

# Tuberculosis Monitoring and Evaluation Capacity Assessment Cambodia

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## Cambodia

**Sao Sarady Ay**, MSc, TB DIAH Cambodia

**Nikki Davis**, MPH, TB DIAH

**Sopha Chum**, TB DIAH Cambodia

**Jeanne Chauffour**, MS, TB DIAH

**Yanira Garcia Mendoza**, MPH, TB DIAH

**Tariq Azim**, MBBS, DCM, TB DIAH

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## Abbreviations

CENAT	National Center for TB and Leprosy Control
CHW	community health worker
DOTS	directly observed treatment, short course
DR-TBz	drug-resistant TB
HC	health center
HF	health facility
HR	human resources
ICT	information and communications technology
IGRA	interferon-gamma release assay
LQAS	lot quality assurance sampling
M&E	monitoring and evaluation
MDR-TB	multidrug-resistant TB
MIS	management information system
NSP	National Strategic Plan
NTP	National Tuberculosis Program
OD	operational district
PPM	public-private mix
PRISM	Performance of Routine Information System Management
RDQA	routine data quality assessment
RR	rifampicin-resistant
TB	tuberculosis
TB-MIS	TB Management Information System
TST	tuberculin skin test
XDR-TB	extensively drug-resistant TB

# Executive Summary

## Introduction

The Tuberculosis (TB) Monitoring and Evaluation (M&E) Capacity Assessment was designed to assess the TB M&E knowledge and skills of the National TB Program (NTP) staff assigned to carry out M&E of the TB program in provinces and operational districts (ODs) in Cambodia. A questionnaire was developed for that purpose and was pilot-tested. The feasibility of implementing the assessment under the COVID-19 pandemic using virtual methods was also assessed during this pilot implementation.

## Methods

Prior to the implementation of this assessment, an agreement from the National Center for TB and Leprosy Control (CENAT) and the NTP was signed by the director of CENAT. A list of 160 M&E staff from the provincial and OD health departments was provided by CENAT with their contact details. Additionally, four national-level program managers and statistical officers were also selected for the assessment, which was conducted from July to August 2021. The participating staff were contacted using virtual platforms in two phases. During the first call, the tool and its purpose were explained to participants who were then asked for their consent to participate in the assessment. A second call was scheduled during which the completed tool was collected from the participating respondents, reviewed along with them, and clarified, where needed.

## Results

Among 164 participants, 80 staff responded to the assessment (47 from TB ODs, 20 TB provincial supervisors [medical], 9 provincial supervisors [TB labs], and four national-level managers and statistical officers). It should be noted that not all questions in the questionnaire were responded to by these 80 respondents.

Participants demonstrated a gap in knowledge in fundamental TB indicators. National TB managers scored 100 percent on TB-HIV and extra-pulmonary TB indicator identification and elaboration but 25 percent on drug-resistant TB (DR-TB). While OD and provincial supervisors scored between 55 and 60 percent and 52 and 59 percent on TB-HIV and extra-pulmonary TB indicators, respectively, they scored between three and four percent on DR-TB indicators.

Similarly, awareness and understanding of the National Strategic Plan (NSP), its objectives, and related indicators were found to be lacking. When asked to identify the NSP's five major objectives, only 24 percent of respondents selected the correct answer.

Moreover, the assessment identified a need to improve the application of data quality check procedures and enhance the enabling environment in support of data quality assurance. For example, when asked about dissemination of supervisory visit feedback on data quality, feedback on quarterly TB reports, and production of TB analytical reports, participants indicated that these are done by fewer than 50 percent of ODs.

## Conclusion

The competency levels at the three administrative tiers (national, provincial, and OD) are encouraging but require attention to enhance competency throughout the country and across the tiers. The study findings assist the TB Data, Impact Assessment and Communications Hub (TB DIAH) project and CENAT to identify and prioritize needs, create learning strategies, and develop curricula to improve the TB surveillance system in Cambodia.

## **Introduction**

Capacity is the ability of an individual or organization to carry out the relevant tasks necessary to achieve stated objectives. In the context of TB M&E, the objectives of an M&E system are to provide quality data and to guide planning, coordination, and implementation of the TB program, assess the effectiveness of the program, and identify areas for improvement.

One building block of any system is human resources. The staff involved in M&E of the TB program are essential to building an effective and robust M&E system. These TB M&E staff must possess the knowledge and skills to carry out critical M&E functions such as data management, data analysis and use, use of information and communications technology (ICT), and management of the TB M&E system.

In Cambodia, the TB M&E system is well organized and implemented by the CENAT. There are provincial TB medical and lab supervisors as well as OD level TB supervisors who are responsible for conducting TB M&E. To gain an in-depth understanding of the TB M&E knowledge and skills of TB M&E staff, a capacity assessment was conducted from July to August 2021. The findings from this assessment will help to inform interventions to strengthen TB M&E capacity in Cambodia.

### **Purpose of the Assessment**

The TB M&E Capacity Assessment was conducted with the following objectives:

1. Assess the knowledge of existing M&E practices, including data collection and reporting practices;
2. Assess the knowledge of existing data quality assurance practices;
3. Assess the knowledge of existing data use practices of TB M&E staff at different levels to analyze and interpret TB data; and
4. Determine the level of understanding and ability to interpret TB M&E and surveillance indicators.

## Methods

A detailed discussion was held with the CENAT director for his approval to roll out the assessment. For the purpose of the assessment, CENAT recommended including all M&E staff at the provincial and OD levels. Accordingly, CENAT provided the TB DIAH project with a list of 164 TB M&E staff at the national, provincial, and OD levels. The list included detailed contact information such as phone numbers and email addresses. This facilitated communication with participants. TB DIAH Cambodia then divided the list into two groups, each consisting of approximately 80 staff, to contact each person and explain the assessment steps. The criteria of the group composition avoided clustering TB provincial supervisors and OD supervisors in the same group.

With an official letter from the director, TB DIAH proceeded to reach out to the respondents one by one. Some of the respondents were contacted via different modes such as the Telegram App, email, and phone. In the event that a respondent did not reply, they were contacted again to explain the importance of their participation.

During the phone call, TB DIAH explained the tool and indicated the deadline date to submit the completed tool to the TB DIAH team. After the call, the file was sent through email or Telegram, based on the respondent's preference. The files sent included the capacity assessment tool translated into Khmer and the formal invitation signed by CENAT's director.

## Assessment Tool

The questionnaire was adapted from the Performance of Routine Information System Management (PRISM) tool developed by MEASURE Evaluation. The capacity assessment tool/questionnaire covered multiple aspects of TB M&E in Cambodia, including data collection tools, data reporting, knowledge of M&E and its use, and understanding of interpreting M&E. Specifically, the modules of the assessment tool included:

1. Overview of Cambodia's NTP and TB M&E system
2. Data collection, verification, and analysis
3. Data interpretation and use
4. M&E plan and M&E system

Although the participants were from different levels of the TB program, they were expected to answer all questions in the assessment questionnaire, even when certain questions did not fully relate to their daily work. Once the completed questionnaire was returned, a virtual call was made to discuss the answer sheet.

## Sample Size

CENAT provided a staff list of TB OD supervisors, TB provincial supervisors, TB laboratory supervisors, and statistical and technical staff from the national setting who were targeted for the assessment. Out of the original 164 staff targeted, 80 individuals agreed to participate in the assessment (Table 1).



## Data Collection

The assessment was conducted from July to August 2021. The participating staff were contacted using virtual platforms in two phases. During the first call, the tool and its purpose were explained to participants who were then asked for their consent to participate in the assessment. A second call was scheduled during which the completed tool was collected from the participating respondents and reviewed with them, and any clarification, if necessary, was provided. The respondents had a three-day period to complete all of the questions in the assessment and were able to reach out to the assessment facilitator at any time to clarify any questions that they may not understand. Once completed, answer sheets from each participant were returned to the facilitator as a soft copy or picture. The final breakdown of staff who participated in the assessment is detailed in Table 1.

**Table 1. Final list of TB program staff respondents who participated in the assessment**

<b>N</b>	<b>Role and responsibility of TB program staff at different health structures</b>	<b>Total number</b>
1	TB OD supervisors	47
2	TB provincial supervisors (medical)	20
3	TB lab provincial supervisor	9
4	Statistics staff at national program	2
5	National program (deputy of the national program)	2
	Total respondents	80 (out of 164)

## Data Entry and Data Analysis

Answer sheets were reviewed to ensure accuracy of the information submitted by participants. Once reviewed, responses were entered into Statistical Package for the Social Sciences (SPSS) software. The final dataset was analyzed in SPSS and summary tables were produced, which were also reviewed by the TB DIAH headquarters team.

## Ethical Considerations

Each participating respondent gave their consent to be part of the assessment, and a unique identification number was assigned on the answer sheet before entering the responses into the database to ensure confidentiality.

## Results

### Knowledge of Existing M&E Practices, including Data Collection and Reporting Practices

#### Knowledge of Existing Electronic Data Collection Tools

In Cambodia, the data collection tools are designed based on the TB cascade of care for all TB patients at different levels of the health system. Respondents were asked to name the types of information collected using electronic tools, such as for presumptive TB, TB screening, TB-HIV, lab diagnosis, TB among health workers, etc. Table 2 shows the percentage of respondents who mentioned the names of the electronic tools.

Of the 80 respondents, only 77 (or 96.3%) filled-in this section of the questionnaire, and the remaining respondents (3) did not answer any question in this section of the questionnaire. These three missing cases are considered as respondents unable to name any of the tools and, therefore, have been included in the denominator for calculating the response percentages.

**Table 2. Percentage of respondents who mentioned the names of various electronic TB data collection tools used in Cambodia (N=80)**

Type of information recorded in the electronic tool	Respondents who mentioned the availability of an electronic data recording tool for the information type	
	Number	Percentage
Presumptive TB cases	70	87.5
Referral of suspected/presumptive cases to health facility	72	90
TB screening at community level	72	90
TB screening at health facility	72	90
TB diagnostic services	72	90
TB treatment services	72	90
TB contact investigation	70	87.5
TB preventive treatment	71	88.8
TB-HIV care	57	71.3
TB among health workers	50	62.5
TB among diabetes patients	54	67.5
TB among prison inmates	55	68.8
TB financial information	43	53.8
TB medicine stock/supply	57	71.3
TB human resources (HR)	45	56.3
TB lab equipment	63	78.8

## Technical Knowledge on NSP Priority Areas

The respondents' understanding of the basic concepts of various priority programmatic areas in the NSP was assessed. The thematic areas for which the respondents' knowledge were assessed included knowledge on use of GeneXpert (Xpert), active case finding, community directly observed treatment, short course (DOTS), TB and diabetes, and the TB M&E system.

Respondents were given a choice to select the correct answer to questions related to each of these thematic areas. Overall, the proportion of respondents who demonstrated knowledge on each aspect of the thematic areas ranged from 20 to 95 percent. On use of Xpert as a diagnostic tool, 36 to 65 percent of respondents were able to answer the respective questions correctly; on active case finding, 51 to 83 percent were able to do so; on community DOTS, 20 to 50 percent of respondents answered correctly; for TB and diabetes, 78 percent did so; and TB M&E related questions were answered correctly by 70 to 95 percent of respondents.

