Analyzing TB Data Using a Cascade Analysis

The third day of the workshop covered data quality, visualization, communication, and use. **Nino Lomtadze, NCTLD Head of Surveillance and Strategic Planning Department,** opened the first session and presented key data analysis concepts.

Lomtadze explained the basic steps in answering programmatic questions like analysis and interpretation. She explained the differences among descriptive statistics: proportion, percentage, rate, ration, median, mean, and trend. She provided specific examples and facilitated a quick exercise on calculating mean and median.

"Data that is not collected is a lost opportunity." – Nino Lomtadze

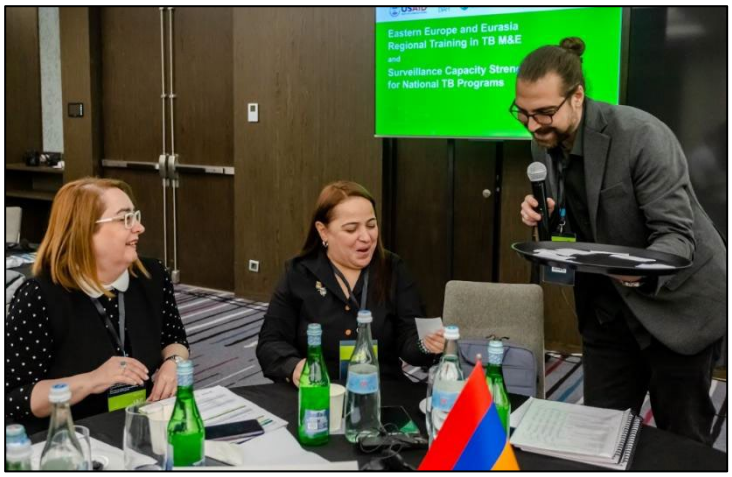
Ezra Tessera continued the presentation on cascade analysis, selection of appropriate charts, gap identification, and recommendations for improvement. Tessera illustrated examples and facilitated group work on TB data analysis. Countries had to select indicators for a cascade analysis from national reports, project data, or other documents and organize data tables, create charts, and interpret the data. They were asked to provide solutions for each identified problem. Three countries –Ukraine, the Kyrgyz Republic, and Azerbaijan– presented.

Ukraine presented data on screening different risk groups for TB. The data reflects the first six months of 2022. Data was collected routinely from the regions. The overall number of people who had contact with TB carriers was 20,980. Among them, 77 percent were referred for screening. Although this may seem like a small percent, it can be explained by the ongoing war and bombings in various regions of Ukraine. Before the war, the country's screening number was higher. Out of 16,133 people, 2,184 exhibited TB symptoms. Out of these 2,184 people, 97 percent were directed to additional testing. Among them, 343 cases were confirmed with TB and 98 percent started treatment, which amounts to 337 people.

The **Republic of Kyrgyzstan** presented the percent of bacteriologically confirmed TB cases for 2021. Out of 23,500 presumptive cases, 18,774 people were tested and 2,976 were confirmed with TB. Nearly all of them (99.1 percent) were notified and 2,690 people initiated treatment.

There is a large share of clinically confirmed cases, but the amount of bacteriologically confirmed cases is low. GeneXpert is considered a priority method followed by microscopical testing. There are 24 GeneXpert devices in the country, meaning that there are one or two devices for every

two or three regions to share. The transportation system works well in the country ensuring lab access in regions where labs are not present.



Azerbaijan's cascade analyses included five indicators. In 2021, out of 20,000 people screened, 32 percent had presumptive TB. Among these 6,400 people, 85 percent were tested and 91 percent were confirmed. A total of 4,697 people (95 percent) were treated in 2021.

Alexander Asatiani helped facilitate another group activity. He held 10 cards, each listing a core indicator. One card was distributed to each country. Each country team had to identify problems related to how their selected indicator may be incorrectly interpreted.

Moldova was the first country to present in this session. Their indicator was TPT. In May 2020, with TA from WHO experts, Moldova developed a common protocol for TPT which is currently being revised by the MoH. After the protocol is finalized and approved, they will begin using it.

One of the biggest challenges is their paper-based reporting because issues of quality and trustworthiness are raised with paper-based data collection. Another important issue is having many different systems in Moldova, including the primary medical sanitary assistance system, that need to be connected to the primary healthcare system. This also compromises data quality.

In terms of data accuracy, Moldova validates the data collected countrywide every December. The reliability rate for TB data is 95 percent to 98 percent. As for the data provided by general practitioners or family doctors, the percentage is much lower – around 50 percent.

Georgia presented on the TB Treatment Success Rate indicator. Throughout the years, Georgia's MRD/RR-TB treatment success rate increased and reached 78 percent in 2019, which also met their NSP target.

