TECHNICAL BRIEF

Enhancing TB program monitoring and evaluation with a bilingual data dashboard in Vietnam

INTRODUCTION – DATA VIZ FOR DEVELOPMENT

There has been a dramatic increase in data visualization, known as "data viz", in health and development programs. Modern data visualization tools can automatically transform program data into elegant custom dashboards and tables, enabling staff and program managers to clearly see the results of activities. Well-designed dashboards also help people to identify patterns or trends and find and troubleshoot issues related to data quality or implementation fidelity. In Vietnam, the **USAID Support to End TB project** developed a dual language dashboard in Microsoft Power BI to meet stakeholder needs to synthesize data and share implementation results. USAID, the National Tuberculosis Program (NTP), and provincial and district level health staff use the dashboard to track results, prioritize continuous quality improvement (CQI), and inform decisions about program implementation and policy.

OBJECTIVES AND KEY APPROACHES

USAID Support to end TB developed our dynamic project dashboard to monitor results, perform data quality assurance, and increase timely access to implementation data to gain relevant insights for program improvement.

Routine data from project provinces and sites is collected, checked for quality, and uploaded in the dashboard every month. Stakeholders view near real-time results and compare results to any time period since the start of the project.

Strengths:

- Actionable data
- Engaging visualizations
- Systematic data management
- At-a-glance progress updates
- Flexible and easy to modify when indicators change

The Power of Bi-lingual Power BI: A Diverse Community of Data Users

A key feature of our dashboard is that it was developed in both English and Vietnamese, enabling provincial and district health staff to use it just as easily as national stakeholders and our donor. This increased data accessibility and transparency fostered a sense of ownership over program results. Health staff and managers—who are the data producers—have access to data from all project-supported sites. They can see how their data are used and take an active role in monitoring and evaluation (M&E). Different users adapt the tool to their purposes (Table 1): project staff conduct ongoing monitoring, analyze data to enhance technical assistance, and use the visualizations for routine reporting; the NTP and donor use the dashboard to monitor targets, outputs, and outcomes; and program managers and health staff drill down to their geographies to assess progress and identify places or populations that need more resources. Yet, this project data dashboard is more than an M&E tool. Project staff and stakeholders regularly use it for analysis, even querying the dashboard during meetings for supplementary information when discussing technical topics. Some sites have interactive meetings to deep dive into their TB cascade data and design interventions to improve performance using Continuous quality improvement (CQI) methods.

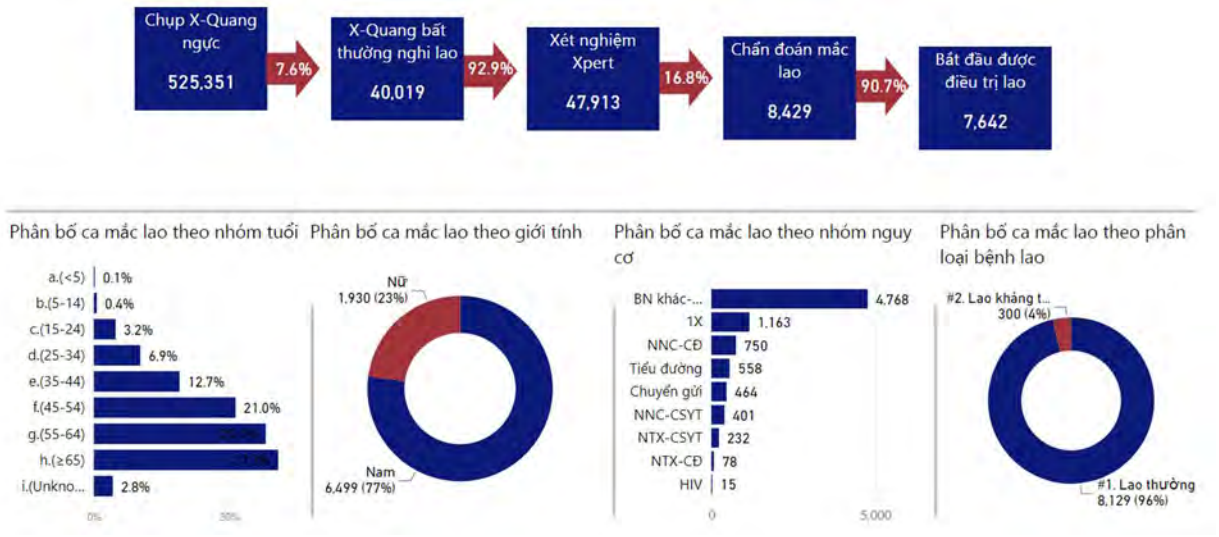
Table 1: Dashboard use by project stakeholders

