Development of Health Facility Readiness Tools in Timor-Leste

REPORT

Health Intervention and Technology Assessment Program (HITAP)
MINISTRY OF PUBLIC HEALTH | THAILAND

Abbreviations

CDC	Communicable Diseases
CHC	Community Health Centre
DHIS	District Health Information System
FGD	Focus Group Discussions
HITAP	Health Intervention and Technology Assessment Program
HIU	HITAP International Unit
HP	Health Post
HMIS	Health Management Information System
iDSI	International Decision Support Initiative
JSI	John Snow International
KII	Key Informant Interviews
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
NCD	Non-Communicable diseases
NICE	National Institute for Health and Care Excellence
MoPH	Ministry of Public Health, Thailand
MoH	Ministry of Health, Timor-Leste
NHSSP	National Health Sector Strategic Plan
SARA	Service Availability and Readiness Assessment
ToT	Training of Trainers
TRF	Thailand Research Fund
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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Executive Summary

The Ministry of Health (MoH), Timor-Leste, together with partners, developed health facility readiness assessment or supportive supervision tools in 2014 to ensure availability of health services at health facilities and achieve the goals enshrined in the Ministry's long-term goals for population health. In 2018, the Monitoring and Evaluation (M&E) Department, MoH, partnered with the Health Intervention and Technology Assessment Program (HITAP), Ministry of Public Health, Thailand and with support from the United Nations Children's Fund (UNICEF) to review and update the existing tools. This report describes the process of reviewing, updating, and implementing the new set of tools developed.

To review the existing system, HITAP applied multiple methods. The team reviewed literature available in peer-reviewed journals and government reports on the health system and M&E processes in Timor-Leste and on conducting health facility readiness assessments. The team visited various types of health facilities across four districts and conducted key informant interviews and focus group discussions with professionals at various levels of the MoH to glean their understanding of the utility of the tool in the context of the health system. Data on the health facility readiness assessment collected by the M&E team over the years were also analysed. A "problem table" was developed and a stakeholder consultation meeting was held to determine the focus of the next version of tools. Through this process, it was agreed to focus on the design of the tool. Some of main elements involved defining the purpose of the tool, inclusion of additional important parameters, clarifying interpretation of the parameters included, as well as addressing those parameters that were deemed not relevant to the facility level. It was also recognized that this tool served a distinct purpose in addition to the tools operated by other programs in the MoH.

The process of updating the tool involved reviewing literature on the practices employed elsewhere for conducting and updating indicators, reviewing the data collected, conducting additional interviews, and shadowing staff conducting the health facility readiness assessments. The team developed tools for five levels of health facilities at the primary health care level, three levels of Community Health Centres (CHCs), and two levels of Health Posts (HPs). The format of the tools was reorganized for each section and included instructions for each indicator, furthermore each indicator was rephrased as a question. These questions were formulated to correspond to the service expected at each level of facility based on available documentation and consultations with staff. The updated tools were also tested in several facilities. A manual was developed to provide supplementary instructions on selected indicators. Scoring of each indicator was also updated. To aid the data entry of the tool and link with future digitalization of the process, an MS Excel form was developed, the results of which could be aggregated at the district and national levels. The rationale and process for conducting the assessment were documented in a "user manual".

District and national level staff were trained in the updated tools and processes through a training-of-trainers held in January 2019. Discussions were held with the MoH and development

partners on the roll-out of the tools. In addition, the team in collaboration with the M&E team and UNICEF discussed budgeting for the assessment and the process of sampling facilities. The team also discussed estimation of the cost and budget requirements for conducting the assessments, and how this relates to a feasible sample selection. In order to ensure sustainable use of the tool and to allow for it to be updated at regular intervals, a stakeholder consultation workshop was conducted to elicit criteria for the inclusion of indicators. It was proposed that these criteria be applied to update indicators in the future. The MS Excel data entry forms were also designed to be flexible in incorporating changes.

There are some recommendations that emerge from this analysis. For the MoH, the way forward can involve managing tools and indicators for the health facility readiness assessment tool such as developing an e-library of indicators, building capacity for data entry and analysis for the tool (particularly in MS Excel), and strengthening other aspects of the health system such as the primary health care package. Development partners are urged to continue to support the MoH in the use of the revised health facility readiness tools as well as in building its long-term capacity and coordinating its efforts.

Introduction

The Ministry of Health (MoH), Timor-Leste, introduced a health facility readiness tool, also called a supportive supervision tool, in 2014 as part of its monitoring and evaluation (M&E) framework. This tool has been used to track the progress of health facility readiness to achieve the targets set in the government's National Health Sector Strategic Plan (NHSSP) which aims to strengthen the quality of primary health care in the country.

The Health Intervention and Technology Assessment Program (HITAP) is a semi-autonomous research institute in the Ministry of Public Health (MoPH), Thailand. HITAP conducts economic evaluations and health systems research to support decision making on healthcare in Thailand. Since 2013, HITAP's International Unit (HIU) has been working with countries in the Asia Pacific Region to support the development of evidence-based decision making. HITAP is funded by the Thailand Research Fund (TRF) and has been collaborating with partners across the world under the auspices of the International Decision Support Initiative (iDSI), a network of priority setting institutions.

HITAP was commissioned by the United Nations Children's Fund (UNICEF) to review and revise the health facility readiness tool implemented by the MoH, Timor-Leste. Since June 2018, HITAP has worked under the leadership of the M&E Department in the MoH together with UNICEF to collect data and revise the tools available. The tools were updated for five levels of health facilities, and in January 2019 a training of district and national level staff was conducted in Dili on the new set of tools.

This report is divided into three parts: the first part focuses on the revision of the pre-existing system of conducting supportive supervision and using the tool; the second part on the process of updating the tool; and the final part on the implementation of the tool. Supporting information is included in the Annexes.

Part I: Reviewing the existing system of assessing health facility readiness

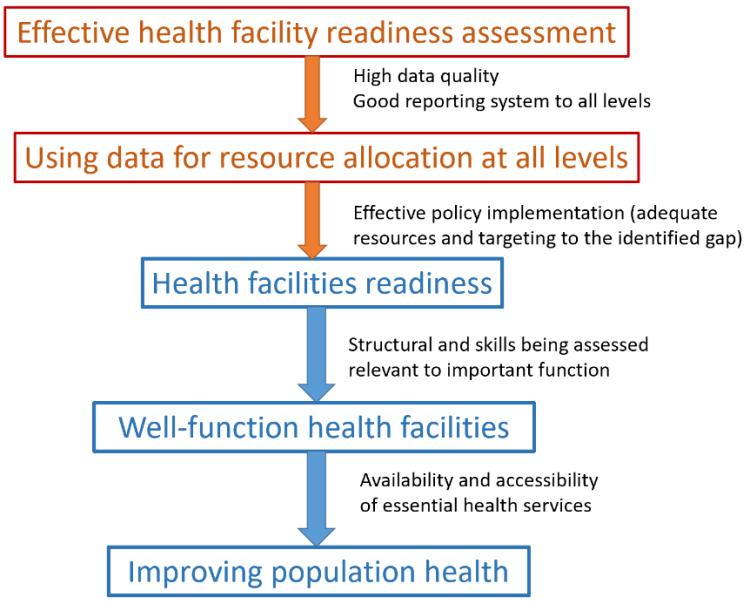
Theory of change

A theory of change provides the rationale for implementing an intervention. This is useful given the complex nature of the impact of development interventions. In order to understand the impact of this intervention in Timor-Leste, the review team developed a "problem table" and, together with the MoH and UNICEF, convened a stakeholder meeting to provide feedback on the theory of change proposed. The details of developing the theory of change are provided in the section on "Approach".

Figure 1 shows the theory of change that was developed to delineate the impact of using the health facility readiness tool. A health facility readiness tool can generate information on the status of health facilities to deliver essential healthcare services to the population. For this information to be used effectively, it is imperative that the data collected is of high quality and that there is a systematic way of reporting the information to all levels of the health system. Once

this data is available, it needs to be used for allocating resources to equip health facilities to overcome the challenges identified during the health facility readiness assessment. This, in turn, ensures that health facilities have the structural setup and human resources with the appropriate skills mix to be functional and to deliver the services required. The availability of the services, subject to accessibility, leads to the over-arching goal of improving population health.

Figure 1: Theory of change



Approach

The following methods were applied for the review process:

1. Document review: The team reviewed documents pertaining to the health system in Timor-Leste, the M&E system in the country, and the types of health facility readiness tools. In addition, documents provided by other departments of the MoH were also reviewed. The types of documents reviewed were:

    - Documents on the health system, policies, and M&E system in Timor-Leste including government reports
    - Academic peer-review literature about or related to the health system of Timor-Leste using relevant online databases such as PubMed
    - Government protocols and tools retrieved from the MoH staff
    - Documents with data and policies from the various MoH departments

    A few of the main documents reviewed are described below:

- Monitoring and Evaluation Guidelines- Health Sector, Timor-Leste (2013) was an essential document for providing a framework and describing the process for conducting M&E in Timor-Leste. The previous versions of the health facility readiness assessment tool developed by the MoH and development partners are included in the current M&E Guidelines. These correspond to three different levels of care: Community Health Centres (CHCs) with beds, CHCs without beds, and Health Posts (HPs).
- Comprehensive Services Package for Primary Health Care (2015) contained background information on the primary healthcare delivery framework for Timor-Leste.

Only English language documents were reviewed.

2. Secondary data analysis: The data collected on health facility readiness from 2015 through Q1 2018 were analysed. The data were combined and analysed using MS Excel® and Stata version 14®. Variables included the name of the facility, district, date of the visit, and each of the indicators in the tool. The variable names were translated from Tetun into English. Descriptive analyses of the data were conducted to explore the data collected and understand the completeness of the information. Results were presented in the form of graphs.

3. Self-assessment form: A self-assessment form was developed and disseminated to persons involved in managing the health facility readiness tool in the MoH, international organisations, and non-governmental organisations. Respondents were asked to share completed forms within a week of receipt. Forms were made available in both English and Tetun. A total of six responses were received from MoH staff and international partners working on the tool. The data collected were reviewed by the team and informed the interview and stakeholder consultations held. Links to the form are available in Annex 1.

4. Key informant interviews (KIIs) and Focus Group Discussions (FGDs): Semi-structured interviews were conducted with key personnel from the MoH at various levels of health facilities and administration as well as non-governmental organisations. The HITAP team developed an interview guide for six target groups namely, data collectors, data managers, data users, supervisees, international agencies, and others. Interview questions covered overall tool design; structure; indicators to be modified, removed, and included; information about supportive supervision practices; and departmental priorities. The interviews were also used to collect further documentary information such as specific department strategies, supportive supervision tools, and other policy or managerial documents. Interviews were carried out in English and Tetun using simultaneous or consecutive translation, and were held during the first phase of the study in June 2018 with follow-up interviews in August 2018. Links to the resulting documents are available in Annex 1.

The interviewees were chosen as per the research and information priorities detected earlier and as proposed by national stakeholders. HITAP organized interviews with the following programs or departments in the MoH: Nutrition, Pharmacy, Health Management Information System (HMIS), Maternal and Child Health (MCH), Non-Communicable Diseases (NCDs), Logistics, Equipment, Health Promotion, Communicable Diseases (CDC), Surveillance, Policy and Cooperation, Quality Control Cabinet, Finance, and Human Resources. The interviewees included persons with the highest responsibilities on those departments and other departmental officers. Development partners such as John Snow International (JSI), the United National Population Fund (UNFPA), and the World Health Organization (WHO) were suggested as relevant development partners to speak to about the M&E tool, as each has experience with either the M&E tool directly or with other aspects of health data collection and planning in Timor-Leste.

All interviewees were asked for their consent before the interview began. Notes were taken for all interviews, in addition, some interviews were recorded.

5. Observation of health facilities: HITAP staff visited health facilities to meet with staff and learn about the process of conducting health facility readiness assessments. HITAP staff visited CHCs, HPs, and a referral hospital across four districts. During the facility visits, KIIs and FGDs were also carried out with district-level officers and staff. The types of facilities present in the country and the types of services offered at these facilities were clarified during these visits. Staff perceptions and understanding of the health facility readiness tool were also elicited during these visits.

Table 1: Health facilities visited for data collection

Health Facility Type	**District(s)**
June 2018:	
Referral Hospital	Ainaro
Community Health Centre with beds	Dili
Community Health Centre without beds	Liquica
Health Post	Liquica, Aileu
December 2018:	
Referral Hospital	Ainaro
National Hospital	Dili

As the scope of the work evolved, and further information needs became apparent, the team visited other facilities for data collection. During the visit in October 2018, the HITAP team followed two professionals in charge of conducting assessments and applied an ethnographic approach by observing the implementation of the old version of the assessment tool in a CHC and an HP. The focus of this "shadowing" process was to detect problems encountered while carrying out the assessment in situ, assess the relation between surveyor and facility staff, ascertain the role of the facility staff during the assessment, test the clarity of questions, identify any potential issues or difficulties, the length (and other associated costs) of each indicator, the validity of the scoring, and to further observe the condition of more health facilities in Timor-Leste. This data also complemented the information collected in the previous KIIs and various consultations. At the end of each visit an interview with surveyor and facility staff ensued to discuss.