**Table 3. Knowledge on NSP priority thematic areas**

NSP thematic area	Number (and percentage) of respondents who provided correct answers to the priority thematic areas of NSP				
	National level (N=4)	TB provincial-level medical supervisor (N=20)	TB provincial-level lab supervisor (N=9)	OD TB supervisor (N=47)	Total (N=80)
Thematic Area 1: Use of Xpert as a diagnostic tool					
GeneXpert is not widely available	4	9	5	34	52
	100%	45%	56%	72%	65%
Use of Xpert as a diagnostic tool requires transport of specimens and results to and from the health facility, which can cause delays in notification	1	6	4	18	29
	25%	30%	44%	38%	36%
Supervision of GeneXpert testing is managed by all the provincial lab supervisors	1	13	6	30	50
	25%	65%	67%	64%	63%
Thematic Area 2: Active case finding					
Active case finding is conducted in every OD	0	10	4	27	41
	0%	50%	44%	57%	51%
Active case finding helps identify community-based cases of TB	3	17	7	39	66
	75%	85%	78%	83%	83%
X-ray is used for active case finding	4	13	7	35	59
	100%	65%	78%	74%	74%
Thematic Area 3: Community DOTS					
Community DOTS is part of the national strategy in Cambodia	4	17	8	42	71
	100%	85%	89%	89%	89%
Community DOTS does not support adherence to TB treatment	1	3	3	9	16
	25%	15%	33%	19%	20%
Community DOTS is only implemented by CHWs	2	10	4	24	40
	50%	50%	44%	51%	50%

NSP thematic area	Number (and percentage) of respondents who provided correct answers to the priority thematic areas of NSP				
	National level (N=4)	TB provincial-level medical supervisor (N=20)	TB provincial-level lab supervisor (N=9)	OD TB supervisor (N=47)	Total (N=80)
Thematic Area 4: TB and diabetes					
Cambodia has a well-defined framework for coordinating TB and diabetes program activities	3	17	8	34	62
	75%	85%	89%	72%	78%
The prevalence of TB among diabetics is six times higher than that of the general population	2	16	7	31	56
	50%	80%	78%	66%	70%
Diabetes patients are always screened for TB during their clinic visits in Cambodia	1	15	7	33	56
	25%	75%	78%	70%	70%
Thematic Area 5: TB M&E					
TB M&E is of great importance to monitoring TB program performance	4	19	8	45	76
	100%	95%	89%	96%	95%
Electronic TB Management Information System (TB-MIS) is the only source of TB data collected by CENAT	1	12	6	37	56
	25%	60%	67%	79%	70%
TB patient data collected by health facilities are entered into the electronic system at the district level	4	18	7	36	65
	100%	90%	78%	77%	81%

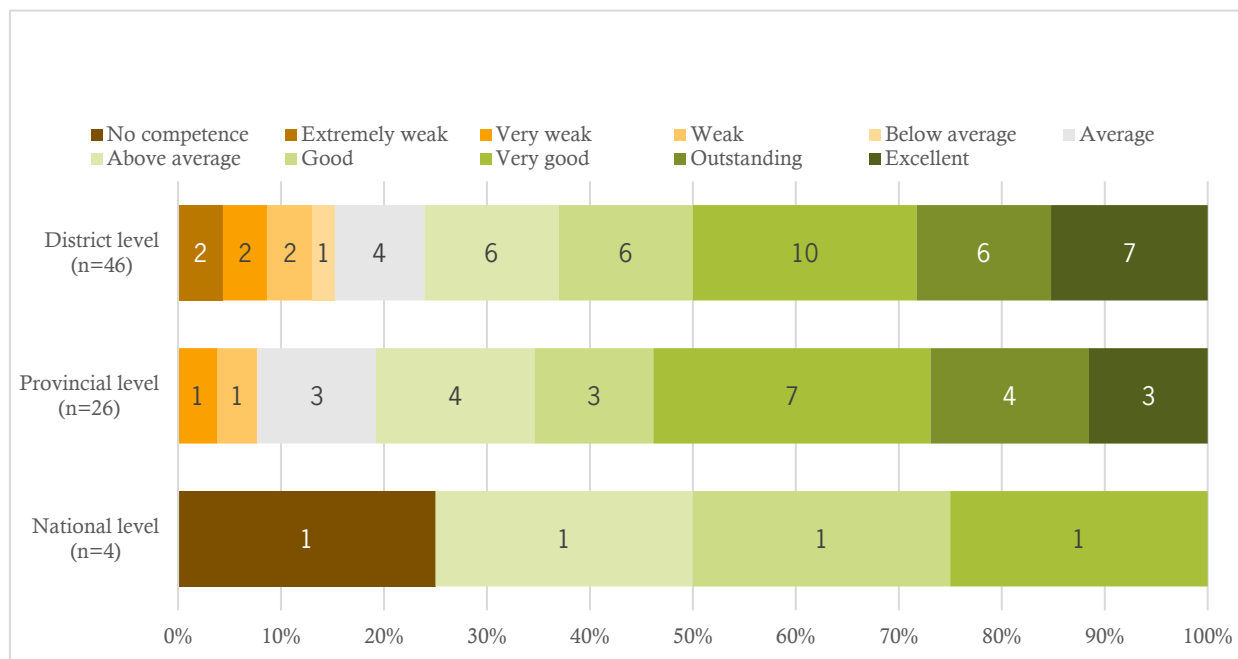
### Individual Self-Efficacy to Carry-Out M&E Tasks

Self-efficacy of the staff to process, interpret, and use data was assessed (i.e., the respondents expressed belief or confidence in their own capacity to check data accuracy, analyze data, produce data visuals, interpret the findings, and identify performance gaps). Results from the self-efficacy assessment are presented by national, provincial, and district levels. The levels of self-efficacy expressed by staff ranged from excellent, in terms of performance, to having no competence. Overall, one respondent among all OD supervisors and three provincial TB supervisors failed to complete the self-efficacy section of the questionnaire. They have not been included in the analysis.

### Data Accuracy Check Self-Efficacy

In terms of competence to check data accuracy, 75 percent of the national managers indicated having above-average to good competence; while 21 out of 26 (81%) provincial supervisors expressed having above-average to outstanding/excellent skills in data accuracy check competency; 35 of the 46 (76%) district respondents expressed a similar range of self-efficacy.

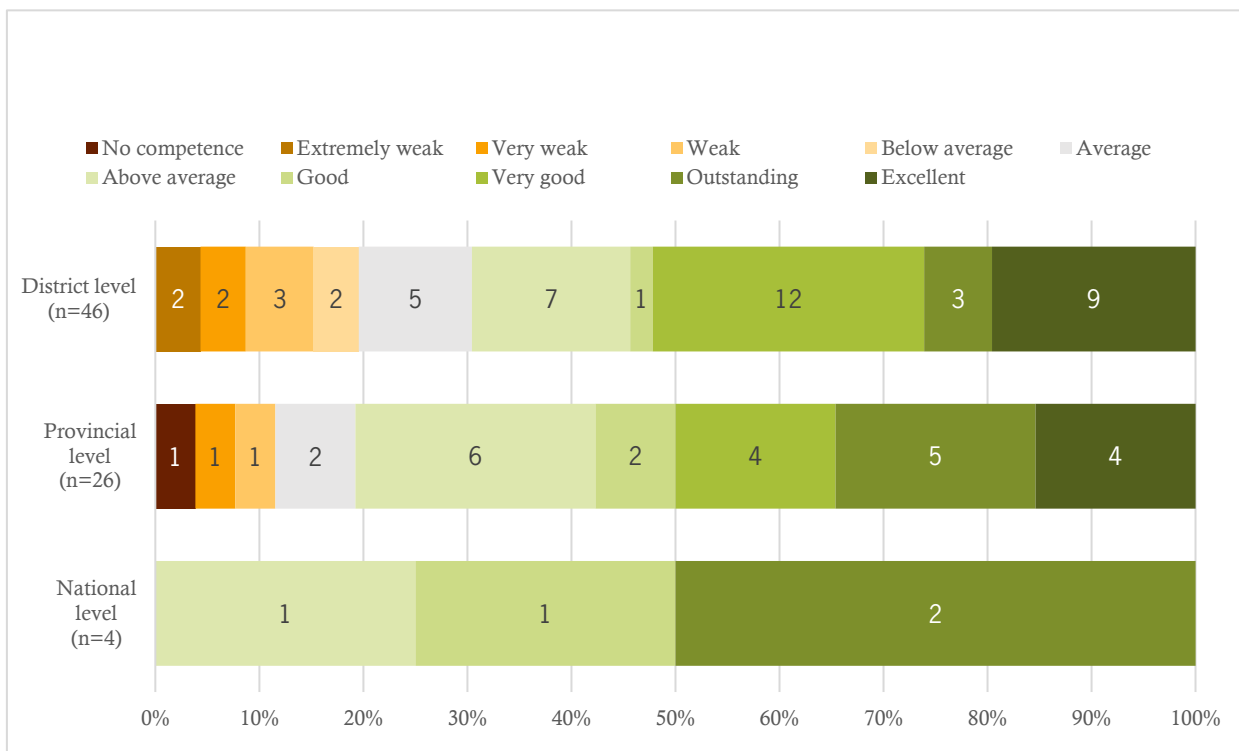
**Figure 1. Self-evaluation of data quality checking capacities at each level of the health system**



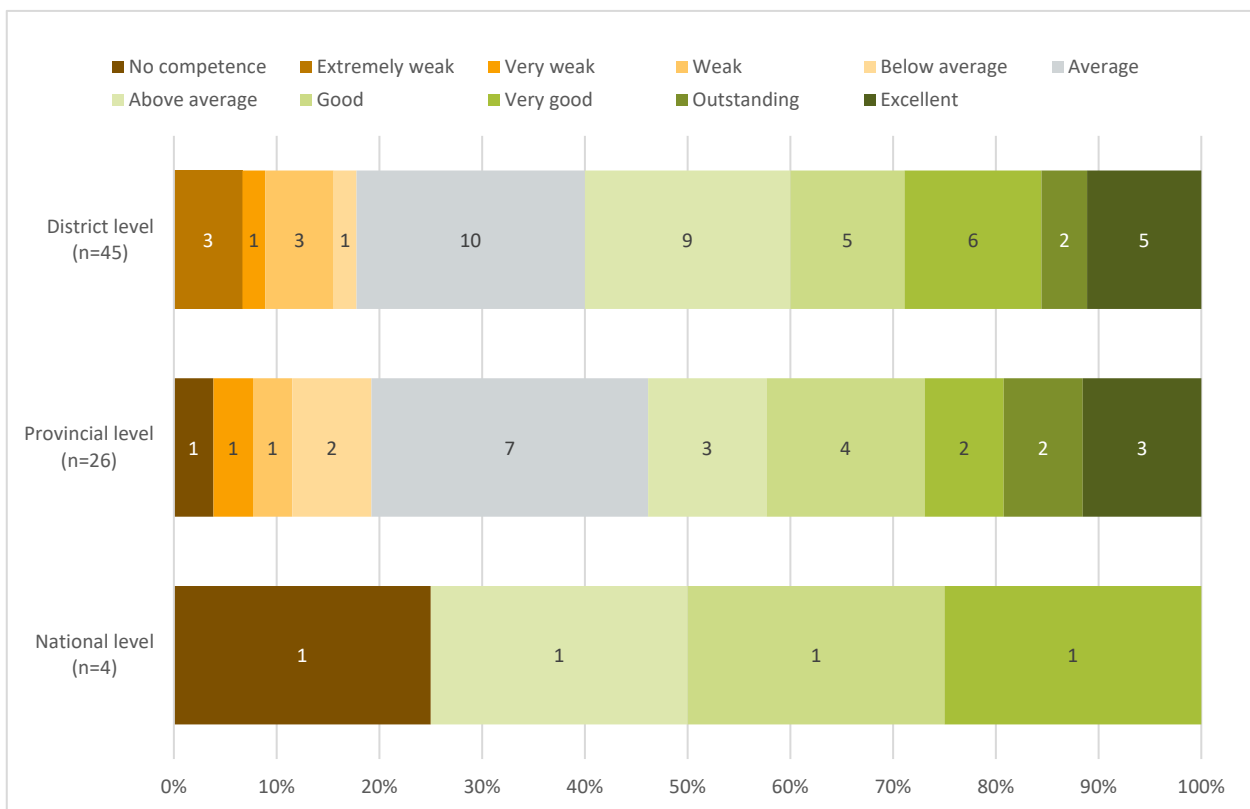
### Data Analysis Using Basic Statistics

Data analysis through application of basic statistics skills is an essential step toward data interpretation and use at any level of the health system. Self-efficacy to calculate percentages or rates using the available data was assessed. Figure 2 shows the level of confidence among the respondents in conducting data analysis by TB M&E staff at the national, provincial, and district levels. Among the respondents, nine OD-level TB supervisors rated themselves as being excellent in calculating percentages or rates, with almost 70 percent of the OD supervisors having self-efficacy of varying degrees to carry out those tasks. Among the higher-level supervisors/managers, only four (15%) provincial supervisors rated themselves as having excellent skills, while two (50%) from the national level gave themselves an outstanding score.