The baseline measure for the new drug treatment implementation period (2013 cohort) was 43 percent. In 2014 Georgia, with the support of the USAID/URC project, developed a national bedaquiline implementation plan. The first doses of drugs were ordered through the Global Drug Facility (which was a global

public-private partnership between USAID and Janssen Therapeutics). In 2015, Georgia became the primary candidate to receive the drug through the Global Drug Facility mechanism and started programmatic use of it. In 2016, National TB Guidelines were updated and endorsed by the MoH. Based on WHO recommendations, video supported treatment was implemented and piloted in Tbilisi. In response to rapid communication (2018), Georgia's NTP moved to a fully oral injectable-free regimen in 2019. Implementation of a nine-month modified short-term regimen for any eligible MDR/RR-TB patient with an oral regimen was initiated, and Georgia became part of WHO's operational research on modified shorter treatment regimens.

In 2020, TPT guidelines were updated and in 2021, 95 percent of MDR/RR-TB and 65 percent of DS-TB patients received directly observed treatment seven days per week via video supported treatment. The latest available measures of treatment success for the DS-TB 2020 cohort is 87 percent and 78 percent for the 2019 MDR/RR-TB cohort.

National TB diagnostic and treatment guidelines and protocols are regularly updated and aligned with WHO policy documents. Currently, drafts are ready to be submitted to the MoH for TB systematic screening, pediatric TB, DS-TB, and DR-TB.

Georgia stated that their TB data accuracy, timeliness, and completeness is 99 percent.

The **Kyrgyz Republic** had the TB Treatment Success Rate indicator. According to WHO recommendations, the TB success rate target is 85 percent. New recommendations are aiming for 90 percent, but the country is struggling to exceed 82 percent. The reason is high lost-to-follow-up cases and TB deaths before enrollment. If the country manages to address these two areas, the TB success rate will increase.

The low follow-up rate is from people falling out of the program due to a lack of awareness of the need to continue treatment, people being uninformed about TB and not fully understanding the risks, and some people traveling and/or leaving the country and being hard to track.

Another important issue concerns the status of the patients. Successfully treated patients might remain in the cohort of TB cases because of some bureaucratic legging up/inaccuracy.

The Kyrgyz Republic's data reliability rate is 95 percent to 98 percent because of dual verification steps. Data is checked quarterly at the regional and national levels. This means they are double-checking every case, electronic TB registry, etc. The country's data collection accuracy rate is lower, around 70 percent to 75 percent.

Armenia shared updates on the Contact Investigation Coverage indicator. This indicator is included in Armenia's NSP with a target of 100 percent. The lowest performance rate (88 percent)

was detected in 2013, and the highest rate (94 percent) was detected in 2019, which means Armenia has yet to reach the target of 100 percent. In 2020, the rate dropped to 89 percent due to Covid-19 pandemic-related challenges.

The data is routinely collected (both paper-based and electronic) for all pulmonary and ex-pulmonary TB cases. Armenia collects data on contacts, tested contacts, number of TB confirmed cases (adults, children under 14, and children ages 0-5 years old), DS, and DR cases. One of the challenges Armenia is facing is with pediatric TPT because parents are reluctant to give drugs to their children. Armenia has modified the home-based care module to closely monitor the situation. Experts are planning to address this issue by developing new guidelines to expand TPT services.

Another identified challenge is having an incomplete list of contacts. TB patients mostly provide contact information for family members but not colleagues, neighbors, or people who share the same space. New guidelines on this matter will be released in 2023.

A new incentive system will be introduced for sharing TB contacts (US$5 for each contact brought to investigation, up to eight contacts). A bonus payment system for TB medical staff was already introduced to trace TB contacts and find TB cases. They are paid US$10 per confirmed case.

Armenia indicated 99.9 percent for TB data accuracy and 98 percent in terms of completeness.

Uzbekistan received the Private Sector TB Notification indicator, but since the private sector is not engaged in TB detection in Uzbekistan, they could not present. TB state agencies are responsible for TB detection, observation, treatment, etc. If a medical worker in the private sector suspects a TB case, they are supposed to refer the individual to the state agencies. In some cases, private sector doctors refer patients with chronic coughing who might potentially be TB carriers to state agencies for diagnosis. But there is no official line of communication between private and state facilities. Private facilities are not even part of the country's NSP. Socially important diseases are not handled by the private sector. Quite a few diagnostic service providers are operating in the regions and the capital.

It will be beneficial for the country to implement a communication system to register presumptive TB cases at the primary level after which the MoH, together with TB programs, can take over control of those cases to ensure timely intervention and treatment.

The country is using paper-based forms. Data received from the districts is double-checked and the accuracy is 95 percent. An electronic system could make work simpler and provide the option to compare data.

Kazakhstan's indicator was Percent of TB Financing Expected from Domestic Sources. In Kazakhstan, 95 percent of the financing for all TB-related measures starting with testing, diagnoses, drugs, treatment, and ending with mental health, is funded by the state. The remaining five percent of TB-related activities is covered by international organizations. The approximate budget for TB services amounts to $140,000,000. Budget-related data is collected on the national level. No electronic or digital system collects information automatically; data is collected manually when requested by the competent authority.