In December 2018, the team visited two hospitals, the Maubise District Hospital and the Guido Valadares National Hospital, with the aim of gathering data for the potential development of a hospital tool but also to compare the various levels of care and the interrelation amongst those. No previous or current assessment tool was used; the visit relied on discussion with hospital directives and with facility staff of each department. For example, staff was asked about the expected level of care at that level, the tools needed and the tools that were present, cases belonging to secondary, tertiary, or primary care, and the relation amongst those levels of care. Acceptability and feasibility of various indicators for the assessment tools being developed were also checked by asking experts not regularly found in primary care settings but with advanced competencies on these topics. For example, the hospital rehabilitation team was consulted on the need for physiotherapy services at the district health centres, and the hospital head of imaging and radiology was consulted on the expected levels of diagnostic care per primary health care level and required equipment. It was decided that the scope of the facility readiness assessment would be exclusive to the primary health care levels.

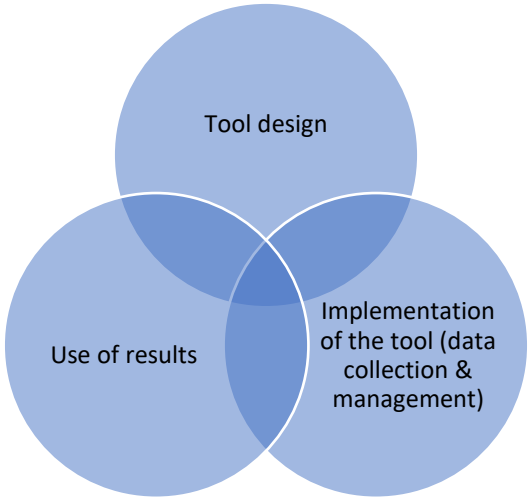
6. Stakeholder meetings:

On 20 August, 2018, the HITAP team met with the M&E Working Group comprising representatives from the MoH, international agencies, and non-governmental organisations. The meeting revolved around the use of the health facility readiness tool, and partners shared their perspectives on the assessment tool, the original aim of the tool and its current use, as well as potential future direction.

A political economy exercise of mapping key actors and their relationships in the health system of Timor-Leste, with a focus on the health facility readiness tool, was conducted. The M&E Working Group was asked to map stakeholders onto a support and influence plane in relation to the 'design', 'implementation', and 'use of results' of the tool. Some stakeholders were grouped into more than one category. The results informed the next stage of the research and inclusion of actors in the various activities carried out in subsequent visits.

On 21 August, 2018, a stakeholder workshop was organized by UNICEF, the M&E Department, and HITAP. Participants from various levels of the health system and municipalities as well as MoH and development partners attended the workshop. The aim was explained and results from the assessment by the HITAP team were presented. The discussions were carried in the format of a "World Café", where groups of stakeholders gathered together around tables covering one topic, and rotated between these tables after a set interval. The format of discussion was conversational and interactive with the aim of drawing out multiple perspectives on a list of challenges or problems identified before the visit by the HITAP team and also on additional challenges that the group identified. In this way, everyone was able to discuss and provide their input on the three focus areas of challenges identified. The topics for each table emerged from an analysis by the HITAP team in the form of a "problem table" which was developed following the initial visit to HITAP. These were tool design, implementation of the tool, and use of results (see Figure 2). Given the large number of participants, two sets of three tables discussing each of the topic areas were formed.

Figure 2: Challenges encountered in conducting health facility readiness assessments



During each round, participants discussed the root cause of the problem, the consequences (positive or negative) of this problem occurring, and the potential solutions for this problem. Once participants discussed each of the problems, insights from the discussions were harvested on flip-charts and participants were asked to prioritise the issues identified during the discussion. A representative from each table then presented to the whole room and participants shared their comments and asked clarifiying questions. HITAP formulated a theory of change that explained how the different areas of design, implementation, and use linked to support the end goal of improved health, and feedback was received from participants.

This workshop was used to determine the priority area to be tackled within the scope of the collaboration between UNICEF, Timor-Leste MoH, and HITAP. At the end of the presentations, participants voted on which of the three challenge areas they believed to be the most important for HITAP to address while updating the tool. The participants voted with a clear majority to focus on the design of the tool.

Key Findings

The methods employed yielded rich information on the current status of the health facility readiness tool. A general issue that emerged was that the term "supportive supervision" which was used for this tool was confusing as it was not unique; several forms of "supportive supervision" tools are used in different MoH departments, such as MCH. This brought into question the difference in scope and purpose of the health facility readiness assessment. In addition, the update of the tool was tied to an initiative to digitalise data systems across Timor-Leste. The specific findings have been grouped into three areas, namely, design, implementation, and use. Some of the key findings are described below.

Design

In terms of design, it was found that indicators in the tool did not contain sufficient detail to conduct assessments. The meaning of indicators was often unclear, and some important items for facility readiness were missing from the assessment. Some areas, such as NCDs, were found to have been underrepresented in the tool. Some indicators were inappropriate to the specific facility level and as a result staff was not familiar with some of the items checked (e.g. endotracheal tubes in HPs). Suggestions for revising the tool included giving more emphasis on basic items like water and change the weighting scores accordingly, as well as clarifying indicators by departments or programs.

In addition to the CHCs and HPs, there are five referral hospitals across the country, comprising four regional hospitals and one national hospital. The hospitals often require additional equipment or have equipment that requires maintenance. The hospitals provide a certain degree of primary care but sometimes they share responsibilities of primary and even secondary care with nearby health centres. The national hospital provides tertiary specialized care at international standards for similar settings. The resources available at the national hospital, whether human, technological, or organizational, can be used as a benchmark or target for secondary level care at the district hospital in the future. Hospitals support the use of a facility readiness assessment tool in order to systematically assess their readiness and facilitate the process of filling any gaps detected as soon as possible. There is limited need for an assessment tool specific to the national hospital, and any such tool would need to be significantly different in kind to those which can be employed at the primary care and district levels.

Implementation

There was a general lack of clarity regarding processes for conducting the assessment. The person responsible for implementing the assessment often varied across districts. For example, in some

cases, M&E focal points at the district level conducted assessments by themselves and, in other cases, conducted the assessments in teams given the broad range of topics covered. Additionally, there was variation in the methods used during the assessment for checking and verifying indicators. There were only a small subset of facilities for which assessments were carried out on a regular basis. Furthermore, implementation was inhibited by the lack of resources.

There was a discussion on the frequency of the assessment with the M&E team emphasising the importance of a quarterly reporting mechanism. It was suggested that indicators may be asked at different frequencies. Participants proposed adding self assessment, phone assessment, or interviews. Representatives from other programs and departments noted that they had their own tools and checklists and methods to provide feedback.

In conducting the assessment, the overall length of the assessment tool (about one hour) was found to be appropriate and not much staff fatigue was observed. Most indicators relied only on time and staff costs for asking and checking. Some indicators were unclear and ambiguous and scoring was difficult. The structure of the tool was not user-friendly, and there were numerous times where staff had to walk back-and-forth around the facilities.

Use

The roles, responsibilities and expected time-frames for uploading, managing and using the data collected were found to be unclear to stakeholders. There was significant duplication of data entry occurring at the district and national level, and data was not always entered accurately when aggregated centrally. Results of the assessments were presented at the district level and at the national level on an annual basis.

The tool was used for short-term problem resolution, long-term planning, and reporting purposes at various levels, which included an indicator on facility readiness in the national M&E framework. There was no established mechanism to address any items identified as missing that are beyond the ability of the facility to fix. Many identified gaps persisted for long periods, or indefinitely. The results were not always shared between the district and national levels or between different programmes at the national level.

Part II: Updating the tool

Following the review of the existing system for assessment of health facility readiness, an updated set of tools was developed. The main elements of developing the revised set of tools are described in this section.

Analysis of data collected and additional reviews

Data collected through the methods described in the previous section were analysed by the team to serve as inputs for informing updates of the tools. Additionally, health facility readiness assessment surveys such as WHO's Service Availability and Readiness Assessment (SARA) were referred to when revising the tools. The team also reviewed guidelines on updating indicators by the National Institute for Health and Care Excellence (NICE), United Kingdom.

Indicator mapping by facility level

The premise of developing the updated tool was to include indicators that accurately reflect the services to be provided at that specific level. There is a need to determine the appropriate number of indicators. Including fewer or less ambitious indicators limits the potential for growth of the facility, and hinders its ability to meet the health needs of the population. On the other hand, including too many indicators, or including indicators that are too far removed from existing capacity, will be burdensome for conducting the assessment and may discourage staff at the facility and district levels. Additionally, a long list of indicators may eschew priorities for resource allocation. Determining the length and detail of the assessment tool is further complicated by the lack of clarity regarding expected facility service provision and required resources at the different health facility levels established in formal policy documents. The exercise of determining which indicators should be included at each level was therefore a key element of the assessment update, and required inputs at all stages and from all sources of the tool development.

Given changes in policy in gradation of health facilities, five unique assessment tools were developed for use at five unique facility levels in the primary healthcare system that were defined as follows:

Table 2: Comparison of tools by facility type

Facility type	Comparison
CHC 3	The highest level of health facility in the primary healthcare system providing inpatient services, similar to the previously named District Health Center
CHC 2	Provision of inpatient services, although lower level than a CHC 3
CHC 1	Similar to the previously named Sub-district Health Center
Health post	Similar to the previously named Health Post 2
Treatment Post	Similar to the previously named Health Post 1

The detailed mapping of indicators can be found in Annex 2.

As a rule of thumb, the higher the level of the facility, the greater the number of indicators incorporated to reflect the higher level of service provision expected.

Structure of the tool

The overall assessment tool structure, or distribution of indicators in the tool, was also carefully designed and tested. It is based on the original tool but departs from it to reflect the most likely

distribution of items in the health facilities. The tools have been organized into the following sections:

- Human Resources
- General Management
- Infrastructure
- Drugs and Supplements
- Laboratory
- Outpatient Area
- Maternal and Antenatal Care
- Labour & Maternity
- Emergency and Observation
- Inpatient Ward

The assessment begins with questions regarding human resources and management, as the first task of a surveyor is to introduce herself to facility staff and have a discussion about the assessment about to take place. This moment also provides an opportunity to discuss things relating to the overall level of services provided in the facility and its management. From there, as in the previous assessment tool, the surveys check the overall infrastructure and amenities, which will then need to be kept in mind throughout the whole facility visit. This way, surveyors are aware of the need to assess certain aspects, such as the cleanliness and integrity of various rooms throughout the health facility, from the start of the assessment. A section on pharmaceutical products, including nutrients and vaccines, follows as the surveyor will likely have to go to a specific space where those are stored to check them. The various diagnostic and patient care areas follow. Items have been grouped in a rational manner, so they are most likely to be found together while surveying the facility. For example, areas of maternity and family planning may be together in some centres and separate in others, yet most of the materials required will be found in one or the other.

Designing the question order highlighted the tension between grouping indicators by topic area so that scores could be given by department or thematic area, versus arranging by survey implementation order. The assessment questionnaire was designed by survey implementation order to address the needs of those conducting the assessment. The former aspect of using questions to deliver thematic scores was addressed instead by designing the scoring and data entry mechanisms in the MS Excel tool so that indicators can be regrouped easily after the visit and scores can be generated by department or by thematic area as deemed relevant.

Instructions

The format of the tool was changed from having indicators and scores to a more clearly defined, and simpler to answer, set of questions with instructions. This was done to simplify the collection and interpretation of data. The practice of adding explanations to many indicators was also found in other tools used internationally.

As a result, the assessment tool has been developed in a survey format with questions only to be answered using 'yes' or 'no', except for numerical questions on the human resources section, and accompanying instructions by the side of each question. It is expected that questions will be read out loud when visiting the facilities. In the early phases of using the updated assessment, it is suggested that the instructions for each question are also read out loud. This will enable a common understanding between the supervising officer and facility staff or trigger a conversation to clarify the meaning and purpose of each question (indicator). A detailed manual for selected indicators that may require clarification beyond the instructions included in the assessment tool has been developed and is further explained below.

Table 3 shows an example of the changes in the information contained for one indicator (needle cutter/safety boxes) from the old to the new assessment tool.