**Figure 2. Self-evaluation on the ability to complete percentage/rate calculations and the use of data analysis at each level of the health system**



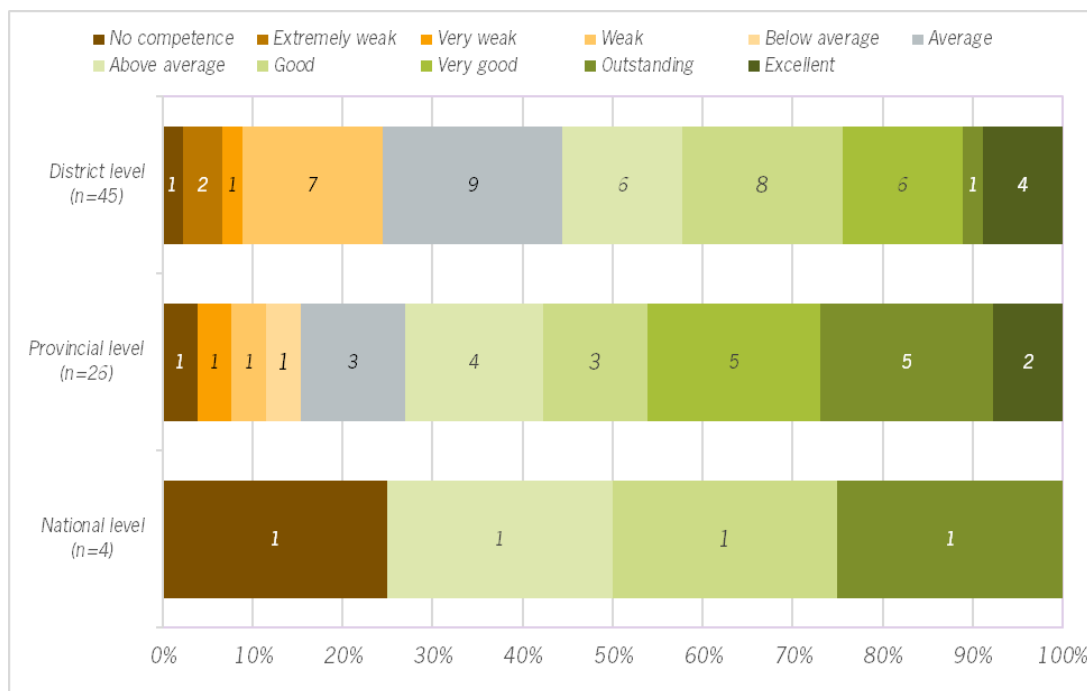
**Figure 3. Self-evaluation on the ability to use data for identifying service performance gaps and setting performance targets**



## Ability to Plot Charts

In terms of their self-efficacy to plot graphs (Figure 4), approximately 45 percent of OD supervisors rated themselves as having an above-average to excellent rating in doing so; over 70 percent of the provincial supervisors and 75 percent the national managers expressed self-efficacy that ranged from excellent to above-average.

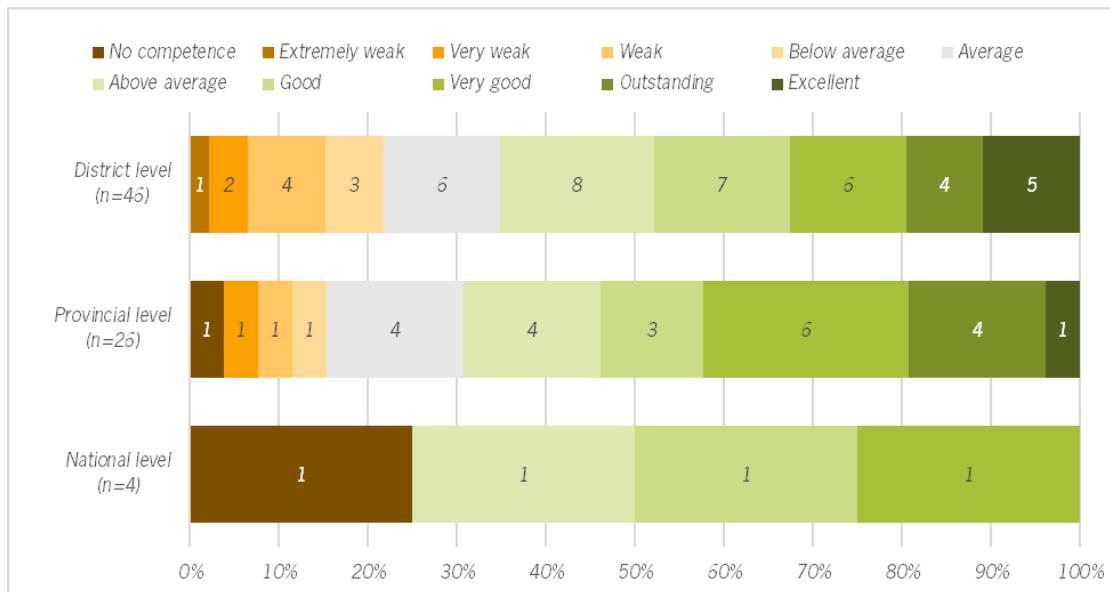
**Figure 4. Self-evaluation on the ability to plot a trend on a chart**



## Data Interpretation Self-Efficacy

Respondents were also asked to rate themselves in terms of their capacity to interpret the data and draw inferences or conclusions based on their analysis of data at different levels of the TB program (Figure 5). Approximately 65 percent of OD supervisors reported above-average to excellent levels of self-efficacy; almost 70 percent of provincial supervisors and 75 percent of national managers rated themselves within that range.

**Figure 5. Self-evaluation on the ability to explain the implications of data analysis at each level of the health system**



### Problem Solving Self-Efficacy

Among the OD supervisors, 60 percent of respondents expressed that they had an above-average to excellent level of self-efficacy in using data for identifying service performance gaps and setting performance targets; approximately 55 percent of provincial supervisors and 75 percent of national managers placed themselves within that range of competence for carrying out that task.

### Competency to Carry Out Data Tasks

Respondents were given a set of problems to solve to demonstrate their skills in carrying out certain data tasks, including skills in compiling data, calculating percentages, plotting graphs, and interpreting information.



**Figure 6. Staff competency to carry out essential data tasks**

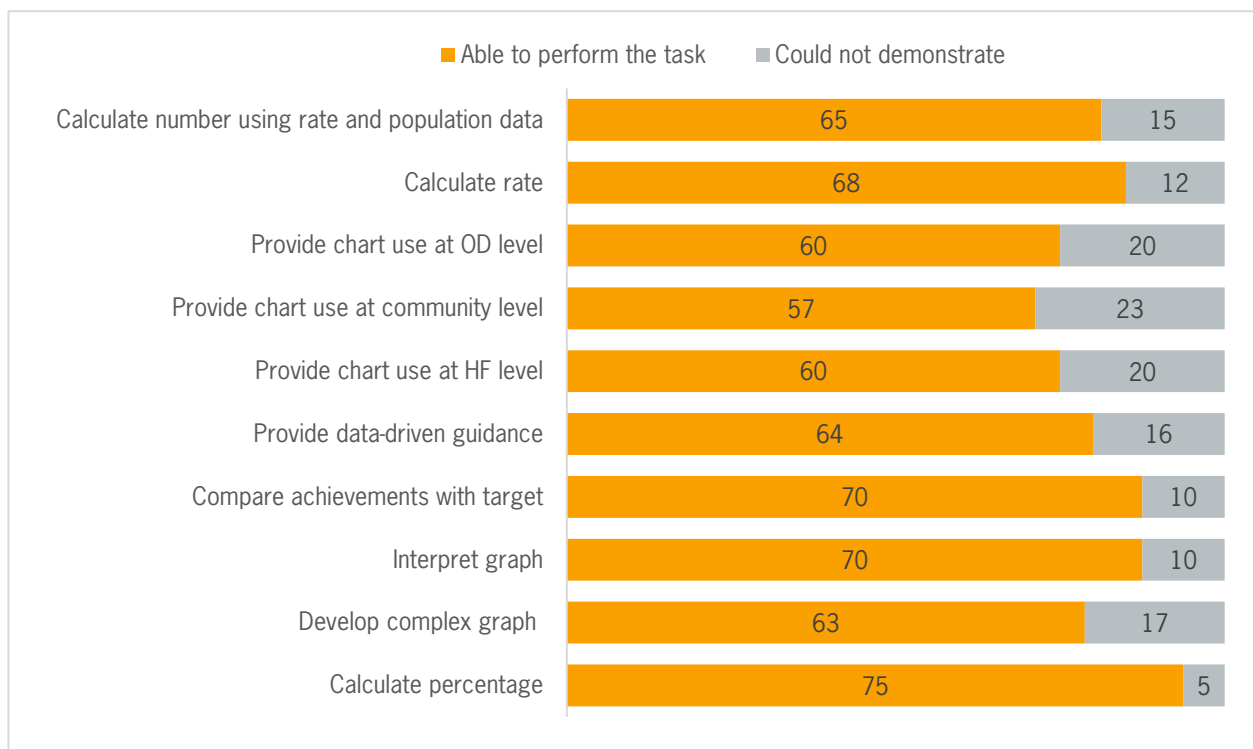


Figure 6 shows the distribution of staff who were able to demonstrate competency to carry out a set of essential data tasks. In general, over 70 percent of staff were able to demonstrate their competency in conducting each of the tasks. Table 4 provides the number of respondents who were able to demonstrate essential data tasks by their positions at the national, provincial, and OD levels.