Challenges in this area might be related to the reduction of TB cases which may lead to reduced funding for TB-related activities.

In terms of TB data quality, it is 98 percent accurate. There are various electronic information systems in the country. The TB electronic system was developed in-house in 2007. Access is ensured at the regional and district level. Countrywide data is visible through the system.

Ukraine's data accuracy rate is 95 percent to 98 percent. The data provided by general practitioners and family doctors is around 60 percent.

Azerbaijan believes their TB data is around 90 percent and **Turkmenistan** indicated an 87 percent to 90 percent TB data accuracy rate.

The final country presenting during this session was **Tajikistan,** describing the Childhood TB Notification indicator. In the last two years, out of new and relapse cases, over 4,000 children ages 0-14 were tested. Among them, 26.7 percent were found to have pulmonary TB.

Tajikistan's registry is from January until March of the next year. All cases are registered in special logbooks and afterward uploaded to the country's electronic system.

In terms of challenges, there are signs that Tajikistan is not fully detecting childhood TB cases. In 2021, the MoH adopted new recommendations and guidelines which incorporated new diagnostic methodologies. Currently, the country is shifting to GeneXpert Ultra which is the most reliable method. There are 59 GeneXpert devices in 51 different settlements, therefore the country can completely rely on the results.

Another challenge for Tajikistan is filling out the contact tracing section of the annual WHO questionnaire. As for the rest of the indicators, the data is 90 percent accurate.

Data Visualization: Dos and Don'ts and Best Practices

The most colorful presentation of the three-day training belonged to **Bridgit Adamou** who focused on TB data communication, visualization, and its use. Adamou shared the history behind successful data visualization and tips for what to do and what not to do. She presented the three steps for selecting visualizations: (1) determine if a visualization is necessary, (2) identify your audience, and (3) figure out what information you want to show your audience. Adamou showed specific examples of good and bad data visualizations and suggested best practices in visually depicting information.

Communicating TB Data to Various TB Stakeholders

For the data communication session, the topics were broken down by communication objectives, principles of communicating data, communication channels, and communication results.

Maka Danelia, Global Fund TB Program Manager at the NCDC, joined Bridgit Adamou to discuss the six principles of communicating data: (1) establish your goal, (2) gather and use the right data, (3) create your visualizations, (4) consider the aesthetics, (5) select the medium and channel of communication, and (6) evaluate the results.

Conclusion

Anna Meltzer, TB M&E Advisor, USAID Office of Infectious Diseases, TB Division, and **Peter Kerndt, Senior TB/HIV Medical Advisor, USAID Bureau of Global Health, Office of Infectious Diseases, TB Division** thanked the participants for traveling and attending the event and encouraged them to use the networking opportunity as well as resources shared during the training.

Sevim Ahmedov recaptured the topics discussed during the three-day training and facilitated a final discussion on the next steps and the level of technical support needed from USAID, TB DIAH, and the COE.

Irma Khonelidze thanked the attendees for their participation and for USAID and TB DIAH's ongoing support.

Nino Lomtadze also spoke during the closing. She expressed her appreciation and encouraged everyone to keep up the good work they are doing to fight this ancient disease.

Recommendations

Uzbekistan – Nikoloz Nasidze, STAR Advisor, commented that outdated and paper-based forms, lack of training, and low data quality are all linked to the absence of an electronic system. USAID support needs to concentrate on establishing the M&E surveillance system. There are two elements required to improve achievements: political support and high-quality TA. Uzbekistan currently has a good chance in both directions.

Armenia – It will be optimal and most useful to think of the basic needs of countries individually since development levels are different. Some countries need to think about putting an electronic system in place and others might be ready to focus on M&E. There is always something that needs improvement. The focus should be on what each country needs and what will benefit the country in the long run.

Georgia – This meeting was a great opportunity for networking and identifying problems within the TB date recording and reporting system, improving M&E, what should be reported, etc. When considering implementing WHO's new "European Region M&E Framework 2023-2030", it is also important to have an assessment or baseline idea of how countries' information systems provide variables or information that should feed the M&E framework. Georgia is currently rolling out a new electronic information system. It will be helpful to have TA or an external view in this process to provide feedback to make sure the system provides full information on the indicators requested.

As for the COE and a follow-up meeting, the next level can be more in-depth training on data analysis and a practical course on data visualization.

Sevim Ahmedov reminded the participants to fill out the electronic evaluation forms with their feedback and suggestions and encouraged everyone to send their ideas via email as well. At the end of the training, Ahmedov, together with the other USAID and TB DIAH staff, handed out the training certificates.

This publication was produced with the support of the United States Agency for International Development (USAID) under the terms of the TB Data, Impact Assessment and Communications Hub (TB DIAH) Associate Award No. 7200AA18LA00007. TB DIAH is implemented by the University of North Carolina at Chapel Hill, in partnership with John Snow, Inc. Views expressed are not necessarily those of USAID or the United States government. Publication ID Number SR-23-176 TB