Table 3: Example of indicator in old and updated tools

Old assessment tool	
Indicator:	Hub cutter (needle cutter)
Other details:	Max score: 2
Updated assessment tool	
Question:	Are safety boxes present and utilized properly in all areas in the facility where needles are used?
Instructions:	*Check that Safety Boxes are present. Check if at least one Safety Box is assembled and opened and contains needles. If there are none open, they are empty, or the level of syringes surpasses the top mark on the container score 'No'. If during your visual inspection of the facility you see any areas of patient care where needles are used that do not have safety boxes, ask again and score "No" if appropriate.*

Field testing and consultation

The updates tools were tested in December 2018 across four districts (see Table 4). HITAP staff shadowed staff who conducted the assessments and afterwards discussed their experiences in conducting the assessment. Comments from staff that conducted the assessments at facilities as well as observations by the HITAP team were analysed, and the revised tool was fine-tuned again to address these research findings.

Table 4: Health facilities visited during field testing of updated tools

District	**Round 1** **3-4 December 2018**	**Round 2** **6 December 2018**
Ailieu	○ Villa Ailieu (CHC 3) ○ Daisoli (HP 2)	
Ermera	○ Poetete (CHC 1) ○ HP 2 ○ Fatukero (HP 1)	
Liquica	○ Mobara (CHC 2) ○ CHC 3 ○ Ulmera (HP 2)	
Dili		○ Vera Cruz (CHC 3) ○ Bekora (CHC 1) ○ Lahane Ocidental Vera Cruz (HP 2)

Key findings and corresponding assessment revision:

- Several translations from English to Tetun were corrected or refined. It was aimed for translations to be as comprehensible as possible across different regions and stakeholders. Where needed, the wording of questions and instructions was refined to make it simpler and easier to understand.
- It was observed that there was a high level of heterogeneity in the distribution of space and resources within health facilities of the same level. The tool was adjusted to reflect the highest standard. The questions were ordered based on the most commonly found distribution of resources for each facility level.
- It was clarified which exact types of equipment are expected in the facilities (for example the type of cold chain device or the exact contents required in a delivery set).
- It was clarified equipment is expected at different facility levels (for example where X-ray machines should be expected).
- Various reports and registries, as well as required maps, were checked and compared across facilities to see if there were standard formats or minimum sets of information required on each, as they tend to differ considerably between facilities. The question specifications were then updated to reflect the findings.

- Information was also collected regarding key areas of uncertainty of assessors while implementing the assessment, on what constituted acceptable vs. good condition for items, and how to adequately assess certain indicators in the Timor-Leste context. These details were used to update the instructions within the tool and to develop a detailed instruction manual to support the assessment.
- Information on best practices and room for improvements was collected to be reflected both in the tool and in the manuals.
- The testing also highlighted the importance of assessors applying discretion in completing assessment. The space for comments at the end of each section was found to be useful to document variations or judgement calls made.

A consultation meeting was held with various departments on 5 December 2018 to share updates on the tools and seek inputs. During the meeting, feedback was received on wording of indicators and on the tagging of indicators by each department for reporting of results. Attendees sought clarification on the difference between the health facility readiness assessment tool and other program tools.

Supplementary instructions for Health Facility Readiness Assessment survey questions

This manual was developed to provide training on how to conduct the survey assessment. It aims to provide the necessary competencies for the health facility readiness assessment to be run by anyone, including those without specialized medical knowledge. Therefore, it focuses on the questions that were found to require further explanation during the field testing of the tool. The manual is divided into sections similar to the various assessment tools such as human resources and inpatient/outpatient wards.

Each section contains additional information on those questions that may require further clarification or specialized knowledge. For example, the question on assessing the skills of measuring blood pressure explains the whole process of measuring the blood pressure and related concepts for the surveyor to be able to assess the basic skill of the facility staff. The manual and the information contained within it has been created in a manner that allows it to be easily converted into presentations that can be produced to deliver technical trainings on assessing specific items. The indicator manual is a subsection of the general user manual in terms of providing guidance as to the assessment and its processes. However, the indicator manual has been separated as a document, so that it can be printed and brought to the facilities to serve as a reference document to consult if any doubt arises during the survey implementation.

‘User manual’ for conducting the health facility readiness assessment

Developing a User Manual

Many challenges identified during research pertained to the planning and implementation of the assessment and to the management and use of results. The User Manual seeks to outline processes and protocols to address many of these challenges identified. To develop the User

Manual, the research findings were analysed and stakeholder suggestions reviewed in order to identify the most appropriate solutions to maximise the functionality of the assessment and its ability to enhance health service delivery. In some cases, addressing the challenge only required the existing protocol to be clearly documented. In other cases, addressing the identified challenges required the refinement or development of new processes.

The User Manual outlining assessment processes ought to be shared in soft or hard copy with all relevant stakeholders at the national, district, and facility levels. This will ensure that all stakeholders are fully informed regarding protocols, reduce any variation in processes used between districts, and maximise the effectiveness of the assessment.

The User Manual

The User Manual specifies four reasons for assessments to be conducted: routine data collection (the core activity), assessments for capacity building of staff, assessments to check quality of data being submitted by other assessors, and additional assessments for data collection in cases where certain areas are struggling to implement the assessments in full. The manual outlines:

- The roles and responsibilities for who should conduct each type of assessment
- The recommended frequency for each assessment
- The process for planning assessments
- The process for training assessors
- The recommended course of action if limited resources restrict the number of assessments that are feasible
- The process for implementing the assessment
- How to upload data that is collected
- How data that is uploaded should be shared between different stakeholders at different levels
- Processes for data to be used to more effectively bring improved health facility readiness: in the short term through the development of immediate action plans by the district level staff including both M&E focal points and programme officers, and in the longer term through the planning and budgeting at the district and national levels
- Processes for the National M&E to conduct quality assurance of both the assessment and data entry processes

Testing the User Manual

The User Manual was shared with UNICEF and the M&E team for review and feedback. The ‘User Manual’ was tested in three districts in Timor-Leste, namely, Aileu, Liquica, and Ermera during the HITAP team’s visit to the country on 3-7 December 2018. The processes of the User Manual were summarised and discussed with M&E focal points, district directors at the district level, and with the National M&E department in order to verify that the processes met the needs of stakeholders and to gain any further inputs for revision. A consultation was also held with representatives from a range of health programmes at the national level where the processes

related to reviewing the indicators disaggregated by programme and sharing data with the programmes were also presented and discussed.

There was broad support for the creation of the "User Manual" as well as the detailed explanations of the processes that were defined. Feedback regarding the conduct of the assessment every six months was mixed. Some respondents were actively supportive of the change, while others suggested that this was too infrequent. In order to balance these opinions, along with the finding that many facilities are currently assessed once or less than once a year, the manual was updated to emphasise that assessments could be conducted more than twice a year in case additional resources are available, and that twice a year for all facilities represents the minimum requirement.

In relation to the specification that the M&E team should monitor data submitted to check that assessments are being conducted according to the submitted schedule, it was expressed that there is not enough support to districts to conduct assessments which causes planned schedules to change. It was thus requested that M&E could broadly check that all facilities are being covered every six months, rather than by particular dates. HITAP chose to retain the specification for M&E to monitor whether assessment plans are being implemented to schedule but also emphasise that the M&E department should follow up regarding the reason for any delays. This will allow the national team to provide support when and where necessary.

It was emphasised that budgets not being delivered to districts was a significant inhibiting factor to the conduct of assessments. The User Manual seeks to address this as far as is possible by defining that the National M&E department is responsible for ensuring budgets are planned and made available for carrying out training and assessments. It is also specified that CHCs and District Health Offices must plan and request budgets accurately in line with their responsibilities. The impact of a constrained budget is also attempted to be minimised by defining the processes that should be followed to select facilities for assessment in cases of a constrained budget.

It was suggested that the processes for developing the 'action plan' at the district office post-assessment and reporting back to the facility was not clear enough. This section of the User Manual was therefore elaborated in more detail and additional 'action plan' charts and 'action report' documents were developed to provide standardised templates for these items.

Rolling-out the system

There was broad support for the defined processes and an emphasis that all districts must have access to this information and support in rolling out the systems as soon as possible. It was suggested that ongoing support for training activities would also be needed in the early phases of the processes being adopted. There will also need to be additional financial support for the district to train the CHC focal points on the use of the assessment and its related processes.

Data entry form and link with digitalization

Background

The HITAP team developed a data entry form and scoring mechanism based on MS Excel. This intended to address the research fundings that assessors were uncertain about scoring method, responses were often reported outside the defined range, scores lacked meaning due to equal weighting given to the majority of indicators, and that a single score limited the ability to understand areas of strengths and weaknesses within the facility or the key priorities for action. This required a digital data entry form and score platform to be developed for three reasons. First, calculating multiple scores manually, to identify scores for separate departments or service areas, is a cumbersome task and therefore prone to errors. Second, the larger number of indicators to be collected, as requested by stakeholders, meant that manually calculating even a single score would become more complex, let alone a larger number of scores. Third, facilitators would have to ensure a much larger amount of data is recorded and stored correctly, which would make spotting errors more difficult. This digital data entry form and MS Excel platform was also developed in order to facilitate a move toward digitalisation.

Data entry form

The data entry form has been developed to be usable even for those with only basic computer skills. Assessors will conduct assessments at facilities using a paper form, on which each question requires either a number to be filled in (for example for the number of staff) or a 'Yes' or 'No' mark (all other questions). Afterwards, the responses recorded on paper must be manually entered into an Excel-based spreadsheet developed specifically for this purpose. This spreadsheet will then automatically calculate an overall facility score, several departmental facility scores, and check that a pre-determined list of 'minimum criteria' has been satisfied.

The Excel-based spreadsheet features several measures to minimize the risk of incorrect data entry or incorrect use of the system, which will be discussed next.

First, the spreadsheet uses the unique identifying number of questions to avoid confusion. Each question on the paper form has a unique identifying number shown to its left, which is based is based on the section, subsection, and location of the question. For example, question '2.3.1' is the first question of subsection '2.3 – SISCa', which itself is the third subsection of section '2 – General Management'. The Excel-based spreadsheet lists all these identifying numbers, next to which users must enter the response recorded on the paper form. This helps users to easily identify what response they must record next. Additionally, this approach means that rewording questions on the paper form is easy, as it does not impact the functionality of the spreadsheet.

Second, the spreadsheet is designed to reject 'impossible' responses, thereby improving data correctness directly at the source. For example, if staff members must be recorded, filling in any value that is not a whole number (such as 'Yes', '2.5', but also 'Three') will be rejected, and an error will pop up. For questions that must be answered 'Yes' or 'No', a drop-down menu is given

with only these two options. Attempting to fill in anything else will be rejected and an error will be displayed (see Figure 3 below).

Figure 3: Rejection of 'impossible' responses

Third, the form in which responses must be recorded automatically colour-codes them, allowing assessors to easily spot if they have entered them correctly. 'Positive' responses ('Yes' or a positive number) will be automatically marked green, 'negative' responses ('No' or zero) will be marked red. Note that this colour-coding is provided purely as a visual measure to aid those filling in the form and does not necessarily correspond with the scoring approach used.

Lastly, there is an automatic check on data correctness before any scores are shown to users (see Figure 4). The spreadsheet checks whether all responses have been filled in 'correctly' by users, and in case any error is found it notifies the user on the type of error that was found. It is, however, important to note that this check only guarantees that a response has been recorded for each question, not that all data has been accurately filled in; a 'Yes' might have accidentally been entered as a 'No'.

Figure 4: Automatic check before scores are shown (left: errors found, right: no errors found)

All responses filled in correctly:	No
Empty responses:	2
Incorrectly filled responses:	0

All responses filled in correctly:	Yes
Empty responses:	0
Incorrectly filled responses:	0

Digitalisation

The new facility readiness tools have been designed to allow for complete digitalization in the future. All questions in the tool follow a clear structure of section – subsection – question, and all responses must be recorded in either a Boolean (binary) or numeric format. Additionally, there are clear, pre-defined spaces where assessors can write down their comments. These methods ensure that assessment results can be directly used in quantitative analysis, and minimizes difficult-to-analyse 'free-form text' data.

The Excel-based spreadsheet aims to be a complete solution for the entry, storage, and analysis of all assessments. This means that asides from the initial assessment on paper, all processes are digitalised. It is made to be 'light' on resources, meaning it can run even on decade-old IT equipment as long as MS Office 2007® or newer is installed.

Once users have entered all records from the paper assessment from into the spreadsheet, all available data for the assessment is automatically formatted into a single row on the 'Output' sheet. This also includes the calculated facility scores, test for minimum criteria, etc. Users must then manually copy this row into the 'database' Excel-file. Versions of this file are held both by districts and the National M&E team; districts are responsible for ensuring all assessments captured in their database are submitted to the National M&E team for inclusion in their database.