**Table 4. M&E task competencies as demonstrated by the respondents**

Tasks	Demonstrated competency	Staff positions				Total	
		TB program national team (n=4)	TB provincial manager (medical) (n=20)	TB provincial lab supervisor (n=9)	OD TB supervisor (n=47)	Number (n=80)	Percent (%)
Calculate percentage of TB cases that have been notified	Yes	4	17	8	46	75	94
	No	0	3	1	1	5	6
Develop a bar chart depicting the distribution across the ages of clients tested for TB at the four facilities	Yes	2	18	8	35	63	79
	No	2	2	1	12	17	21
Interpret the graph	Yes	2	18	9	41	70	88
	No	2	2	0	6	10	13
Compare which units have achieved the given target	Yes	2	17	8	43	70	88
	No	2	3	1	4	10	13
Provide guidance to health center based on data analysis and interpretation	Yes	2	15	7	40	64	80
	No	2	5	2	7	16	20
Provide at least one use of the chart findings at the facility level	Yes	2	15	6	37	60	75
	No	2	5	3	10	20	25
Provide at least one use of the chart findings at the community level	Yes	2	14	8	33	57	71
	No	2	6	1	14	23	29
Provide at least one use of the chart findings at the OD level	Yes	2	15	7	36	60	75
	No	2	5	2	11	20	25
Calculate rate using the given data	Yes	3	17	7	41	68	85
	No	1	3	2	6	12	15
Calculate the number of cases using incidence rate and population data	Yes	3	15	7	40	65	81
	No	1	5	2	7	15	19

## Data Quality Assurance

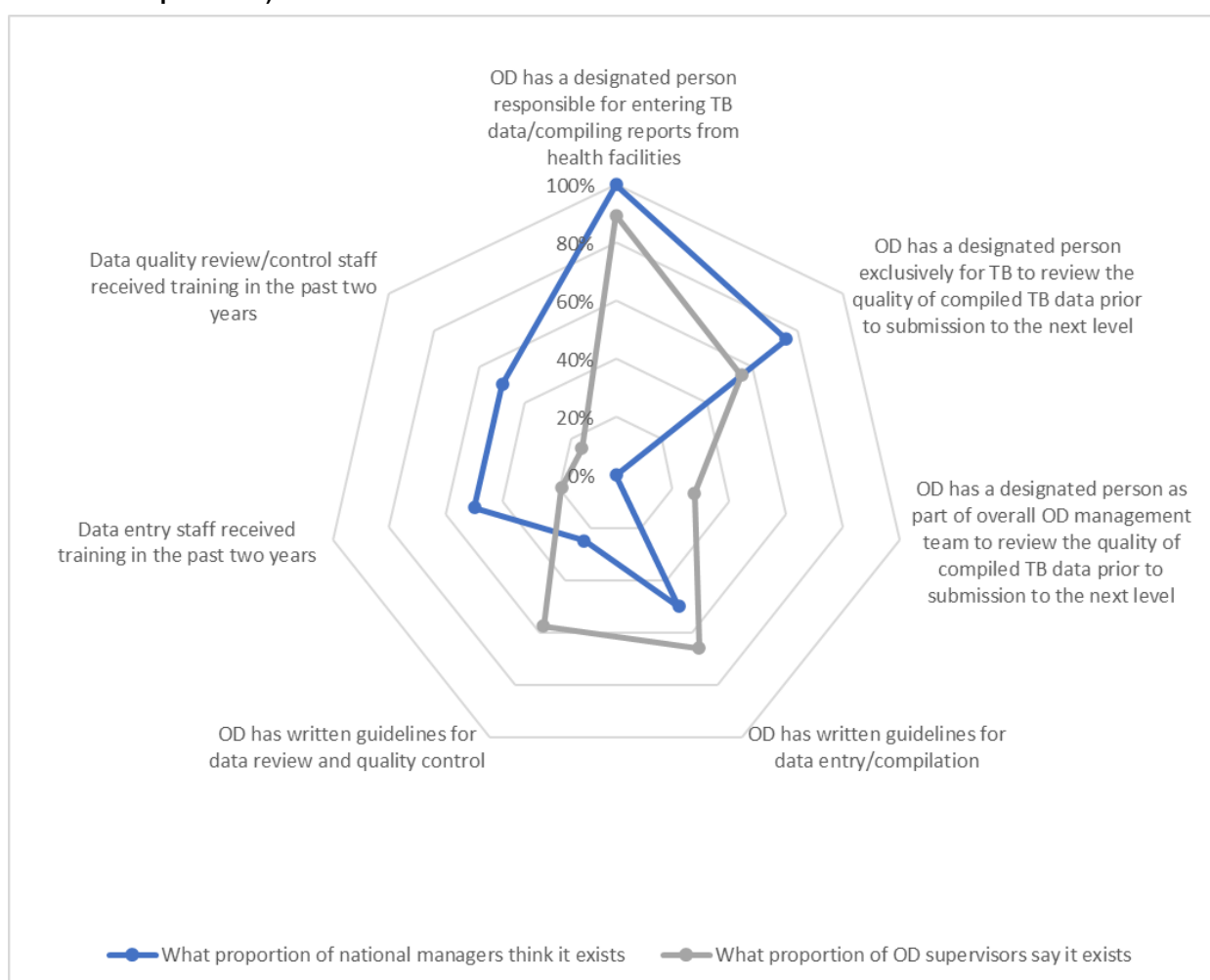
In addition to data quality check self-efficacy, two additional aspects of data quality assurance capacity were assessed: respondents' knowledge on existing data quality assurance mechanisms; and respondents' competence in defining the data quality problem, identifying potential reasons, and deciding on actions to address the issue.

ODs are the primary supervisory level responsible for conducting data quality checks and supporting health facility staff to collect and report quality data. OD supervisors are also responsible for entering data into the electronic TB Management Information System (TB-MIS). In this context, the perception of national- and provincial-level staff was compared with that of OD supervisors in terms of the existence of an enabling environment for data quality assurance at the OD level. Such an enabling environment is comprised of the availability of designated human resources for data entry, compilation of reports, and data quality review who are well trained on carrying out those functions and have access to relevant guidelines.

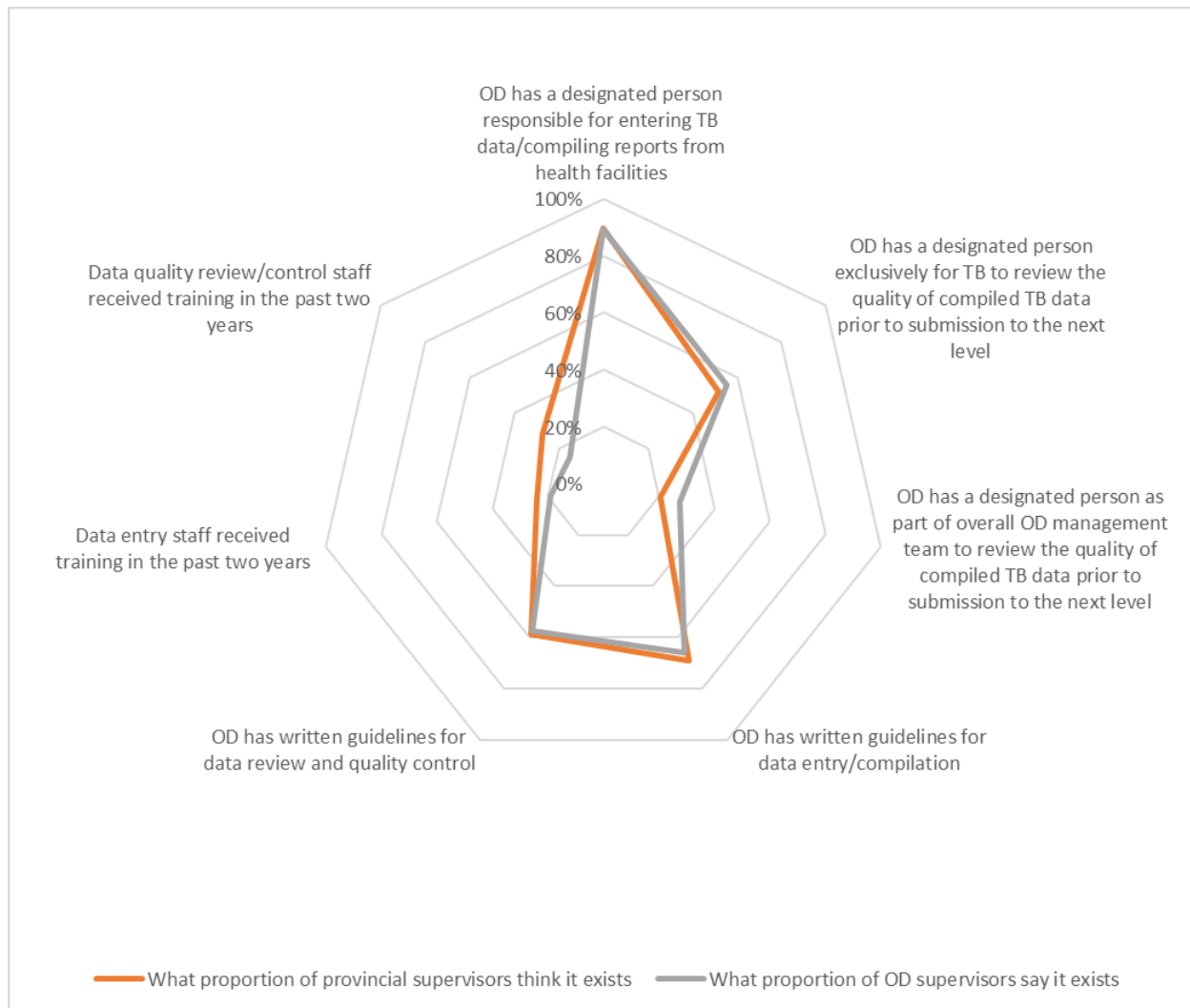
### Existence of Enabling Environment for Data Quality Assurance at the OD Level

Figure 7 shows the percentage of national managers expressing their perception on the existence of various components of the enabling environment in relation to what OD supervisors say about the existence of those components. Similarly, Figure 8 compares provincial supervisors' thoughts regarding the enabling environment at the OD level with what OD supervisors said about it.

**Figure 7. Perception on existence of data quality enabling environment at the OD level (national managers versus OD supervisors)**



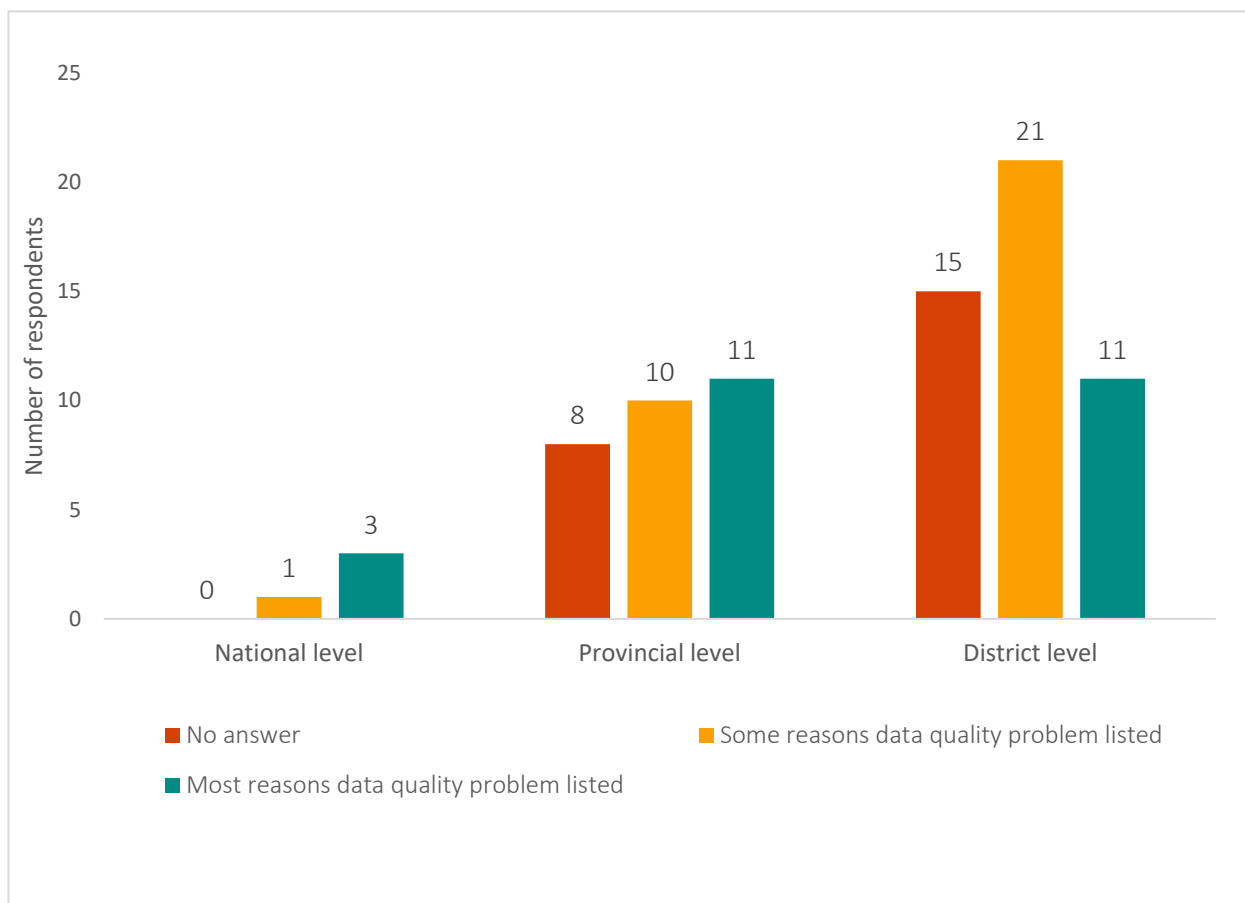
**Figure 8. Perception on existence of data quality enabling environment at the OD level (provincial supervisors versus OD supervisors)**



### Ability to Identify and Solve Data Quality Issues

The respondents were provided a case scenario and asked to identify potential data problems at the district level. Nearly 32 percent of respondents mentioned most of the reasons for data quality problems, 40 percent provided a few reasons, and nearly 29 percent of the respondents did not provide any answer. Figure 9 shows a breakdown of the responses by administrative levels.