Dashboard uses	Project	Partner (NTP, provinces, districts)	Donor (USAID)
Monitoring performance: - Track progress against indicators - Assist provincial and district levels to see their results by time, by site, or by implementation model	x	x	x
Data quality assurance: - Develop process for site and project staff to easily check data quality and fix issues	x	x	
Improving implementation quality: - Assist provinces and districts to identify weaknesses in the TB cascade and find solutions - Inform CQI interventions	x	x	
Decision making: - Provide evidence to donor, NTP and project for decision-making, such as which model or risk group needs more resources	x	x	x
Data transparency and accessibility: - Data on demand - All dashboard members access the same data	x	x	x
Presenting results: - Real-time analysis and visualization while presenting - Quickly copy visuals into reports and presentations	x	x	

Example: Using the data dashboard supports monitoring and capacity strengthening

The project dashboard makes it easy to monitor targets set with the NTP to optimize TB screening. For example, each screening model has a target positivity rate for GeneXpert testing that helps managers assess if the program is correctly identifying and screening key and vulnerable populations. In Tay Ninh province, the Provincial Lung Hospital staff monitor nine districts where the project is implementing a model called Single X to increase access to GeneXpert testing at the community level. Under this model, commune health staff are empowered to order GeneXpert tests for clients who have a prolonged productive cough, bypassing chest x-ray screening. Tay Ninh officials check TB screening cascade data for this model by district and site in Power BI on a monthly basis. If sites do not meet the positivity target, they may have to stop implementing the Single X model.

After identifying districts with positivity rates below the target, the Provincial Lung Hospital reminded district TB staff of the screening criteria and supported them to improve through training and technical assistance. In some cases, the issue was identified as a problem with sample storage or sample transport to a lab. Tay Ninh province successfully increased the GeneXpert positivity rate in under-performing sites and all sites have continued implementing the model. Without the dashboard, it would be extremely difficult to synthesize screening data from monthly site reports and deliver this targeted technical assistance.



An image of one of the main dashboard pages in Vietnamese showing the TB cascade and results by population, drug-resistant and drug-susceptible TB, and implementation model. Project staff query the dashboard to compare the performance of sites and provinces and to examine results by implementation model or population.

CHALLENGES AND BEST PRACTICES

The project team overcame several challenges when introducing this technology. First, not all partners had a Microsoft account, which is needed to share and view the dashboard. After determining who should have access, the project staff supported TB managers and health care workers to create accounts and provided in-person coaching on the features of the dashboard, like slicers and filters that are used to do stratified analysis. This skill building proved invaluable in the long run.

A dashboard, like any data analysis, is only as good as the data fed into it. To maintain the dashboard, project staff must routinely work on the timeliness, completeness, and accuracy of monthly site reports. We learned that close attention ensures the software and data are kept up to date, and training is essential when new sites and new data elements are added. Refresher training for existing users is incorporated into annual TB technical trainings and on-site supportive supervision.

Fit-for purpose data analysis provides implementers with metrics that inform decision making and program improvements. As needs change over time, the dashboard architecture must be revisited and updated too. A key lesson learned is to design visuals that meet the needs of different users and to ensure the dashboard evolves with the project.

Lastly, up-front work yields long term results. Some visuals require a different data structure to show results by geography, population, and/or time period. Rather than taking a one-size-fits-all approach, taking the time to create specific dashboard pages results in better uptake and data use. Each page should use charts, graphs, and/or tables that are easy to interpret by the intended user and incorporate color and design elements to highlight key metrics.

A provincial TB manager uses the dashboard's TB cascades and compare progress over time, by population, age, sex, and type of TB. Photo credit: Bao Nghi, FHI 360

CONCLUSION

A TB Power BI dashboard is used for stakeholders from different organizations with different purposes. We recommend that TB programs: 1) engage users early and often to design custom data dashboards based on user needs and program objectives, 2) make bilingual or multilingual dashboards to provide equitable access to local users, and 3) ensure that dashboard data analysis is embedded in program activities to increase buy-in and optimize program implementation.