The 'National database' maintained by the M&E Team of the Ministry of Health, Timor-Leste, has built-in functionality for the analysis and graphical representation of two key indicators: (1) the average scores received over time by districts and its national average, and (2) the share of facilities that met the specified minimum criteria over time by district and its national average. These analyses are performed automatically through macros and can therefore be done even by the most inexperienced computer users. Users more proficient in Excel should easily be able to create additional statistics and graphs themselves as required.

Filling in the Excel-based spreadsheet is a crucial part of the assessment process. Without the entry of responses, assessors will not know the scores achieved by facilities and so will be unable to communicate these. Once assessors can see the scores, copying and storing the results in the database is a one-minute task. Including the recording of responses directly into the assessment process makes it a routine task, and significantly reduces the risk that paper forms go missing before their results have been stored digitally.

Microsoft Excel® can currently be found on many devices other than 'traditional' computers, such as tablets and smartphones. This creates clear opportunities for an assessment process that is fully digital, by recording responses directly on a smartphone or tablet while at the facility. During HITAP's visit to Timor-Leste in January 2019, some participants in the training realized this and some have held a successful trial using this approach. The HITAP team is excited about these opportunities, and would encourage local implementers to further explore these. Nonetheless, it is important to understand the tools have been extensively tested on desk- and laptops only, and that all procedures have been developed for this setting. Before any changes are made to the assessment procedures, a critical analysis of the impact on other processes, such as the storage of data, must be undertaken.

Scoring and interpretation of results

Background

Key informant interviews with stakeholders from the facility up to the national level were conducted to understand the strengths and weaknesses of the previously used assessment

scoring mechanism. There was consensus among interviewees that the scoring system was not adequate. Previously, facility scores were calculated directly on the tool itself by assessors. This required them to score each indicator on a numerical scale, in a way that was not always clear or immediately intuitive. For example, three or more medical officers being present must be scored as '6', two as '4', one as '2', and none as '0'. Reviewing the data on past assessments showed that this system caused confusion for assessors, as several instances of 'impossible' scores were found (such as a score of '3' or '1' in the earlier given example). Such scores are difficult to interpret analytically and furthermore cast doubt on the accuracy of all other scores.

The scoring system also led overall facility readiness scores to lack meaning, given that as high scores could be attained despite not having some critical inputs to provide services. For example, a CHC could obtain a score of 90% without water or electricity, or above 80% without any medical staff being present.

Revised scoring

The revised tool addresses the key limitations of the scoring system and aims to meet the needs of assessment focal points by separating the assessment process from the scoring process. Questions are now posed in a format that can only be answered with a simple 'Yes' or 'No'. The only exception is found in the staffing questions, where assessors are asked to record the (absolute) number of personnel. Facility scores are then calculated automatically after all responses have been entered into the Excel-based spreadsheet. This method removes a degree of complication for the assessor, thereby strengthen the reliability of data reported, and allows for far more flexibility in the formulae used for facility scores.

As in the previous tool, not all indicators are weighed equally in the calculation of scores; some are expected to impact 'facility readiness' more than others. Indicators have been assigned a score from 1-20, based on how they contribute to the delivery of services, health outcomes, and stated health priorities of Timor-Leste. A small number of indicators, such as whether facilities operate in a government-owned building, are unlikely to impact facility readiness but are collected for 'background information' purposes. These have been assigned a score of zero, meaning that although data is recorded for them, they will not be used in the calculation of facility readiness scores. All indicators, accounted for their assigned weight, are used in calculating the 'Overall score'.

In addition, HITAP in consultation with the National M&E team has defined a number of indicators that, either alone or in conjunction, act as 'minimum criteria'. If these are not met, the facility will be classified as 'lacking most basic requirements' for service delivery, regardless of how well it might have performed on less critical indicators. After assessors have recorded all responses in the Excel spreadsheet, facility scores are presented together with a test on these minimum criteria. In case these are not met, a warning will be shown in red to notify the assessor.

Figure 5: Test on minimum criteria shown with overall facility score

RESULTS - CHC LEVEL 1		
Name of the CHC:	Ezemplu	
Name of District:	Dili	
Overall Score		
Overall score:	**57.15%**	
Minimum criteria satisfied:	**No**	
Minimum criteria not met! Interpret results with care		
Section Scores		
Health Promotion		**62.96%**
Communicable Diseases		**41.83%**
Environmental Health		**49.02%**
Non-Communicable Diseases		**20.72%**

For assessors and facilities to understand what minimum criteria they might have missed, the list of minimum criteria has been included as an option for the 'Scores by section' sheet. This sheet allows the user to select what kind of score they would like to investigate (e.g. section scores or minimum criteria), after which all questions and their recorded responses are listed.

Figure 6: 'Scores by section' sheet, listing the minimum criteria

SCORES BY SECTION	
Select section:	**Minimum criteria**
Section score:	

QUESTIONS		
#:	**Question:**	**Score:**
1.1.1-M	Doctor (M)	**1**
1.1.1-F	Doctor (F)	**2**
1.1.2-M	Midwife (M)	**1**
1.1.2-F	Midwife (F)	**3**
1.1.3-M	Staff nurse (M)	**1**
1.1.3-F	Staff nurse (F)	**1**
3.2.3	Is the roof in good condition?	**Yes**
3.3.1	Does the facility have functioning electricity?	**Yes**
3.5.2	Does the facility have sufficient water readily available at the time of assessment?	**No**
3.9.2	Are staff toilets functioning?	**Yes**
3.10.2	Are patient toilets functioning?	**No**
6.2.2-1	Is an examination table available and in good condition?	**No**

It is important to note that some minimum criteria are 'complementary', meaning that a test is performed on the availability of at least one of a set of indicators. This method is always used when testing for the availability of staff; while the tool separates male and female staff in collection and storage, it does not differentiate between male/female staff of the same cadre in the calculation of facility readiness scores. In addition, for some lower level facilities the minimum criteria focus on the availability of at least one higher-qualified medical staff member without being too strict on the exact cadre that should be present. It is therefore possible that some 'red' responses are shown in the list of minimum criteria even for facilities which passed the minimum criteria test.

In addition to an overall facility score, the spreadsheet calculates fifteen 'Section scores'. Each section score corresponds to a department of the Ministry of Health, and includes all indicators

that stakeholders from those departments deemed relevant to their operations. Some indicators were found relevant by several departments, and have therefore been included in the calculation of several section scores. Contrarily, some indicators were not chosen by any of the departments and are therefore only used in the calculation of the overall facility score.

The section scores allow stakeholders to quickly identify the types of problems found at facilities. This is crucial for priority-setting and helps to ensure public resources are spent efficiently. If assessors would like to understand why certain section scores have been achieved, they can see which questions are included in the calculation by navigating to the 'Section Scores' worksheet. After a selection is made at the top of the sheet, all relevant questions and their recorded responses will be shown below. In order to ensure no indicator is left unnoticed, an 'Unassigned' option is included which lists all questions that have not been assigned to any section score.

Lastly, all percentage scores shown are colour-coded, allowing assessors to quickly spot areas with insufficiencies. During the training activities conducted in January 2019, the participants agreed unanimously on the following colour-coding used in the spreadsheet:

- Scores below 40% are marked red
- Scores between 40% and 60% are marked orange
- Scores between 60% and 80% are marked yellow
- Scores above 80% are marked green

The assessment and scoring system was explained to M&E focal points at the districts, other district staff and the National M&E department during the rounds of field testing for their input. There was broad support for the changes. Nonetheless, there was some concern about whether the 'section tags' or the weights of indicators may turn out to be inappropriate. In order to ensure that the tool best reflects the wishes and priorities of stakeholders, the system has been designed to allow the indicator 'section tags', the weights, and the binding constraints to be easily reviewed and updated by the national M&E department. The process of reviewing and updating these components was explained to the national M&E team in detail. These processes have also been documented for the team to come back to in case they would like to make any changes.

Updated tools and materials

The updated tools and supporting materials are available in a link in Annex 1.

Part III: Roll-out of the updated assessment

Training on conducting assessments

The roll-out of the updated assessment and associated processes requires training of all stakeholders who are involved in the assessment. HITAP conducting initial trainings of a selection of stakeholders in Timor-Leste from 21st-25th January 2018.

Initial training activities

HITAP delivered individual trainings to UNICEF staff and the M&E department. HITAP worked with UNICEF to become familiar with using the Excel data entry form. HITAP worked with the M&E department to train them on:

- The processes of the planning and implementation of the assessment
- The processes of entering, managing and using the data
- Inputting data into the Excel data entry form
- Training on how the team can review and update the different aspects of the Excel data entry tool including the 'binding constraints', indicator 'weightings', department 'tags', and how to add or remove questions

The individual training of the M&E department focused on roles of the department that are unique to them; this includes aggregating and sharing of a 'National database' of assessment results, reviewing district assessment plans, and checking data that is being submitted.

UNICEF staff and the M&E department then supported and facilitated a four-day 'training of trainers' exercise.

Training the trainers

In order to build capacity of individuals within Timor-Leste to conduct training on the assessment beyond the duration of the HITAP engagement, a 'training of trainers' format was adopted. Two days were dedicated to the training of the trainers. Representatives from various districts participated in this training. This activity was led by HITAP with the support of the M&E department and UNICEF.

The following materials were used for preparing and carrying out the training of trainers:

- *Health facility readiness assessment tools*: There are five sets of tools prepared for each of the health facility levels that comprise the primary health care system. There are three levels of CHCs and two levels of HPs that are planned.[1]
- *Data entry form*: An MS Excel data entry form has been developed to enable electronic data entry. It is expected that the District Health Information System (DHIS) 2 will be used in the future to conduct the health facility readiness assessment tool, at which time data will not need to be inputted into Excel.
- *User manual*: This document provides a comprehensive overview of the health facility readiness tool and details:
    - The system and process of conducting the health facility readiness assessment
    - Planning for the roll-out of Health Facility Readiness Assessments
    - Implementation of the Health Facility Readiness Assessment
    - Post-assessment processes

[1] Governo de Timor-Leste, 'Jornal Da República', March (2018), 139–58.

- *Supplementary instructions for Health Facility Readiness Assessment survey questions*: This document is an Annex to the User Manual. It provides further explanation and pictures of select indicators to assist assessors in conducting the health facility readiness assessment. This manual is only meant for the purpose of the health facility readiness assessment and is not intended to replace Standard Operating Procedures (SOP), clinical standards, or clinical practice guidelines.
- *Trainer and trainee manuals*: These documents have been prepared based on the aforementioned documents for ease of use. The key points for each of the sections are specified herein.
- *Training PowerPoint presentations*: The PowerPoint presentations used in the training provide a summary of the processes outlined in the User Manual. The full manual should be referred to for complete descriptions.

The two-day training comprised the following components:

- *Processes, roles, and responsibilities*: The first training morning followed a PowerPoint presentation and group discussion format. Participants were trained on the purpose of the assessment, the roles and responsibilities, the associated processes for planning and implementing the tool, and the processes for the entry, sharing and use of results. The training was tailored to the audience of district and health facility personnel and gave focus to the roles and responsibilities of these stakeholders.
- *Review of the assessment survey tool and supporting instructions*: Participants broke into groups to review the assessment questions in detail. Participants were trained to use the new question 'instructions' that are included within the tool, and also the new manual '*Supplementary instructions for Health Facility Readiness Assessment survey questions'.* Guided by the facilitators, the groups discussed each question and supported each other to become familiar with how each question should be assessed.
- *Mock Facility Readiness Assessment*: The participant groups spent the morning of the second training day conducting mock Facility Readiness Assessments, implementing the lessons from the first day.
- *Mock data entry and action planning:* Participants inputted the mock assessment results collected into the MS Excel data entry tool. Participants used their own laptops for this activity. Once data was entered, participants became familiar with the MS Excel tool and reviewed the different types of result outputs that it generates. Participants also filled in mock versions of the 'action plan' that district focal points will make together with CHC focal points and district programme officers at the end of assessments.
- *Questions and clarifications*: The final session was used for participants to ask any remaining questions or clarifications about the updated Health Facility Readiness Assessment.

Trainer-led training

During the following two days, a broader range of stakeholders was invited for training, and the activities were led by all the 'trainers' who were trained during the first two days. The agenda for the 'trainer led training' followed the same format as the 'training of trainers' with trainers from the first two days leading activities (for the power-point presentations component of the training, eight trainers were selected to lead the activity, due to space and logistical constraints).