**Figure 9. Potential reasons for the data quality problem provided by respondents, by health system level**



**Practicing M&E Tasks—National Managers and Provincial Supervisors’ Perceptions and Self-Reporting by OD Supervisors on Practicing M&E Tasks at OD Level**

The practice of aggregating data, calculating indicators for the catchment population disaggregated by facility-level catchment population, and using various comparisons to understand the TB program’s performance at the OD level are important functions of OD supervisors. The national managers and provincial supervisors are there to provide necessary technical support and mentoring to the OD supervisors to perform these M&E tasks. Practice of such tasks at the OD level was self-reported by OD supervisors and was compared with the perceptions of national managers and provincial supervisors regarding existence of such practices at the OD level. Table 5 shows the self-reported practice and proportion of managers/supervisors having the perception that those practices do occur. Overall, a higher proportion of national managers thought that these M&E functions were carried out at the OD level. The proportion of provincial supervisors thinking that these practices occur are more comparable with the proportion of OD supervisors self-reporting, except for such tasks as carrying out comparisons using sex-disaggregated data or comparing across different indicators.

**Table 5. M&E task practices at OD level: Perception of national managers and provincial supervisors and self-reporting by OD supervisors**

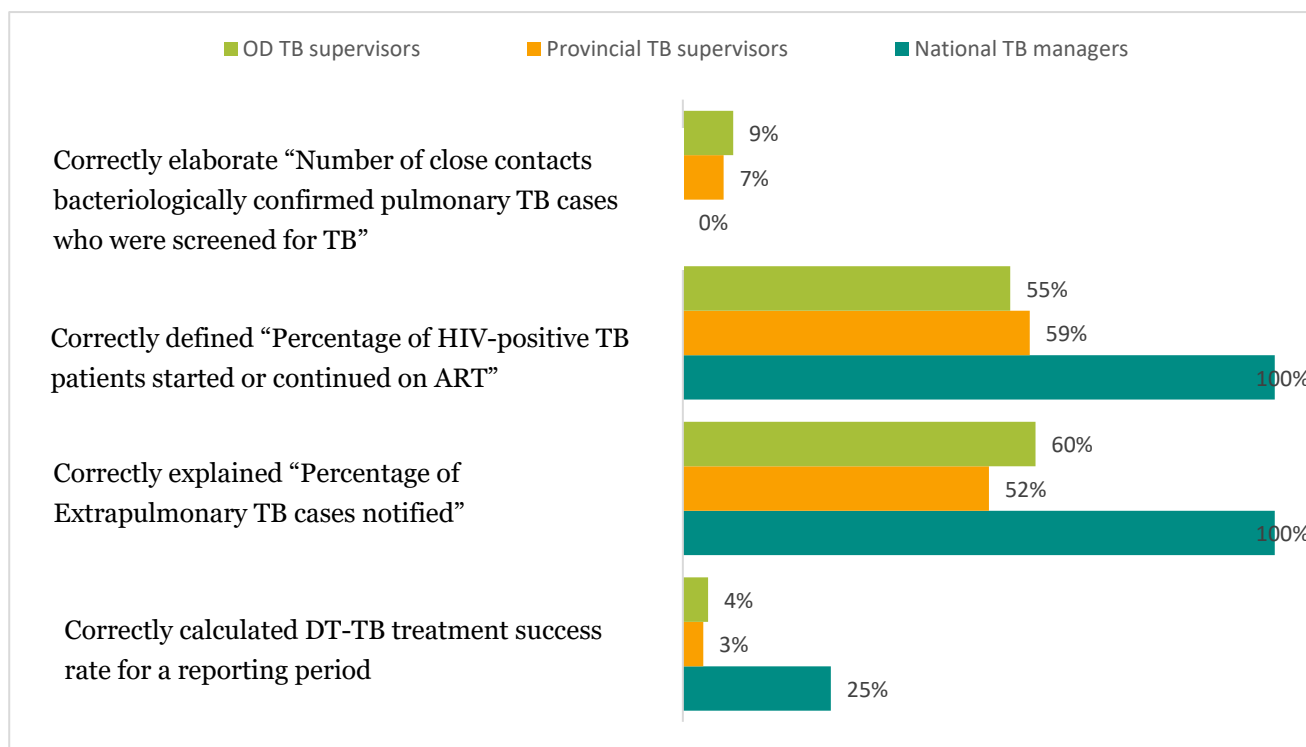
Perception on practice of M&E tasks at OD level	Percentage of national managers who think it occurs	Percentage of provincial supervisors who think it occurs	Percentage of OD supervisors who self-report practicing M&E tasks
Aggregate TB report within past 3 months	100%	90%	91%
Generate demographic data on OD population to calculate coverage	100%	83%	89%
Calculate TB program indicators for each facility catchment area in the district within past 3 months	100%	93%	94%
Calculate comparisons among facilities in the OD	75%	55%	49%
Calculate comparisons with OD/National TB Program performance targets	75%	76%	72%
Calculate comparisons of data over time (monitor trends)	100%	66%	66%
Calculate comparisons of sex-disaggregated data	50%	83%	47%
Calculate comparisons across different TB performance indicators	50%	76%	49%

#### Ability to Define and Understand TB M&E and Surveillance Indicators

A fundamental pre-requisite to effectively carry out M&E tasks is the ability to define and understand TB M&E and surveillance indicators. The usefulness of having the ability and confidence to conduct data aggregation, analysis, plotting charts, and interpretation of the findings for effective management of a TB program can only be realized if the indicators used for those purposes are well understood by the M&E staff.

The respondents were provided a multiple-choice quiz to assess their understanding of four TB surveillance indicators. Figure 10 shows the proportion of respondents, by administrative unit, who were able to correctly define or explain those indicators.

**Figure 10. Respondents' ability to correctly define and explain TB M&E indicators**



### Knowledge of NSP Objectives

The Cambodia NSP has clearly defined five major objectives. These are:

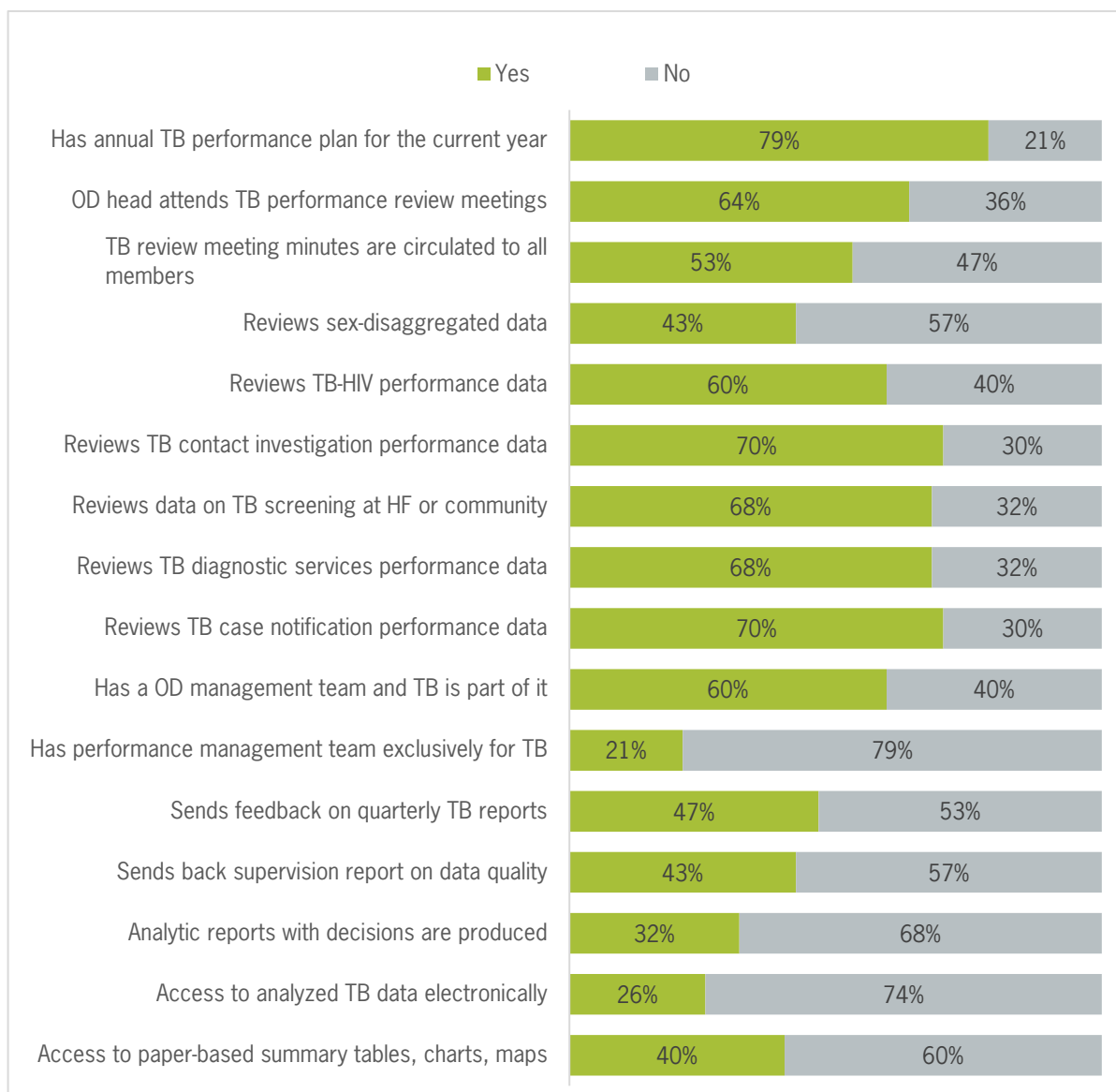
1. Find and treat all TB cases early using more sensitive screening and diagnostic algorithms as well as new and more effective treatment regimens with an emphasis on reaching the missing cases.
2. Address other program specific needs and priorities, including community DOTS, public-private mix (PPM), multidrug-resistant (MDR) TB, TB-HIV, TB-diabetes, TB in prisons, childhood TB, and TB in migrants.
3. Prevent the emergence of TB in susceptible populations using a combination of biomedical, behavioral, social, and structural interventions.
4. Build, strengthen, and sustain enabling policies, empowered institutions, human resources with enhanced capacities, and financial resources to match the plan.
5. Strengthen NTP monitoring and evaluation system and research activities.

The respondents were given multiple choice questions to identify a statement that does not correspond to an NSP objective. Only 24 percent of respondents could identify that statement as not corresponding to an NSP objective. Conversely, approximately 76 percent of respondents selected an incorrect answer (57 respondents) or did not answer (four respondents).

### Data Use Processes in Place at ODs

Respondents were asked to confirm the presence of various TB data use processes at the OD level. The responses provided by the OD supervisors can be considered as representative of the situation on the ground. Figure 11 shows the proportion of ODs, among the 47 ODs represented in the assessment, where various data use processes were present.

**Figure 11. TB data use processes in place at ODs based on responses by OD supervisors**



In general, about 81 percent of ODs reported having a TB management team, either exclusively for TB (21% of ODs) or as part of an OD management team (60% of ODs). Meetings of these management teams were reported to be attended by the OD head and the meeting minutes were reported to be circulated in about 53 percent of ODs. Practices—such as sending supervisory visit feedback on data quality, providing feedback on quarterly TB reports, and producing TB analytical reports—were reported to be carried out in fewer than 50 percent of ODs.



## Conclusion

The assessment of the TB M&E capacity of national-level managers, provincial TB supervisors, and OD supervisors provides insight into the existing levels of self-efficacy and competency in carrying out M&E tasks, as well as the extent to which M&E tasks are carried out at the OD level. The competency level at the three administrative tiers is encouraging but needs attention to strengthen these competencies throughout the country and across all the tiers.

An interesting finding was a deficiency in the fundamental understanding of TB indicators. Without proper knowledge and in-depth understanding of TB indicators, collection and reporting of TB data will not result in meaningful responses. Efforts to provide continuous education on TB indicators, including how they are defined, what they represent, and their significance, would be a good start.

Another area requiring more attention is data quality assurance. The need to improve application of data quality check procedures and enhance the enabling environment in support of data quality assurance is clearly reflected through this assessment. Also, aligning national managers' perceptions with the situation on the ground can significantly help to strengthen the enabling environment for data quality and, as such, for data use. Similarly, knowledge and understanding of the NSP, its objectives, and related indicators were found to be lacking.

Data use procedures exist, but not all those procedures are consistently present in every OD. Improving this will require support and mentorship from the upper levels as well as through setting examples by performing and meticulously following the requisite procedures at provincial and national levels.

Thus, providing training on M&E tasks can only help to refresh and rejuvenate the existing confidence and competence in performing M&E tasks; however, to truly strengthen TB M&E system capacity, Cambodia must invest in keeping the system in motion. This will require investment in developing leadership capabilities among TB M&E staff as well as providing the necessary enabling environment to sustain a culture of data quality and data use toward the clearly stated goal of eliminating TB from Cambodia.

## Assessment Implementation Challenges

### Participant List

To obtain a list of the participants in the entire TB health structure was a challenge that delayed the assessment rollout. It took approximately one month from the first request for the TB DIAH team to obtain the list.

### Participant Response

The original target of the respondents was 164 listed individuals from the national program, but only 80 staff (or approximately 48%) participated in the assessment. Though the respondents provided their answers, not all questions were filled-out. In some cases, the answers were not clearly specified.

Those who did not participate in the assessment provided no clear reason for their non-participation. A common expression among a few of these non-participants was that after reading the whole questionnaire, they raised the point that it was too hard to answer and they were unable to do it, or that the questionnaire was too long and they did not have time to

complete it. Most of the non-participants, however, did not answer phone calls, did not check the message sent in their Telegram App, and/or did not reply to emails.

#### Explanation of the Questionnaire

Some questions were unclear to the respondents and required further explanation over the phone.

#### Assessment Using Online Channels

The assessment questionnaire was sent electronically, and the questionnaire was explained to respondents through online meetings. This allowed respondents to complete the questionnaire at their own convenience. However, during the data verification and cleaning process prior to data entry, it was evident that a few respondents copied answers from one another. Respondents made changes to their answers, but did not realize whether that change was from a correct answer to an incorrect answer.

## Annex

Questionnaire:

Do you agree to participate in this assessment?

Yes, I have read and agreed to all introductions above.

Name: (Q1) \_\_\_\_\_ (Q2) Gender \_\_\_\_\_ (Q3) Position: \_\_\_\_\_

(Q4) Work location: \_\_\_\_\_

## PART 1: OVERVIEW OF CAMBODIA'S NTP AND TB M&E SYSTEM

### TB M&E Recording and Reporting Practices

<b>DATA RECORDING TOOLS (paper-based and electronic-based)</b>			
<b>S1_01. Purpose (type of information recorded)</b>	<b>S1_02. Name of the paper register/form used</b>	<b>S1_03. Electronic data recording data (Yes/No)</b>	<b>S1_04. Primary organization that introduced the register/form (e.g., MOH, UN agency, other partners, locally improvised (Name the organization))</b>
1. Presumptive TB cases			
2. Referral of suspected/presumptive cases to health facility			
3. TB screening at community level			
4. TB screening at health facility			
5. TB diagnostic services			
6. TB treatment services			
7. TB contact investigation			
8. TB preventive treatment			
9. TB-HIV care			
10. TB among health workers			
11. TB among diabetes patients			
12. TB among prison inmates			
13. TB financial information			
14. TB medicine stock/supply			
15. TB human resources (HR)			
16. TB lab equipment			
17. Other (specify)			

## SELF-PERCEPTION OF COMPETENCY TO PERFORM TB M&E TASKS

This part of the questionnaire is about how you perceive your competence in performing tasks related to health information systems. A high perception of competence suggests that the person can perform the task, while a low perception of competence could indicate a need for improvement or training. We are interested in knowing how competent you feel in performing TB M&E-related tasks. Please be frank and rate your competence honestly.

Please rate your competence in accomplishing various M&E activities on a scale from 0–10, where 0 is “no competence” and 10 is “very strong competence.”

Rate your competence in accomplishing the following M&E activities/tasks on a scale from 0 to 10:

Item	Description	0	1	2	3	4	5	6	7	8	9	10
SE1	I can check data accuracy											
SE2	I can calculate percentages/rates correctly											
SE3	I can plot a trend on a chart											
SE4	I can explain the implication of the results of data analysis											
SE5	I can use data for identifying service performance gaps and setting performance targets											
SE6	I can use data for making operational/management decisions (e.g., for service delivery, budget allocation, distribution of roles and responsibilities, staff assignment, and logistics distribution)											

## COMPETENCY TO PERFORM MIS TASKS

This survey is designed for the OD or provincial TB supervisor or M&E staff responsible for the analysis and interpretation of aggregate district/province data.

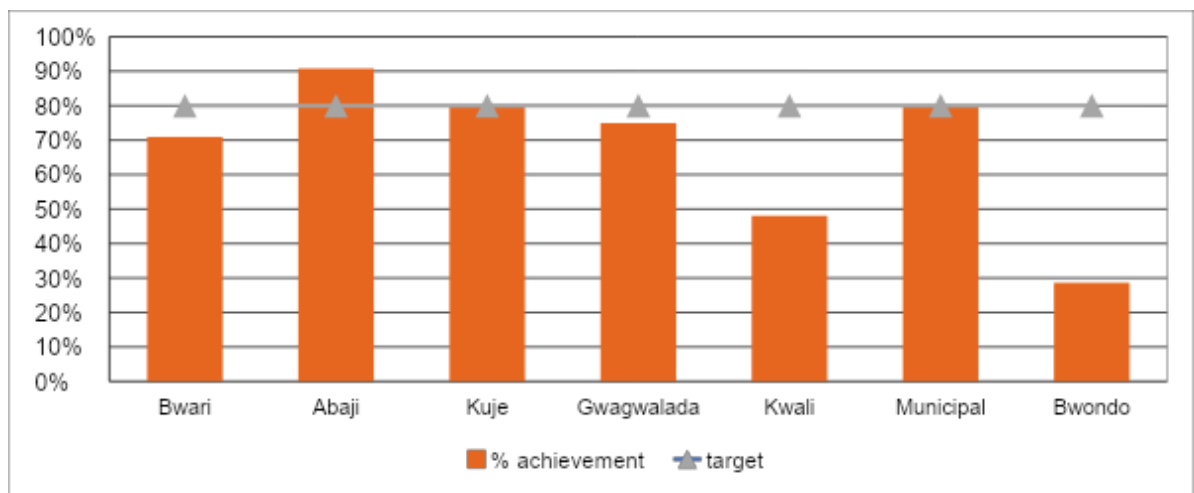
We would like you to solve the following problems in compiling data, calculating percentages, plotting data, and interpreting information.

CD1	<p>The estimated number of TB cases (all forms) in the OD catchment area for the current period is 265. The health facilities in your OD have registered 87 TB patients during this period.</p> <p>→ Calculate the percentage of TB cases in the district that have been notified in the current period.</p> <p>Answer: _____ For facilitator only: Answer provided (1) Yes (2) No</p>																																																																														
CD2a	<p>The table below shows the quarterly screening results for Muk Kampul OD. In this OD, government facilities carry out active screening for TB. During a recent review of the data, it was discovered that youth (younger than age 24) account for a significant number of new TB infections. In response to these data, health centers in Muk Kampul OD regularly review TB data to inform decisions related to increasing the uptake of TB screening services among youth.</p> <p><b>Table 1a. TB counseling and testing monthly summary, December 2009</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #4CAF50; color: white;"> <th colspan="2" rowspan="2"></th> <th colspan="2">HC # 1</th> <th colspan="2">HC # 2</th> <th colspan="2">HC # 3</th> <th colspan="2">HC # 4</th> </tr> <tr style="background-color: #4CAF50; color: white;"> <th colspan="8">Age of client (in years)</th> </tr> <tr style="background-color: #4CAF50; color: white;"> <th colspan="2">TB Screening Indicators</th> <th>&lt;24</th> <th>24+</th> <th>&lt;24</th> <th>24+</th> <th>&lt;24</th> <th>24+</th> <th>&lt;24</th> <th>24+</th> </tr> </thead> <tbody> <tr> <td>TBS1</td> <td>Number of clients screened for TB</td> <td>341</td> <td>401</td> <td>61</td> <td>226</td> <td>501</td> <td>623</td> <td>108</td> <td>151</td> </tr> <tr> <td>TBS2</td> <td>Number of clients tested for TB</td> <td>339</td> <td>399</td> <td>53</td> <td>220</td> <td>494</td> <td>600</td> <td>108</td> <td>151</td> </tr> <tr> <td>TBS3</td> <td>Number of clients who received their test results</td> <td>338</td> <td>399</td> <td>40</td> <td>214</td> <td>431</td> <td>487</td> <td>107</td> <td>151</td> </tr> <tr> <td>TBS4</td> <td>Number of clients who tested positive for TB</td> <td>30</td> <td>41</td> <td>9</td> <td>63</td> <td>96</td> <td>141</td> <td>17</td> <td>19</td> </tr> <tr> <td>TBS5</td> <td>Number of clients referred to TB treatment center</td> <td>30</td> <td>41</td> <td>4</td> <td>41</td> <td>84</td> <td>98</td> <td>4</td> <td>8</td> </tr> </tbody> </table>			HC # 1		HC # 2		HC # 3		HC # 4		Age of client (in years)								TB Screening Indicators		<24	24+	<24	24+	<24	24+	<24	24+	TBS1	Number of clients screened for TB	341	401	61	226	501	623	108	151	TBS2	Number of clients tested for TB	339	399	53	220	494	600	108	151	TBS3	Number of clients who received their test results	338	399	40	214	431	487	107	151	TBS4	Number of clients who tested positive for TB	30	41	9	63	96	141	17	19	TBS5	Number of clients referred to TB treatment center	30	41	4	41	84	98	4	8
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TBS5	Number of clients referred to TB treatment center	30	41	4	41	84	98	4	8																																																																						

Develop a bar chart depicting the distribution across the ages of clients tested for TB at the four facilities in Muk Kampul OD. Create your chart in Excel by health center and paste your chart below.  
 For facilitator only: Answer provided (1) Yes (2) No

CD2b

**Figure 1a. Percent of bacteriologically confirmed pulmonary TB patients whose contacts were investigated in the period of January to December 2020 by a local government agency, as compared to the national target**



Interpret the graph above:

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*For facilitator only: Answer provided (1) Yes (2) No*

CD2c

Investigating contacts of bacteriologically confirmed pulmonary TB patients is a key strategy to find missing TB cases. The government's National Strategic Plan set a goal to investigate contacts of all newly diagnosed bacteriologically confirmed pulmonary TB patients. To meet this goal, the National TB Program initiated an effort to visit households of every newly diagnosed bacteriologically confirmed pulmonary TB patient using community health workers. The target is to achieve at least 80% coverage of investigating the contacts of newly diagnosed bacteriologically confirmed pulmonary TB patients.