Future training activities

Assessment focal points from all levels must receive training before conducting the Health Facility Readiness Assessment. District directors are responsible for ensuring that districts assessment focal points have received training. This should be implemented by the previous focal point when there is a change in staff. The district Health Facility Readiness Assessment focal points are responsible for training all CHC Health Facility Readiness Assessment focal points in the district. Minimum once a year the district should review whether all focal points at the district and CHCs have received the two-day training. If any assessment focal point has not received the training, or requests refresher training, this must be planned. The National M&E team is responsible for providing any additional support needed to districts to ensure that all focal points are adequately trained.

The roles and responsibilities regarding training are documented in the assessment 'User Manual'. It is recommended that the two-day' training of trainers' format is also used for all future trainings. A trainer and trainee manual have been developed to support future trainings activities. These manuals provide details of the training activities and guidance for delivering the training.

The M&E department should ensure that all districts have access to the trainee and trainer manuals as well as training materials used in the initial training in order to replicate this activity.

Estimating costs and budgeting for the assessment

The HITAP team worked with the national M&E team on basic principles in budgeting and costing. It was found that budgets for M&E activities were set nationally and there was a focus on the efficient use of resources and planning against strict budgets. During a stakeholder consultation meeting held in October 2018, the various concepts related to costing were introduced and those present were asked to think critically about the costs involved in holding extensive assessments and whether a larger number of smaller assessments might be more efficient.

The team also worked with the M&E team to calculate the historical cost of assessments. Unfortunately, due to low data availability, inconsistent financial records and some assessments being externally-funded made this a challenging task. Instead, our training focused more on calculating expected costs using a bottom-up approach and using these values in budgeting future activities.

The materials used are provided in the link in Annex 1.

Sampling

The HITAP team reviewed the database of past assessments kept by the M&E department of the Ministry of Health, Timor-Leste. While on paper each facility was to be visited each quarter, the data showed that the total number of assessments was less than 25% of what is expected with quarterly visits. In addition, the assessments showed an uneven distribution across time and districts, an indication that the results might have been impacted by selection bias.

Conducting facility readiness assessments broadly serves two purposes. First, it allows stakeholders to take a deep-dive into the facilities visited to understand better what problems they are facing, and provide them with direct support as needed. Second, it allows stakeholders to get an understanding of the 'general state' of facilities in the country/region and identify recurring problems that are best tackled at the policy level.

The latter purpose is greatly dependent on a proper sampling strategy being followed. Under a perfectly randomized sampling strategy, a reasonable estimate can be made on the general state of facilities in the country with visits to only a selection of facilities. If facility visits are conducted purely on an 'ad-hoc' basis, it cannot be assumed that their performance is indicative of performance throughout the country. This might lead to misguided or ineffective policy measures being undertaken, thereby wasting public resources.

The HITAP team explained the above concepts and proposed some basic sampling strategies to the National M&E team of Timor-Leste. Which facilities are visited is a choice with several options. It is important to think about these different options and understand how they can impact the value offered to the health system, as each comes with its own benefits and downsides.

On paper, visiting all facilities each quarter is a good option. If adhered to strictly, it allows both purposes of the assessments to be done effectively: all facilities receive support when they need and the general problems in the country are very well understood. However, conducting quarterly visits to all facilities is an expensive and time-consuming operation. Depending on the resources available to the team, it might be smarter to plan fewer facility visits as has now been proposed in the User Manual.

As such, it was explained that understanding and accounting for the budget available is a crucial first step in making a facility visit schedule. By comparing the budget to the cost of conducting a facility visit, the team is able to set a realistic target of assessments conducted. In this case, it is likely that only some facilities are visited by the team, as the budget does not allow visiting all.

A perfectly random sampling method is always preferred for quantitative purposes and would be the best way to understand the general state of health facilities in Timor-Leste. However, it would be impossible to include 'local knowledge' into a perfectly random sampling method. The M&E team is likely to have a good understanding of which areas or facilities are more likely to face challenges, and therefore would benefit more from supportive supervision. The HITAP team

therefore proposed a stratified sampling is used, a 'mid-way' approach that uses randomization but also allows for facilities to be separated into different groups with different probabilities of being selected for a facility visit. Nonetheless, the exact sampling method used must be decided nationally.

The presentation made is available in the link in Annex 1.

Reviewing and updating the assessment

The existing version of the health facility readiness tool was developed in 2014 and not updated since. It was found that the questions and systems no longer met the needs of stakeholders and required revision. The tool and systems have now been updated after extensive research and stakeholder consultation, however both will need periodic review and revision to remain up-to-date and fit-for-purpose.

Causes for the assessment questions to be updated

Facilities will advance over time: The indicators included in the updated tool seek to address the current prevailing resource gaps and reflect existing expectations of different facility levels. As facilities improve, some indicators will become routinely high scoring. At this point, these indicators should be retired from the assessment and replaced by more ambitious indicators. This corresponds to the fact that the expectations of all facility levels will shift upwards overtime as the health system advances, and that the Facility Readiness Assessment must evolve to reflect this.

Priorities of the Ministry of Health may change: If there are shifts in the Ministry of Health's priorities regarding what services are most important for facilities to deliver, then the Facility Readiness Assessment should evolve to reflect this change in expectations and ensure that the tool adequately assesses the capacity of facilities to deliver on these new policy priorities.

Changing needs of assessment stakeholders: The Facility Readiness Assessment involves a large number of stakeholders from a range of levels who are involved in the planning and administering of the assessment and the management and use of its results. An ever-changing context can impact the different constraints on, or needs of, each group. For instance, changes in the available budget could impact the optimal specifications for assessment frequency. Changes in how health programme departments manage their own department planning may introduce new requirements regarding the presentation and sharing of Facility Readiness Assessment data. There must be scope to update the assessment and its related processes to meet changing stakeholder needs.

As the updated tool and processes are rolled out across the country, challenges, limitations, or areas for improvement may be identified which did not emerge during initial research and testing activities. In these cases, the M&E department should be able to update the tool and processes accordingly.

Facility Readiness Assessment review

It is recommended that the M&E department meets with the M&E working group and other stakeholders to conduct reviews of the assessment on an annual basis, if feasible. The group should discuss their experiences of the assessment questions and processes to review its effectiveness. Throughout the year, CHC and District focal points are encouraged to submit suggestions to the National M&E team regarding updates to assessment questions, assessment instructions, or regarding the processes of carrying out the assessment. Any suggestions received by the National M&E department during the year should be discussed during this meeting.

Reviewing the Facility Readiness Assessment processes

Challenges identified regarding the processes of the assessment should be discussed during the review. Input on these challenges should be gained from as broad a range of stakeholders as possible. The M&E department and working group should then deliberate and decide the best way to update the process.

If changes are made to any assessment processes, then the User Manual must be updated to reflect these changes. Updated versions of the User Manual must be disseminated to all stakeholders in hard or soft copy.

Reviewing the indicators included in the Facility Readiness Assessment

In order to ensure that the health facility readiness tool remains relevant and reflects changes in the health system or priorities, there is a need to intermittently review its indicators. It is recommended that indicators are reviewed through a consultative process that involves stakeholders from facilities, district level officers and program representatives from the national level.

When reviewing indicators to include, remove, or update, the M&E department and the M&E Working Group – as well as any other involved party – should think carefully about what criteria a 'good' indicator should fulfil.

Internationally some criteria are used to assess whether an indicator is appropriate, i.e. whether it will lead to strong and effective assessments. These include:

- *Performance Gap*: Indicators focus on areas where there is a recognized gap between actual and potential performance.
- *Relevance*: a) The indicator links to outlined government policies or stated programme priorities b*)* Policy documents expect this service to be delivered from this facility level.
- *Acceptability*: a) It is an expectation or norm that this health facility level must deliver this indicator in reality b) This indicator is acceptable to ask given social, cultural and legal norms.
- *Credibility*: The indicator has been recommended — and is being used — by leading experts and organizations such as WHO, UNAIDS, USAID, and UNFPA (e.g. SARA).
- *Validity*: This indicator is an accurate and effective way to assess what it intends to.

- *Feasibility*: It is possible to collect data on the indicator within reasonable effort and cost.
- *Reliability*: Data can be collected reliably with minimal measurement error and findings are reproducible.
- *Actionability*: Identification of problems can lead to resolution of problems within an acceptable timeline.

Often, however, these criteria can be at cross-purposes and the importance of each depends on stakeholder opinion and what is perceived to be the key purpose of the assessment.

HITAP held a workshop in Timor-Leste on 17 October 2018 to discuss these criteria and ask stakeholders to think critically about what the most important criteria are for the indicators of this assessment to meet. Stakeholders believed that all the criteria listed above were important to consider, scoring all between 7.57 and 8.71 (out of ten) in importance.

The least important criteria were voted as feasibility and acceptability (from a cultural, social, and legal perspective). The lack of importance given to feasibility was corroborated by feedback that a longer tool with more indicators was preferred despite an increased implementation burden this might create.

The most important criteria for indicators to meet were felt to be performance gap, acceptability (from the perspective of whether it is a 'norm' to expect the item from the facility in reality), and actionability. These preferences favor a list of indicators that focuses on items that are often missing (suggesting that indicators should be retired once regularly achieved), on meeting expectations of stakeholders in reality rather than as according to policy documents, and on prioritizing assessing items that can be addressed if identified as missing rather than including all items that may be desired in the most ideal situation. The materials used in this workshop are available in a link in Annex 1.

The M&E department may take these findings regarding stakeholder preferences into account when conducting their own reviews of indicators. It is also recommended that the M&E department and M&E working group implements a similar deliberative process involving a range of stakeholder whenever indicators are proposed for retirement or introduction. Stakeholders may examine the indicator under review in relation to each of the criteria identified above, then discuss before coming to a verdict on the removal, inclusion or update of the indicator.

Updating the tools and data entry forms

All tools have been developed with flexibility in mind given that national priorities for the health sector can change quickly and it is important that the assessment process can adapt quickly to these changes. The national M&E team is able to reword, add, or remove indicators as desired. All tools have been developed in either Microsoft Word or Microsoft Excel, and do not require any other piece of software to be updated. Although no advanced operations have to be performed, it is strongly recommended that a staff member highly proficient in Excel is responsible for all updates.

The steps required to update the tool are described in Annex 3 for the following three scenarios: (1) rewording a question, (2) adding a question, and (3) changing the way scores are calculated. Completely deleting questions is discouraged, as it is likely to significantly impact the functionality of the Excel calculations if done by inexperienced users. Instead, it is recommended to use the third scenario to assign a score of zero to these questions, so that they will no longer impact any facility scores.

Recommendations

Based on this study, a number of recommendations emerge for the Ministry of Health, Timor-Leste, and development partners:

Ministry of Health

Managing tools and indicators

- A separate tool may be developed to assess quality of services provided at health facilitlies.
- An e-library of indicators may be developed and managed by the M&E department or any other department to ensure coherence and consistency between the various tools used by various departments.
- A mapping exercise of all the supportive supervision and similar tools used in the Timor-Leste health system and, subsequently, mapping of the indicators contained in them may be conducted.
- The indicators in the health facility readiness assessment tools should be reviewed annually and updated to reflect current priorities.

Capacity for data entry and analysis for health facility readiness assessments

- An M&E staff member with medium to high skills in the use of Excel be responsible for maintaining the database and making any changes to the tools.
- Effective Monitoring and Evaluation requires M&E officers to be able to design and conduct analysis of a large amount of data to answer a broad range of questions that will evolve over time. Strong competency in data analysis software, MS Excel at a minimum, is therefore a key requirement for M&E systems to be effectivce. Significant training should be supported for all M&E officers across the levels of the health system in Timor-Leste to build this capability.

Health system development

- The Comprehensive Primary Care Services Package ought to be updated to at least reconcile the levels of services with the newly proposed levels of facilities, and then with

the resource and staff capacities necessary to deliver them. This could be done through a comprehensive mapping exercise.

- Timor-Leste could benefit from having set regulation or standards for different health facilities that stem from the Primary Care Services Package. This will also require explicit and definite classification of facilities by facility level.
- Digitalisation of processes would facilitate the reliability and accuracy of data collected and reported.

Development partners

- UNICEF, which is familiar with the health facility readiness tool, should routinely check in with the national M&E team to ensure it does not face any problems in maintaining the national database.
- All partners should continue to support the Ministry of Health in developing systems and long-term human capacity.
- Continue to coordinate efforts to strengthen the health system in Timor-Leste.

Annexures

Annex 1: Links to materials

1. Agendas: https://1drv.ms/f/s!AgWJO9PqiPQogql8bm8l59Y9DK3HBw
2. Data collection tools for reviewing the existing system: https://1drv.ms/f/s!AgWJO9PqiPQogql9CImVYv0N_nPgPA
3. Tools, data entry forms and manuals: https://1drv.ms/f/s!AgWJO9PqiPQogql-MWizhr1f8N9LIQ
4. Costing and sampling: https://1drv.ms/f/s!AgWJO9PqiPQogqpEpiDTzGyjOE1zUw
5. Criteria for assessing indicators: https://1drv.ms/f/s!AgWJO9PqiPQogqpO2LbwnSyOjRDVsA

Annex 2: Health Facility Readiness Assessment Tool: Comparison of questions by facility

This document compares questions across the health facility readiness assessment tools prepared for the five levels of health facilities for primary health care, three levels of Community Health Centres (CHCs) and two levels of Health Posts (HPs).