CD2c1	<p>Among the HCs shown in the above graph, which attained the target coverage rate (80%) by the end of 2020?</p> <p>Answer: _____</p> <p style="text-align: right;"><i>For facilitator only: Answer provided (1) Yes (2) No</i></p>
CD2c2	<p>What guidance could you provide to HCs and programs based on these data?</p> <p style="text-align: right;"><i>For facilitator only: Answer provided (1) Yes (2) No</i></p>
CD2d	Provide at least one use of the above chart findings at the:
CD2d1	HC level:
	1.
	2.
	3.
<i>For facilitator only: Answer provided (1) Yes (2) No</i>	
CD2d2	Community level:
	1.
	2.
	3.
CD2d3	OD level:
	1.
	2.
	3.
<i>For facilitator only: Answer provided (1) Yes (2) No</i>	
CD3	<p>A survey in the HC catchment area found 500 children under five years of age who were malnourished. The total population of children less than five years of age was 5,000. What is the malnutrition rate?</p> <p>Answer: _____</p> <p style="text-align: right;"><i>For facilitator only: Answer provided (1) Yes (2) No</i></p>
CD4	<p>If the malnutrition rate in children under two years of age was 20 percent and the total number of children less than two years of age was 10,000, calculate the number of children who are malnourished.</p> <p>Answer: _____</p> <p style="text-align: right;"><i>For facilitator only: Answer provided (1) Yes (2) No</i></p>

## PART 2: DATA COLLECTION, VERIFICATION, AND ANALYSIS

INFORMATION FLOW SHEET						
S4_01. Name of the report generated by the community/ health facility/ operational district (OD)	S4_02. Paper-based, electronic, or both (Mark P, E, or B)	S4_03. If electronic, type of electronic system (Excel, TB Management Information System (TB-MIS), or other) (specify)	S4_04. Where the report is sent to			
			Operational district	Provincial health department	CENAT (national)	Other (specify)

For facilitator only: Answer provided (1) Yes (2) No

COMPLETENESS OF HEALTH FACILITIES REPORTING TO DISTRICT		
DQ_014	Does the OD keep copies of monthly/quarterly TB reports (paper-based or electronic) sent by the health facilities?	<ol style="list-style-type: none"> <li>1. Yes, paper-based copies only</li> <li>2. Yes, electronic copies only</li> <li>3. Yes, both paper-based and electronic copies (all health facilities submit both types of reports)</li> <li>4. Yes, mixed (some health facilities submit paper-based reports; others submit electronic reports)</li> <li>5. No</li> </ol>
DQ_015	If health facilities are not submitting monthly/quarterly TB reports, what are the possible reasons for this?	<ol style="list-style-type: none"> <li>1. Staffing issues</li> <li>2. Absence of reporting forms</li> <li>3. Issues with sending reports to higher level</li> <li>4. Internet connectivity issues</li> <li>5. Presence of other vertical reporting requirements</li> <li>96. Other (specify)</li> </ol>



REPORT TIMELINESS		
DQ_018	1. Is there a deadline for submission of the monthly/quarterly TB report by the health facilities?	1. Yes 2. No
	2. If <i>yes</i> , what is the deadline?  Reporting deadline: _____	
DQ_019	Does the OD record receipt dates of monthly/quarterly TB reports?	1. Yes, for paper reports only 2. Yes, for reports submitted electronically only 3. Yes, for both paper and electronic reports 4. No
DQ_020	Does the OD keep a record of its submission of quarterly aggregated TB reports to provincial and/or national offices?	1. Yes 2. No
DQ_021	If any monthly/quarterly TB reports were not complete, what are the possible reasons for the missing data?	1. N/A 2. Staffing issues 3. Not understanding the data element(s) 4. Presence of other vertical reporting requirements 96. Other (specify) _____

DATA QUALITY MECHANISMS		
DQ_029	Does the OD have written guidelines on routine TB data quality assessment?	1. Yes 2. No
DQ_030	Does the OD conduct TB data quality assessments at health facilities?	1. Yes 2. No → Go to DU_003
DQ_031	If <i>yes</i> , does the OD use data quality assessment tools (e.g., lot quality assurance sampling [LQAS], routine data quality assessment [RDQA], built-in electronic data quality validation rules/system)?	1. Yes 2. No
DQ_032	Does the OD maintain a record of health facility TB data quality assessments conducted in the past 12 months?	1. Yes 2. No
DQ_033	Does the OD maintain a record of feedback to health facilities on TB data quality assessment findings?	1. Yes 2. No

DATA VISUALIZATION		
DU_003	Does the OD prepare data visuals (graphs, tables, maps, etc.) showing achievements toward TB performance targets (indicators, geographic, and/or temporal trends)?	1. Yes, paper or electronic copies of data visuals are available at the district offices 2. No → <b>Go to U1A</b>
DU_004	If <i>yes</i> , what type of information is captured in the data visuals?	
	1. TB (all forms) notification and treatment success	1. Yes 2. No
	2. DR-TB notification and treatment success	1. Yes 2. No
	3. TB contact investigation	1. Yes 2. No
	96. Other (specify) _____	1. Yes 2. No

## TB M&E Functions - Self-Efficacy and Competency

KNOWLEDGE ON TB M&E INDICATORS	
Describe at least three reasons for collecting or using the following types of data on a routine/quarterly basis:	
U1A	TB case notification
	1.
	2.
	3.
<i>For facilitator only: 1 answer provided 2 answers provided 3 answers provided 4 No answer</i>	
U1B	TB treatment outcomes (success, failure, default, lost to follow-up)
	1.
	2.
	3.
<i>For facilitator only: 1 answer provided 2 answers provided 3 answers provided 4 No answer</i>	
U1C	Age-disaggregated data on key TB indicators
	1.
	2.
	3.
<i>For facilitator only: 1 answer provided 2 answers provided 3 answers provided 4 No answer</i>	
U1D	Gender-disaggregated data on key TB indicators
	1.
	2.
	3.
<i>For facilitator only: 1 answer provided 2 answers provided 3 answers provided 4 No answer</i>	
U1E	Geographical data on TB service coverage
	1.
	2.
	3.
<i>For facilitator only: 1 answer provided 2 answers provided 3 answers provided 4 No answer</i>	
U1F	Why are population data needed (e.g., information on the number of people living in the catchment area, disaggregated by relevant characteristics, such as age and sex)?
	1.
	2.
	3.
<i>For facilitator only: 1 answer provided 2 answers provided 3 answers provided 4 No answer</i>	
U2	Describe at least three aspects of data quality:
	1.
	2.
	3.
<i>For facilitator only: 1 answer provided 2 answers provided 3 answers provided 4 No answer</i>	
U3	Describe at least three ways of ensuring data quality, as relevant to your job classification/responsibilities:
	1.
	2.
	3.
<i>For facilitator only: 1 answer provided 2 answers provided 3 answers provided 4 No answer</i>	

## CASE STUDY ON DATA QUALITY

Dr. Chamreun is the TB provincial supervisor. He received a recent report prepared by the district TB supervisor after a supervision visit made to five out of eight health facilities in the district. The provincial TB supervisor cross-checked the data in the quarterly TB reports with the data recorded in the TB patient cards/registers. The supervision report showed that the average data accuracy for the indicator—number of TB cases successfully treated—was only 55%. Dr. Chamreun felt very disturbed by it. “I need to take action,” he said aloud. He set up a meeting with the entire district health team to identify the reasons for the discrepancy and think about next steps to improve TB data quality. After some discussion with his team about the potential reasons for the low percentage of data accuracy, the TB district supervisor team started preparing an action plan for all health facilities in the district.

PSa	Describe how Dr. Chamreun and his team defined the data quality problem in this scenario: <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/>
<i>For facilitator only: 1 ( ) No answer, 2 ( ) Some data quality problem defined, 3 ( ) Data quality problem strongly defined</i>	
PSb	List potential reasons for the data quality problem encountered: 1. <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>
	2. <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>
	3. <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>
	4. <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>
<i>For facilitator only: 1 ( ) No answer, 2 ( ) Some reasons for data quality problem listed, 3 ( ) Most reasons for data quality problem listed</i>	
PSc	Describe what major activities/actions Dr. Chamreun and his team may have included in the district action plan to improve data quality: 1. <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>
	2. <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>
	3. <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>
	4. <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>
	5. <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>
<i>For facilitator only: 1 ( ) No answer, 2 ( ) Some activities described, 3 ( ) Most activities described</i>	

## PART 3: DATA INTERPRETATION AND USE

RESOURCES FOR DATA QUALITY ASSESSMENT			
DQ_010	Does the operational district (OD) have a designated person responsible for entering TB data/compiling reports from health facilities?	1. Yes 2. No	
DQ_011	Does the district have a designated person to review the quality of compiled TB data prior to submission to the next level (e.g., to regional/provincial offices, to the central level)?	1. Yes 2. Partly (the data are reviewed, but no one is designated with the responsibility) 3. Not at all	
DQ_012	Does the district have written guidelines for:		
	A. Data entry/compilation	1. Yes	2. No
	B. Data review and quality control	1. Yes	2. No
DQ_013	Are designated staff trained on:		
	A. Data entry/compilation	1. Yes (staff have received training in the past two years) 2. Mostly (all staff have received training but not in the past two years) 3. Partly (some staff have received training) 4. Not at all	
	B. Data review and quality control	1. Yes (staff have received training in the past two years) 2. Mostly (all staff have received training but not in the past two years) 3. Partly (some staff have received training) 4. Not at all	

DATA PROCESSING AND ANALYSIS			
DQ_36	Can TB M&E staff in the OD (e.g., TB OD supervisor) generate up-to-date (i.e., not more than one year old) reports, documents, and/or displays that contain the following information.		
	A. Aggregated/summary quarterly TB reports	1. Yes 2. No	
	B. Demographic data on the catchment population of the district for calculating coverages	1. Yes 2. No	
	C. TB program indicators (e.g., TB notification rate, TB treatment success rate) calculated for each facility catchment area in the district	1. Yes, rates can be calculated 2. Yes, but only number of cases (e.g., cases notified) 3. No	
	D. Comparisons among facilities in the OD (e.g., number of DR-TB cases notified)	1. Yes 2. No	
	E. Comparisons with OD/National TB Program performance targets	1. Yes 2. No	
	F. Comparisons of data over time (monitoring trends) (e.g., TB cases notified, number of TB cases successfully treated)	1. Yes 2. No	
	G. Comparisons of sex-disaggregated data) (e.g., sex disaggregation for TB cases notified, TB cases successfully treated)	1. Yes 2. No	
	H. Comparisons among different TB performance indicators (e.g., comparison between TB cases notified, number of TB cases successfully treated)	1. Yes 2. No	

## TB PERFORMANCE ANALYTIC REPORT PRODUCTION

DU_005	Does the OD have access to analyzed TB data (e.g., summary tables, charts, maps)?	1. Yes, paper-based 2. Yes, electronic 3. No
DU_006	Does the OD produce any report or bulletin (annual, quarterly, etc.) based on an analysis of TB data? This is different from the quarterly TB data reports and contains discussions and decisions/recommendations based on key performance targets.	1. Yes, analytic reports with decisions/recommendations are produced 2. No

## FEEDBACK TO HEALTH FACILITIES

DU_009	Did the OD send feedback or supervision reports using TB program performance data to health facilities in the past three months?	1. Yes 2. No → Go to DU_011
DU_010	If <i>yes</i> , indicate the types of feedback reports:	
	1. Feedback/supervision report on data quality (including data accuracy, reporting timeliness, and/or report completeness)	1. Yes 2. No
	2. Feedback/supervision on TB program performance based on reported quarterly TB reports (e.g., appreciation/acknowledgement of good performance; resource allocation/mobilization)	1. Yes, observed 2. No

## ROUTINE DECISION-MAKING MEETING AND PROCESSES AT THE OPERATION DISTRICT

DU_011	Does the OD have a performance monitoring or management team?	1. Yes, exclusively for TB 2. Yes, as part of the overall OD management team 3. No	
DU_012	Does the OD have routine team meetings to discuss TB performance monitoring and management?	1. Yes 2. No → Go to DU_020	
DU_013	Are discussions held to review key performance targets (tracking progress against targets) based on TB data? Such as:		
	1. TB case notification	1. Yes	2. No
	2. TB diagnostic services	1. Yes	2. No
	3. TB screening at health facility or community level	1. Yes	2. No
	4. TB contact investigation	1. Yes	2. No
	5. TB drugs stockouts	1. Yes	2. No
	6. TB-HIV services	1. Yes	2. No
	7. Sex-disaggregated data	1. Yes	2. No
DU_018	Are TB performance review/management meeting minutes circulated to all members?	1. Yes	2. No
DU_019	Does the head of the OD attend any of the TB performance review/management meetings?	1. Yes	2. No

ANNUAL PLANNING			
DU_020	Does the OD have an annual TB performance plan or Annual Operational Plan (AOP) for the current year?	1. Yes 2. No → Go to DU_023	
DU_021	If <i>yes</i> , does that annual plan use TB data for problem identification and/or target setting?	1. Yes 2. No → Go to DU_023	
DU_022	If <i>yes</i> , does the annual plan contain activities and/or targets related to improving or addressing any of the following?		
	1. TB case notification	1. Yes	2. No
	2. TB diagnostic services	1. Yes	2. No
	3. TB screening at health facility or community level	1. Yes	2. No
	4. TB contact investigation	1. Yes	2. No
	5. TB drugs stockouts	1. Yes	2. No
	6. Human resources management	1. Yes	2. No
	7. Gender disparity in TB service coverage	1. Yes	2. No

DATA DISSEMINATION OUTSIDE THE HEALTH SECTOR		
DU_023	Does the OD have to submit/present TB program performance reports to a district council/district administration?	1. Yes 2. No → Go to DU_026
DU_024	If <i>yes</i> , did the OD submit/present TB program performance reports to a district council/district administration in the past one year?	1. Yes 2. No
DU_025	Do those reports/presentations use data from the routine TB reports/electronic data to assess TB program progress and challenges?	1. Yes 2. No
DU_026	Is there a website updated at least annually for accessing the district's RHIS data by the general public?	1. Yes 2. No
DU_027	Are district TB performance data shared with the general public, other partners, and civil society organizations via bulletin boards, chalkboards, and/or local publications?	1. Yes 2. No

## PART 4: M&E PLAN AND M&E SYSTEM

### INFORMATION USE GUIDELINES AND STRATEGIC DOCUMENTS

DU_001	Are there any written guidelines on TB M&E data/information display, use, and feedback?	<ol style="list-style-type: none"> <li>1. Yes, copy available at the OD</li> <li>2. Yes, but copy not available at the OD</li> <li>3. No</li> </ol>
DU_002	Does the OD have copies of the National Strategic Plans for TB, district annual plans for TB, and/or district TB performance targets?	<ol style="list-style-type: none"> <li>1. Yes, copy available at the OD</li> <li>2. Yes, but copy not available at the OD</li> <li>3. No</li> </ol>

## Understanding and Interpreting TB M&E and Surveillance Indicators

### TB INDICATOR KNOWLEDGE QUIZ

Q20.1	Which one is the correct calculation of drug-resistant (DR) TB treatment success rate for 2018?	<ol style="list-style-type: none"> <li>1. Number of DR-TB cases who got cured in 2018</li> <li>2. Percent of rifampicin-resistant (RR)/multidrug-resistant (MDR)-TB and extensively drug-resistant (XDR)-TB cases successfully treated in 2018</li> <li>3. Number of rifampicin-resistant (RR)/multidrug-resistant (MDR)-TB and extensively drug-resistant (XDR)-TB cases who were enrolled on treatment in 2018 and got successfully treated</li> <li>4. Percent of rifampicin-resistant (RR)/multidrug-resistant (MDR)-TB and extensively drug-resistant (XDR)-TB cases who were enrolled on treatment in 2018 and got successfully treated</li> </ol>
Q20.2	Which statements below are correct for the indicator “Percent of extrapulmonary TB cases notified”?	<ol style="list-style-type: none"> <li>1. The numerator is new and relapse extrapulmonary TB cases who were bacteriologically or clinically diagnosed during reporting period</li> <li>2. The numerator is extrapulmonary TB cases (new and relapse, bacteriologically confirmed or clinically diagnosed) notified during reporting period</li> <li>3. The denominator is total number of bacteriologically diagnosed extrapulmonary cases during the reporting period</li> <li>4. The denominator is total of new and relapse TB cases and cases with unknown previous TB treatment history during reporting period</li> </ol>
Q20.3	Which indicator is calculated using these data: Number of HIV-positive TB patients started or continued on ART during reporting period ÷ Number of new and relapse TB patients recorded as HIV positive during reporting period	<ol style="list-style-type: none"> <li>1. Percent of HIV-positive TB patients started or continued on ART</li> <li>2. Percent of DR-TB patients recorded as HIV positive</li> <li>3. Percent of TB patients with known HIV status</li> <li>4. Percent of TB patients recorded as HIV positive</li> </ol>
Q20.4	Which statements below are relevant to the indicator “Number of close contacts of bacteriologically confirmed pulmonary TB cases who were screened for TB infection (tested for TB infection) according to national screening protocols during the specified reporting period”?	<ol style="list-style-type: none"> <li>1. Every contact will first be assessed for active TB as per national protocols; once active TB has been ruled out, assessment for TB infection becomes relevant.</li> <li>2. This indicator is calculated as “total number of contacts screened” minus “the number of contacts who were diagnosed with TB” (TB infection screening protocols may vary by country; some countries may screen using a screening test such as tuberculin skin test (TST) or interferon-gamma release assay (IGRA)).</li> <li>3. This indicator is used to monitor cases of TB infection.</li> <li>4. All of the above.</li> <li>5. Statements ‘1’ and ‘2’ only.</li> </ol>

## CAMBODIA'S TB NSP KNOWLEDGE

Q21.1	Which of the statements below are not NSP objectives?	<ol style="list-style-type: none"> <li>1. Find and treat all tuberculosis cases early using more sensitive screening and diagnostic algorithms as well as new and more effective treatment regimens with an emphasis on reaching missing cases.</li> <li style="background-color: yellow;">2. Scale up interventions to cover all key and vulnerable populations in the country.</li> <li>3. Prevent the emergence of TB in susceptible populations using a combination of biomedical, behavioral, social, and structural interventions.</li> <li>4. Build, strengthen, and sustain enabling policies, empowered institutions, human resources with enhanced capacities, and financial resources to match the plan.</li> <li>5. Strengthen the Cambodia TB research network and conduct operations research.</li> </ol>
Q21.2	Determine if the statements below related to each of the TB thematic areas are TRUE or FALSE	
	Thematic Area 1: Use of Xpert as a diagnostic tool	
	a. GeneXpert is not widely available.	<ol style="list-style-type: none"> <li>1. <b>True</b></li> <li>2. False</li> </ol>
	b. Use of Xpert as a diagnostic tool requires transport of specimens and results to and from the health facility, which can cause delays in notification.	<ol style="list-style-type: none"> <li>1. <b>True</b></li> <li>2. False</li> </ol>
	c. Supervision of GeneXpert testing is managed by all the provincial lab supervisors.	<ol style="list-style-type: none"> <li>1. True</li> <li>2. <b>False</b></li> </ol>
	Thematic Area 2: Active case finding	
	d. Active case finding is conducted in every operational district.	<ol style="list-style-type: none"> <li>1. True</li> <li>2. <b>False</b></li> </ol>
	e. Active case finding helps identify community-based cases of TB.	<ol style="list-style-type: none"> <li>1. <b>True</b></li> <li>2. False</li> </ol>
	f. X-ray is used for active case finding.	<ol style="list-style-type: none"> <li>1. True</li> <li>2. <b>False</b></li> </ol>
	Thematic Area 3: Community DOTS	
	g. Community DOTS is part of the national strategy in Cambodia.	<ol style="list-style-type: none"> <li>1. <b>True</b></li> <li>2. False</li> </ol>
	h. Community DOTS does not support adherence to TB treatment.	<ol style="list-style-type: none"> <li>1. True</li> <li>2. <b>False</b></li> </ol>
	i. Community DOTS is only implemented by CHWs.	<ol style="list-style-type: none"> <li>1. True</li> <li>2. <b>False</b></li> </ol>
	Thematic Area 4: TB and diabetes	
	j. Cambodia has a well-defined framework for coordinating TB and diabetes program activities.	<ol style="list-style-type: none"> <li>1. True</li> <li>2. <b>False</b></li> </ol>
	k. The prevalence of TB among diabetics is six times higher than that of the general population.	<ol style="list-style-type: none"> <li>1. <b>True</b></li> <li>2. False</li> </ol>
	l. Diabetes patients are always screened for TB during their clinic visits in Cambodia.	<ol style="list-style-type: none"> <li>1. True</li> <li>2. <b>False</b></li> </ol>
	Thematic Area 5: TB M&E	
	m. TB M&E is of great importance to monitoring TB program performance.	<ol style="list-style-type: none"> <li>1. <b>True</b></li> <li>2. False</li> </ol>
	n. Electronic TB MIS is the only source of TB data collected by CENAT.	<ol style="list-style-type: none"> <li>1. True</li> <li>2. <b>False</b></li> </ol>



	o. TB patient data collected by health facilities are entered into the electronic system at the district level.	1. True 2. False
Q22	Select the unit(s) responsible for each of the functions listed below:	
	Function	Responsible administrative unit(s) SELECT ALL THAT APPLY.
	1. Develop M&E plan for National Strategic Plan	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
	2. Implement national TB guidelines	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
	3. Prepare quarterly and annual TB reports	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
	4. Manage national laboratory	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
	5. Follow up sputum transport as per schedule	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
	6. Procure TB drugs	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
	7. Conduct regular TB data checks	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
	8. Present TB reports to stakeholders	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
	9. Train staff on TB M&E	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
	10. Maintain list of TB staff	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility
11. Collaborate with other government agencies, NGOs, and community	1. CENAT 2. Provincial Health Department 3. OD 4. Health facility	

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