#	Question	CHC3	CHC2	CHC1	HP2	HP1
1	Doctor	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
2	Midwife	1.1.2	1.1.2	1.1.2	1.1.2	1.1.2
3	Staff nurse	1.1.3	1.1.3	1.1.3	1.1.3	1.1.3
4	Nurse assistant	1.1.4	1.1.4	1.1.4	1.1.4	
5	Lab technician	1.1.5	1.1.5	1.1.5		
6	Pharmacist	1.1.6	1.1.6	1.1.6	1.1.5	
7	Dentist	1.1.7				
8	Dental nurse		1.1.9	1.1.8		
9	Public Health Officer on Nutrition	1.1.8	1.1.7	1.1.7		
10	Sanitation Officer	1.1.9	1.1.8			
11	Internal medicine doctor	1.1.10				
12	Radiology technician	1.1.11				
13	Pediatrician	1.1.12				
14	Mental health nurse	1.1.13				
15	EIS technician	1.1.14	1.1.10	1.1.9	1.1.6	1.1.4
16	Ophthalmic technician	1.1.15	1.1.11	1.1.10		
17	Ophthalmic nurse	1.1.16				
18	Public health technician	1.1.17	1.1.12	1.1.11		
19	Administrative staff	1.1.18	1.1.13	1.1.12		
20	Logistics staff	1.1.19	1.1.14	1.1.13		
21	Ancillary staff	1.1.20	1.1.15	1.1.14	1.1.7	1.1.5
22	Is a medical officer available at all times that the facility is open?	1.2.1	1.2.1	1.2.1		
23	Is a midwife available at all times that the facility is open?	1.2.2	1.2.2	1.2.2		
24	Is a staff nurse available at all times that the facility is open?	1.2.3	1.2.3	1.2.3		
25	Is a biomedical technician assigned to the facility?	1.2.4	1.2.4	1.2.4		
26	Is someone assigned to be responsible for stock management for medicines, vaccines and supplies?	1.2.5	1.2.5	1.2.5		
27	Is there any staff member with formal training on Inter-Personal Communication (IPC) for health promotion?	1.2.6	1.2.6	1.2.6	1.2.1	1.2.1
28	Does the facility submit regular reports to EIS?	2.1.1	2.1.1	2.1.1	2.1.1	2.1.1
29	Does the facility have an updated micro plan for the catchment area?	2.1.2	2.1.2	2.1.2	2.1.2	2.1.2
30	Does the facility hold quarterly review meetings with health posts and the community?	2.1.3	2.1.3	2.1.3		
31	Does the facility hold monthly coordination meetings with other sectors to align activities?	2.1.4	2.1.4	2.1.4		
32	Is an epidemiological calendar present and displayed?	2.1.5	2.1.5	2.1.5	2.1.3	2.1.3
33	Does the facility have a weekly epidemiological archive and keep it up to date?	2.1.6	2.1.6	2.1.6	2.1.4	2.1.4
34	Is a health promotion register and plan available, filled in properly and up-to-date?	2.1.7	2.1.7	2.1.7	2.1.5	2.1.5

#	Question	CHC3	CHC2	CHC1	HP2	HP1
35	Is a list of epilepsy patients present, filled in properly and up-to-date?	2.1.8	2.1.8	2.1.8	2.1.6	2.1.6
36	Is a death register available, filled in properly and up-to-date?	2.1.9	2.1.9	2.1.9	2.1.7	2.1.7
37	Does the facility have a map of its catchment area, which clearly shows all aldeas and sucos?				2.1.8	2.1.8
38	Does the facility have a map of nearby mosquito breeding sites?				2.1.9	2.1.9
39	Are referral slips (formatu transferentiu) available and in use?	2.2.1	2.2.1	2.2.1	2.2.1	2.2.1
40	Is the telephone number of the nearest referral hospital present?	2.2.2	2.2.2	2.2.2	2.2.2	2.2.2
41	Does the facility telephone the referral facility to tell them that the patient is coming?	2.2.3	2.2.3	2.2.3	2.2.3	2.2.3
42	Is a register of past referrals available and correctly filled in?	2.2.4	2.2.4	2.2.4	2.2.4	2.2.4
43	Does the facility follow-up with the referral facility to find out their diagnosis of referred patients?	2.2.5	2.2.5	2.2.5	2.2.5	2.2.5
44	Does the facility have a copy of the SISCa guidelines available?	2.3.1	2.3.1	2.3.1	2.3.1	2.3.1
45	Did the facility's SISCa activities cover all villages in the catchment area in the last month?	2.3.2	2.3.2	2.3.2	2.3.2	2.3.2
46	Is a list of all village-wide pregnancies, eligible children for vaccines and malnutrition cases present, filled in properly and up-to-date?	2.3.3	2.3.3	2.3.3		
47	Is a separate register maintained on follow-up activities for high risk pregnancies, eligible children for vaccines and cases of serious acute malnutrition?	2.3.4	2.3.4	2.3.4	2.3.4	2.3.4
48	Does the facility have all materials required for SISCa activities?	2.3.5	2.3.5	2.3.5		
49	Is an up-to-date micro plan for SISCa present?	2.3.6	2.3.6	2.3.6	2.3.5	2.3.5
50	Is a list of all village-wide pregnancies, eligible children for vaccines, and malnutrition cases present, filled in properly and up-to-date?				2.3.3	2.3.3
51	Does the facility have a quality improvement plan for the health facility and a team (or person) who is responsible for continuous quality improvement?	2.4.1	2.4.1	2.4.1	2.4.1	2.4.1
52	Is a computer present and functioning?	2.5.1	2.5.1	2.5.1	2.5.1	2.5.1
53	Is a printer available and functioning?	2.5.2	2.5.2	2.5.2	2.5.2	2.5.2
54	Are basic office supplies available?	2.5.3	2.5.3	2.5.3	2.5.3	2.5.3
55	Does the facility have a working telephone?	3.1.1	3.1.1	3.1.1	3.1.1	3.1.1
56	Does the facility have a working internet connection?	3.1.2	3.1.2	3.1.2		
57	Does the facility operate in a government-owned building?	3.2.1	3.2.1	3.2.1	3.2.1	3.2.1
58	Are the floors in good condition?	3.2.2	3.2.2	3.2.2	3.2.2	3.2.2
59	Is the roof in good condition?	3.2.3	3.2.3	3.2.3	3.2.3	3.2.3
60	Are the walls, inside the facility in good condition?	3.2.4	3.2.4	3.2.4	3.2.4	3.2.4
61	Is the CHC name board visible from across the road?	3.2.5	3.2.5	3.2.5		
62	Are directions to the CHC given on the road in the village?	3.2.6	3.2.6	3.2.6		
63	Is there a ramp which allows patients to enter the facility if they are using a wheelchair?	3.2.7	3.2.7	3.2.7	3.2.6	3.2.6
64	Is the health post name board visible from across the road?				3.2.5	3.2.5
65	Does the facility have functioning electricity?	3.3.1	3.3.1	3.3.1	3.3.1	3.3.1
66	Is there a source of backup electricity available and ready for use?	3.3.2	3.3.2	3.3.2	3.3.2	3.3.2
67	Is there at least one light source available and working in each room?	3.3.3	3.3.3	3.3.3	3.3.3	3.3.3
68	Is there functioning air conditioning being operated in the room where drugs are stored?	3.4.1	3.4.1	3.4.1		

#	Question	CHC3	CHC2	CHC1	HP2	HP1
69	Is there functioning air conditioning in the patient care areas of the emergency and delivery departments?	3.4.2	3.4.2	3.4.2		
70	Is there functioning air conditioning in the other patient areas?	3.4.3	3.4.3	3.4.3		
71	Does water supply come from a functioning pipe connection or borehole with pump located inside the facility?	3.5.1	3.5.1	3.5.1	3.5.1	3.5.1
72	Does the facility have sufficient water readily available at the time of assessment?	3.5.2	3.5.2	3.5.2	3.5.2	3.5.2
73	Has the water quality been tested in the last 3 months?	3.5.3	3.5.3	3.5.3		
74	Is the water tank cleaned regularly?	3.5.4	3.5.4	3.5.4		
75	Does the facility have a general store room?	3.6.1	3.6.1	3.6.1		
76	Is the general store room in good condition?	3.6.2	3.6.2	3.6.2		
77	Does the facility have a proper stock management system used in the general store room?	3.6.3	3.6.3	3.6.3		
78	Does the facility have a torch light in good condition?	3.6.4	3.6.4	3.6.4	3.6.2	3.6.2
79	Does the facility have a fire extinguisher?	3.6.5	3.6.5	3.6.5	3.6.3	3.6.3
80	Does the facility have a proper stock management system?				3.6.1	3.6.1
81	Does the facility adopt a proper system for waste segregation?	3.7.1	3.7.1	3.7.1	3.7.1	3.7.1
82	Does the facility have a proper system in place for final waste disposal?	3.7.2	3.7.2	3.7.2	3.7.2	3.7.2
83	Are sufficient garbage bins placed in and around the hospital?	3.7.3				
84	Are garbage bins emptied regularly?	3.7.4				
85	Are indoor areas that are used for patient-care kept clean at all times?	3.8.1	3.8.1	3.8.1	3.8.1	3.8.1
86	Are general storage rooms, drug storage rooms and rooms for laboratory and diagnostic tests kept clean at all times?	3.8.2	3.8.2	3.8.2	3.8.2	3.8.2
87	Are indoors areas that are not used for patient-care clean?	3.8.3	3.8.3	3.8.3	3.8.3	3.8.3
88	Is the outdoor area clean?	3.8.4	3.8.4	3.8.4	3.8.4	3.8.4
89	Are areas outside of the facility premises clean?	3.8.5				
90	Is the area in and around the facility free of bad odor?	3.8.6				
91	Are staff toilets available?	3.9.1	3.9.1	3.9.1		
92	Are separate staff toilets available for men and women?	3.9.2	3.9.2			
93	Are staff toilets functioning?	3.9.3	3.9.3	3.9.2		
94	Are staff toilets clean and in good condition?	3.9.4	3.9.4	3.9.3		
95	Are hand washing facilities available for the staff toilets?	3.9.5	3.9.5	3.9.4		
96	Are IEC materials relating to hand-washing displayed in the toilet or sink area?	3.9.6	3.9.6	3.9.5	3.9.5	3.9.5
97	Are dedicated patient toilets available?	3.10.1	3.10.1	3.10.1	3.9.1	3.9.1
98	Are separate patient toilets available for men and women?	3.10.2	3.10.2			
99	Are patient toilets functioning?	3.10.3	3.10.3	3.10.2	3.9.2	3.9.2
100	Are patient toilets clean and in good condition?	3.10.4	3.10.4	3.10.3	3.9.3	3.9.3
101	Are hand washing facilities available for the patient toilets?	3.10.5	3.10.5	3.10.4	3.9.4	3.9.4
102	Are IEC materials relating to hand-washing displayed in the toilet or sink area?	3.10.6	3.9.6	3.9.5	3.9.5	3.9.5
103	Does the facility have access to a multi-function vehicle that can be used as an ambulance?	3.11.1	3.11.1	3.11.1	3.10.1	3.10.1
104	Does the facility have any other motorized vehicle (excluding multi-function/ ambulance) available that is functioning?	3.11.2	3.11.2	3.11.2		
105	Paracetamol tablet 500mg	4.1.1	4.1.1	4.1.1	4.1.1	4.1.1

#	Question	CHC3	CHC2	CHC1	HP2	HP1
106	Paracetamol syrup 120mg/5mL	4.1.2	4.1.2	4.1.2	4.1.2	4.1.2
107	Amoxicilline tablet 500mg	4.1.3	4.1.3	4.1.3	4.1.3	4.1.3
108	Amoxicilline syrup 120mg/5mL	4.1.4	4.1.4	4.1.4	4.1.4	4.1.4
109	Ibuprofen tablet 400mg	4.1.5	4.1.5	4.1.5	4.1.5	4.1.5
110	Ranitidine tablet 150mg	4.1.6	4.1.6	4.1.6	4.1.6	4.1.6
111	Doxycycline tablet 100mg	4.1.7	4.1.7	4.1.7	4.1.7	4.1.7
112	Co-trimoxazole tablet 480mg/or syrup 240mg/5mL	4.1.8	4.1.8	4.1.8	4.1.8	4.1.8
113	Chloramphenicol/Gentamicine eye ointment	4.1.9	4.1.9	4.1.9	4.1.9	4.1.9
114	Albendazole tablet 400mg	4.1.10	4.1.10	4.1.10	4.1.10	4.1.10
115	Metronidazole tablet 250/500mg	4.1.11	4.1.11	4.1.11	4.1.11	4.1.11
116	Ciprofloxacine tablet 250mg/500mg	4.1.12	4.1.12	4.1.12	4.1.12	4.1.12
117	Cloxacilline tablet 250mg	4.1.13	4.1.13	4.1.13	4.1.13	4.1.13
118	Enalapril/ Captopril tablet 25mg	4.1.14	4.1.14	4.1.14		
119	Acetyl Salicylate (Aspirin)	4.1.15	4.1.15	4.1.15	4.1.14	4.1.14
120	Atenolol tablet 50mg	4.1.16	4.1.16	4.1.16		
121	Salbutamol inhaler 50mcg/dose or 100mcg/dose	4.1.17	4.1.17	4.1.17	4.1.15	4.1.15
122	Ringer Lactate IV fluid 500mL	4.1.18	4.1.18	4.1.18	4.1.16	4.1.16
123	Permethrine cream 5%	4.1.19	4.1.19	4.1.19	4.1.17	4.1.17
124	Hydrochlorothiazide tablet 25mg	4.1.20	4.1.20	4.1.20	4.1.18	4.1.18
125	Clotrimazole vaginal tablet 500mg	4.1.21	4.1.21	4.1.21	4.1.19	4.1.19
126	Promethazine tablet 25mg	4.1.22	4.1.22	4.1.22	4.1.20	4.1.20
127	Dexamethasone injection 4mg/mL	4.1.23	4.1.23	4.1.23		
128	Carbamazepine tablet 200mg	4.1.24	4.1.24	4.1.24	4.1.21	4.1.21
129	Metformine tablet 500mg	4.1.25	4.1.25	4.1.25	4.1.22	4.1.22
130	Glibenclamide tablet 5mg	4.1.26	4.1.26	4.1.26		
131	Miconazole cream 2%	4.1.27	4.1.27	4.1.27	4.1.23	4.1.23
132	Amitriptyline tablet 25mg	4.1.28	4.1.28	4.1.28		
133	Amoxicilline + Clavulanic Acid tablet 625mg	4.1.29	4.1.29	4.1.29		
134	Tramadol injection 50mg/mL (@5mL. Amp)	4.1.30	4.1.30	4.1.30		
135	Diazepam injection	4.1.31	4.1.31	4.1.31	4.1.24	4.1.24
136	Diazepam tablet	4.1.32	4.1.32	4.1.32	4.1.25	4.1.25
137	Normal Saline 0.9%	4.1.33	4.1.33	4.1.33	4.1.26	4.1.26
138	Isoniazid tablet	4.1.34	4.1.34	4.1.34		
139	Rifampicin tablet	4.1.35	4.1.35	4.1.35		
140	Pyrazinamide tablet	4.1.36	4.1.36	4.1.36		
141	Ethambutol tablet	4.1.37	4.1.37	4.1.37		
142	Lidocaine injection- Dental solution	4.1.38	4.1.38	4.1.38		
143	Adrenaline (Epinephrine) Injection	4.1.39	4.1.39	4.1.39		
144	Hydrocortisone injection	4.1.40	4.1.40	4.1.40		
145	Lidocaine 2% without adrenaline	4.1.41	4.1.41	4.1.41		
146	Lidocaine 2% with adrenaline	4.1.42	4.1.42	4.1.42		
147	Does any staff at the facility know how to use Adenbox?	4.1.43	4.1.43	4.1.43		

#	Question	CHC3	CHC2	CHC1	HP2	HP1
148	Are drug stock cards available, filled in properly and up-to-date?	4.1.44	4.1.44	4.1.44		
149	Vitamin A	4.2.1	4.2.1	4.2.1	4.2.1	4.2.1
150	Iron (ferrous sulfate)	4.2.2	4.2.2	4.2.2	4.2.2	4.2.2
151	Folic Acid	4.2.3	4.2.3	4.2.3	4.2.3	4.2.3
152	Zinc	4.2.4	4.2.4	4.2.4	4.2.4	4.2.4
153	MNP (micro-nutrient powder)	4.2.5	4.2.5	4.2.5	4.2.5	4.2.5
154	Albendazole	4.2.6	4.2.6	4.2.6	4.2.6	4.2.6
155	F 75	4.2.7	4.2.7	4.2.7		
156	F 100	4.2.8	4.2.8	4.2.8		
157	Plumpy Nut, Timor Vita (PSH) or Plumpy soup	4.2.9	4.2.9	4.2.9	4.2.7	4.2.7
158	Resomal	4.2.10	4.2.10	4.2.10		
159	ORS	4.2.11	4.2.11	4.2.11	4.2.8	4.2.8
160	Are nutrients stock cards available, filled in properly and up-to-date?	4.2.12	4.2.12	4.2.12	4.2.9	4.2.9
161	Pentavalent (DTP-HiB-HepB)	4.3.1	4.3.1	4.3.1	4.3.1	4.3.1
162	DTP	4.3.2	4.3.2	4.3.2	4.3.2	4.3.2
163	DT	4.3.3	4.3.3	4.3.3	4.3.3	4.3.3
164	IPV	4.3.4	4.3.4	4.3.4	4.3.4	4.3.4
165	bOPV	4.3.5	4.3.5	4.3.5	4.3.5	4.3.5
166	MR	4.3.6	4.3.6	4.3.6	4.3.6	4.3.6
167	BCG	4.3.7	4.3.7	4.3.7	4.3.7	4.3.7
168	Td	4.3.8	4.3.8	4.3.8	4.3.8	4.3.8
169	Hepatitis B	4.3.9	4.3.9	4.3.9	4.3.9	4.3.9
170	Rotavirus	4.3.10	4.3.10	4.3.10	4.3.10	4.3.10
171	Are vaccine stock cards available, filled in properly and up-to-date?	4.3.11	4.3.11	4.3.11	4.3.11	4.3.11
172	Is an ice lined refrigerator present and functioning?	4.3.12	4.3.12	4.3.12	4.3.12	4.3.12
173	Are voltage stabilizers for the ice lined refrigerator and deep freezer used and functioning?	4.3.13	4.3.13	4.3.13	4.3.13	4.3.13
174	Is a laboratory register available, filled in properly and up-to-date?	5.1.1	5.1.1	5.1.1		
175	Is a TB register available, filled in properly and up-to-date?	5.1.2	5.1.2	5.1.2		
176	Is the facility able to perform Hemoglobin measurements and is all necessary equipment available?	5.1.3	5.1.3	5.1.3	5.1.1	5.1.1
177	Does the facility perform blood glucose measurements?	5.1.4	5.1.4	5.1.4	5.1.2	5.1.2
178	Does the facility perform urine tests?	5.1.5	5.1.5	5.1.5	5.1.3	5.1.3
179	Does the facility perform pregnancy tests?	5.1.6	5.1.6	5.1.6	5.1.4	5.1.4
180	Does the facility perform cholesterol (lipid profile) testing?	5.1.7				
181	Does the facility perform HIV tests using Rapid Diagnostic Test (RDT) kits?	5.1.8	5.1.7	5.1.7	5.1.5	5.1.5
182	Does the facility perform Syphilis tests using Rapid Diagnostic Test (RDT) kits?	5.1.9	5.1.8	5.1.8		
183	Does the facility perform Hepatitis B tests using Rapid Diagnostic Test (RDT) kits?	5.1.10	5.1.9	5.1.9		
184	Does the facility perform Hepatitis C tests using Rapid Diagnostic Test (RDT) kits?	5.1.11	5.1.10	5.1.10		
185	Does the facility perform Dengue tests using Rapid Diagnostic Test (RDT) kits?	5.1.12	5.1.11	5.1.11		
186	Does the facility perform Malaria tests using Rapid Diagnostic Test (RDT) kits?	5.1.13	5.1.12	5.1.12	5.1.6	5.1.6

#	Question	CHC3	CHC2	CHC1	HP2	HP1
187	Does the facility perform smear test for Malaria?	5.1.14	5.1.13	5.1.13		
188	Does the facility perform TB tests using Rapid Diagnostic Test (RDT) kits?	5.1.15	5.1.14	5.1.14	5.1.7	5.1.7
189	Does the facility perform smear test for TB?	5.1.16	5.1.15	5.1.15		
190	Is there a separate room within laboratory for performing microbiology smear testing?	5.1.17	5.1.16	5.1.16		
191	Is a refrigerator present and functioning in the laboratory?	5.1.18	5.1.17	5.1.17		
192	Is a microscope present and functioning in the laboratory?	5.1.19	5.1.18	5.1.18		
193	Is a centrifuge present and functioning in the laboratory?	5.1.20	5.1.19	5.1.19		
194	Are laboratory uniforms being used by staff working in the laboratory?	5.1.21	5.1.20	5.1.20		
195	Is lab technician able to do basic examination of glucose, HB and urine?	5.1.22	5.1.21	5.1.21		
196	Is an OPD register available, filled in properly and up-to-date?	6.1.1	6.1.1	6.1.1	6.1.1	6.1.1
197	Is anyone trained on Adencare and using the Adencare system in the facility?	6.1.2	6.1.2	6.1.2	6.1.2	6.1.2
198	Is there a waiting area for patients and relatives with seating amenities?	6.1.3	6.1.3	6.1.3	6.1.3	6.1.3
199	Is the privacy of the patient ensured in the OPD room?	6.1.4	6.1.4	6.1.4	6.1.4	6.1.4
200	Do the OPD rooms have glass windows in good condition?	6.1.5	6.1.5	6.1.5	6.1.5	6.1.5
201	Is water readily available in the OPD area?	6.1.6	6.1.6	6.1.6	6.1.6	6.1.6
202	Is soap for hand washing available in the OPD area?	6.1.7	6.1.7	6.1.7	6.1.7	6.1.7
203	Is drinking water available for patients in the OPD area?	6.1.8	6.1.8	6.1.8		
204	Are safety boxes present and utilized properly in all areas in the facility where needles are used?	6.1.9	6.1.9	6.1.9	6.1.8	6.1.8
205	Are all needles in the facility single-use (disposed after one use)?	6.1.10	6.1.10	6.1.10	6.1.9	6.1.9
206	Are examination masks available in the OPD area?	6.1.11	6.1.11	6.1.11	6.1.10	6.1.10
207	Does the facility have a physiotherapy rehabilitation center?	6.1.12				
208	Is staff able to correctly measure blood pressure?	6.1.13	6.1.12	6.1.12	6.1.11	6.1.11
209	Are treatment protocols readily available in the OPD area?	6.1.14	6.1.13	6.1.13	6.1.12	6.1.12
210	Are malnutrition protocols readily available in the OPD area?	6.1.15	6.1.14	6.1.14	6.1.13	6.1.13
211	Are IEC materials relating to nutrition displayed?	6.1.16	6.1.15	6.1.15	6.1.14	6.1.14
212	Are IEC materials relating to anti-biotic drug use displayed?	6.1.17	6.1.16	6.1.16	6.1.15	6.1.15
213	Is there adequate furniture in the OPD consultation rooms, and is it in good condition?	6.2.1	6.2.1	6.2.1	6.2.1	6.2.1
214	Is an examination table available and in good condition?	6.2.2	6.2.2	6.2.2	6.2.2	6.2.2
215	Is a blood pressure apparatus present and functioning?	6.2.3	6.2.3	6.2.3	6.2.3	6.2.3
216	Is a stethoscope present and functioning?	6.2.4	6.2.4	6.2.4	6.2.4	6.2.4
217	Is a thermometer present and functioning?	6.2.5	6.2.5	6.2.5	6.2.5	6.2.5
218	Is an adult weighing scale present and functioning?	6.2.6	6.2.6	6.2.6	6.2.6	6.2.6
219	Is an ophthalmoscope / funduscope present and functioning?	6.2.7	6.2.7	6.2.7		
220	Is an ECG machine present and functioning?	6.2.8	6.2.8	6.2.8		
221	Is a portable x-ray machine present and functioning?	6.2.9				
222	Is a nebulizer present and functioning?	6.2.10	6.2.9	6.2.9		
223	Is a spirometry machine present and functioning?	6.3.1	6.3.1	6.3.1		
224	Is an eye refraction exam poster displayed in the OPD area?	6.3.2	6.3.2	6.3.2	6.3.1	6.3.1
225	Does the facility have a dentist examination chair in good condition?	6.3.3	6.3.3	6.3.3		
226	Are IEC materials relating to diabetes displayed?	6.3.4	6.3.4	6.3.4	6.3.2	6.3.2

#	Question	CHC3	CHC2	CHC1	HP2	HP1
227	Are IEC materials relating to tobacco use displayed?	6.3.5	6.3.5	6.3.5	6.3.3	6.3.3
228	Are IEC materials relating to alcohol use displayed?	6.3.6	6.3.6	6.3.6	6.3.4	6.3.4
229	Are IEC materials relating to HIV displayed?	6.4.1	6.4.1	6.4.1	6.4.1	6.4.1
230	Are IEC materials relating to malaria displayed?	6.4.2	6.4.2	6.4.2	6.4.2	6.4.2
231	Are IEC materials relating to TB displayed?	6.4.3	6.4.3	6.4.3	6.4.3	6.4.3
232	Is a template for family screening for TB available?	6.4.4	6.4.4	6.4.4	6.4.4	6.4.4
233	Is an ANC register available, filled in properly and up-to-date?	6.5.1	6.5.1	6.5.1	6.5.1	6.5.1
234	Is a functioning portable ultrasound machine present?	6.5.2				
235	Has the medical staff operating the OPD area been trained in various IMCI?	6.5.3	6.5.2	6.5.2	6.5.2	6.5.2
236	Are standard treatment protocols relating to IMCI readily available?	6.5.4	6.5.3	6.5.3	6.5.3	6.5.3
237	Are IEC materials for ANC displayed?	6.5.5	6.5.4	6.5.4	6.5.4	6.5.4
238	Are IEC materials for family planning displayed?	6.5.6	6.5.5	6.5.5	6.5.5	6.5.5
239	Are all materials in IUD kit available and is facility able to perform IUD insertion?	6.5.7	6.5.6	6.5.6		
240	Are all materials in Implant kit available and is facility able to perform Implant insertion?	6.5.8	6.5.7	6.5.7		
241	Are all materials for a family planning kit available?	6.5.9	6.5.8	6.5.8	6.5.6	6.5.6
242	Does this facility have the necessary materials to provide counselling on natural family planning?	6.5.10	6.5.9	6.5.9	6.5.7	6.5.7
243	Is a delivery register available, filled in properly and up-to-date?	7.1.1	7.1.1	7.1.1	7.1.1	7.1.1
244	Is a birth register available, filled in properly and up-to-date	7.1.2	7.1.2	7.1.2	7.1.2	7.1.2
245	Does the facility maintain a register on maternal, neonatal and infant deaths and their causes?	7.1.3	7.1.3	7.1.3	7.1.3	7.1.3
246	Does the facility report maternal and infant deaths to EIS?	7.1.4	7.1.4	7.1.4	7.1.4	7.1.4
247	Does the labour room have glass windows in good condition?	7.1.5	7.1.5	7.1.5	7.1.5	7.1.5
248	Is a fetal doppler available and functioning in the facility?	7.1.6	7.1.6	7.1.6	7.1.6	7.1.6
249	Is an oxygen cylinder present and functioning?	7.1.7	7.1.7	7.1.7	7.1.7	7.1.7
250	Are disposable latex gloves available?	7.1.8	7.1.8	7.1.8	7.1.8	7.1.8
251	Are examination masks available?	7.1.9	7.1.9	7.1.9	7.1.9	7.1.9
252	Are the relevant delivery guidelines displayed?	7.1.10	7.1.10	7.1.10	7.1.10	7.1.10
253	Are labour drugs available?	7.1.11	7.1.11	7.1.11	7.1.11	7.1.11
254	Are guidelines for newborn resuscitation readily available in the labour room?	7.1.12	7.1.12	7.1.12	7.1.12	7.1.12
255	Is staff able to follow newborn resuscitation protocol?	7.1.13	7.1.13	7.1.13	7.1.13	7.1.13
256	Are partographs available, filled in properly and used for every delivery?	7.1.14	7.1.14	7.1.14	7.1.14	7.1.14
257	Is water readily available in the labour room?	7.1.15	7.1.15	7.1.15	7.1.15	7.1.15
258	Is a blood pressure apparatus present and functioning?	7.2.1	6.2.3	6.2.3	6.2.3	6.2.3
259	Is a thermometer present and functioning?	7.2.2	6.2.5	6.2.5	6.2.5	6.2.5
260	Is a gynecological bed for labour present and in good condition?	7.2.3	7.2.3	7.2.3	7.2.3	7.2.3
261	Is a speculum available and functioning?	7.2.4	7.2.4	7.2.4		
262	Is a complete, unused sterilized delivery set present?	7.2.5	7.2.5	7.2.5	7.2.4	7.2.4
263	Are there mucous suction catheters present?	7.2.6	7.2.6	7.2.6	7.2.5	7.2.5
264	Is a suction apparatus available and functioning?	7.2.7	7.2.7	7.2.7	7.2.6	7.2.6
265	Is an adjustable spotlight available and functioning?	7.2.8	7.2.8	7.2.8	7.2.7	7.2.7

#	Question	CHC3	CHC2	CHC1	HP2	HP1
266	Is an autoclave present and functioning?	7.2.9	7.2.9	7.2.9	7.2.8	7.2.8
267	Is an infant (baby) weighing scale present and functioning?	7.2.10	7.2.10	7.2.10	7.2.9	7.2.9
268	Is all equipment necessary for newborn resuscitation available and in good condition?	7.2.11	7.2.11	7.2.11	7.2.10	7.2.10
269	Are cots for newborns available and in good condition?	7.3.1	7.3.1	7.3.1	7.3.1	7.3.1
270	Are mattresses for the cots available and in good condition?	7.3.2	7.3.2	7.3.2	7.3.2	7.3.2
271	Does each bed have a mosquito net in good condition?	7.3.3	7.3.3	7.3.3	7.3.3	7.3.3
272	Are protocols on emergency care for sick neonates available?	7.3.5	7.3.4	7.3.4	7.3.4	7.3.4
273	Are the relevant maternity guidelines displayed?	7.3.6	7.3.5	7.3.5	7.3.5	7.3.5
274	Are IEC materials relating to breast feeding displayed?	7.3.7	7.3.6	7.3.6	7.3.6	7.3.6
275	Is an oxygen cylinder present and functioning?	8.1.1	7.1.7	7.1.7	7.1.7	7.1.7
276	Is an ambu bag and mask present and functioning (both adult and pediatric / sizes 2, 4, 5 and 6)?	8.1.2	8.1.2	8.1.1	8.1.1	8.1.1
277	Are examination masks available?	8.1.3	7.1.9	7.1.9	7.1.9	7.1.9
278	Is a laryngoscope and a full set of endotracheal tubes present and functioning?	8.1.4	8.1.4	8.1.3	8.1.2	8.1.2
279	Are standard treatment protocols relating to adult resuscitation readily available in the emergency room?	8.1.5	8.1.5	8.1.4	8.1.3	8.1.3
280	Is staff able to initiate oxygen in emergencies?	8.1.6	8.1.6	8.1.5	8.1.4	8.1.4
281	Does the facility have a room dedicated to minor surgical procedures?	8.1.7	8.1.7	8.1.6		
282	Does facility have a kit for minor surgical procedures and attending wounds?	8.1.8	8.1.8	8.1.7		
283	Are there at least 4 beds available for 24h observation of patients?			8.2.1		
284	Is at least 1 bed available for 6 hours observation of patients?				8.2.1	
285	Are mattresses available and in good condition?	8.2.1	8.2.1	8.2.2	8.2.2	
286	Does each bed have a mosquito net in good condition?	8.2.2	7.3.3	7.3.3	7.3.3	7.3.3
287	Does the observation room have glass windows in good condition?	8.2.3	8.2.3	8.2.4	8.2.4	
288	Is the privacy of the patient ensured in the observation room?	8.2.4	8.2.4	8.2.5	8.2.5	
289	Is drinking water available for in-patients?	9.1.1	9.1.1			
290	Are there sufficient beds in the in-patient wards to fulfill the recommended requirement of 34 beds?	9.1.2				
291	Are there sufficient beds in the in-patient wards to fulfill the recommended requirement of 20 beds?		9.1.2			
292	Are there sufficient beds in the in-patient wards to fulfill the minimum requirement of 20 beds?	9.1.3				
293	Are there sufficient beds in the in-patient wards to fulfill the minimum requirement of 10 beds?		9.1.3			
294	Are mattresses for the beds available and in good condition?	9.1.4	9.1.4			
295	Does each bed have a mosquito net in good condition?	9.1.5	7.3.3	7.3.3	7.3.3	7.3.3
296	Do the in-patient wards have glass windows in good condition?	9.1.6	9.1.6			
297	Is the privacy of patients ensured in the in-patient wards?	9.1.7	9.1.7			
298	Are the in-patient ward areas free of any broken articles?	9.1.8	9.1.8			
299	Is food provided for in-patients?	9.1.9	9.1.9			

Annex 3: Updating the Health Facility Readiness Assessment Tools MS Excel Data Entry Forms

Scenario 1: Rewording a question

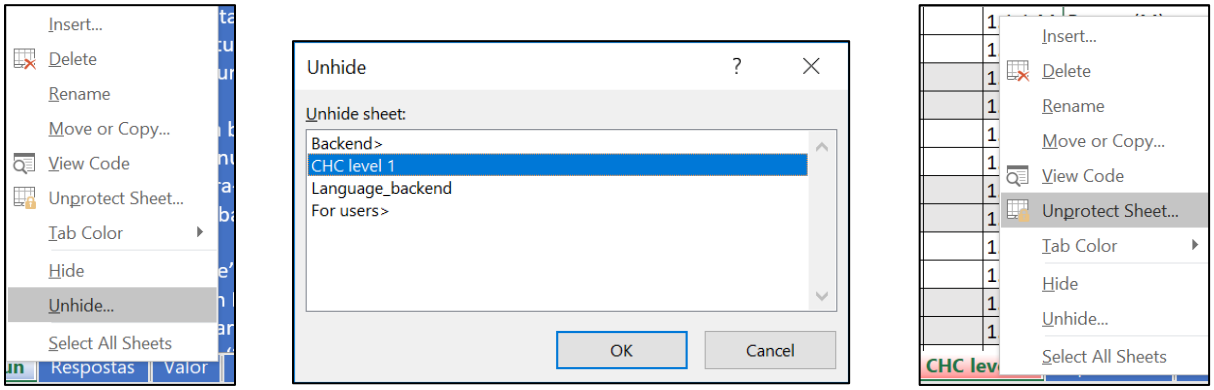
Rewording a question is a simple task that should take no more than five minutes once the alternative wording has been agreed on. It requires a change to the Word-version of the tool and to the Excel-based spreadsheet. Note that this process must be repeated for the tools of each facility level in which the question occurs and needs rewording.

First, the change must be made on the Word-versions of the tool. Users are in principle free to change the text as much as they please, but must keep in mind that significantly lengthening or shortening a question can cause it to take up more or less space in the table format, which can cause other questions to 'relocate'. After a question is reworded, it is therefore important to check that the layout has not changed significantly in the remainder of the tool. Users must ensure they also change the 'version number' on the first sheet to allow others to recognize the updated version.

Lastly, the Excel spreadsheet must be updated to reflect the new wording. The change must be made on a sheet that is normally hidden from end users. To 'unhide' it, users must right-click on the bar on the bottom left showing sheet names and click 'Unhide'. The sheet that must be selected is named after the respective facility level, i.e. for CHC1 'CHC level 1', for HP2 'HP level 2' etc. (see Figure 7).

This sheet is protected to prevent unauthorized users from making (accidental) changes to it. It can be unprotected by right-clicking on the sheet name and selecting 'Unprotect sheet'. The password is 'hitap123' (without quotation marks).

Figure 7: Unhiding, selecting, and unprotecting the sheet (from left to right)



Once the password is entered, the sheet can be edited. Users must navigate to the question they would like to change, and can use the question numbers listed in column D to identify the correct question. After which, users are free to change the wording in columns E (question in English)

and column F (question in Tetun). It is recommended to change the wording in both languages to ensure consistency. There is no need to account for layout issues or length of text.

Once all desired changes have been made, the Excel spreadsheet must be 'restored' to its original version ready for end users. This means that the sheet that was 'unprotected' must be protected again, and as it was 'Unhidden' it must now be hidden again. To protect the sheet, users follow the same approach used to unprotect but now press on 'Protect Sheet'. In the screen that pops up, users must type the password (hitap123) at the top, all other options can be left untouched. Press 'OK' and confirm by typing the password again. Next, the sheet must be hidden. This can be done by right-clicking on the sheet name and selecting 'Hide'.

All changes have been made now and the Excel will reflect the updated wording. The file must be saved, and then redistributed to end users. In order to differentiate it from older versions, it is recommended to use a version number or date identifier in the file name.

Scenario 2: Adding a question

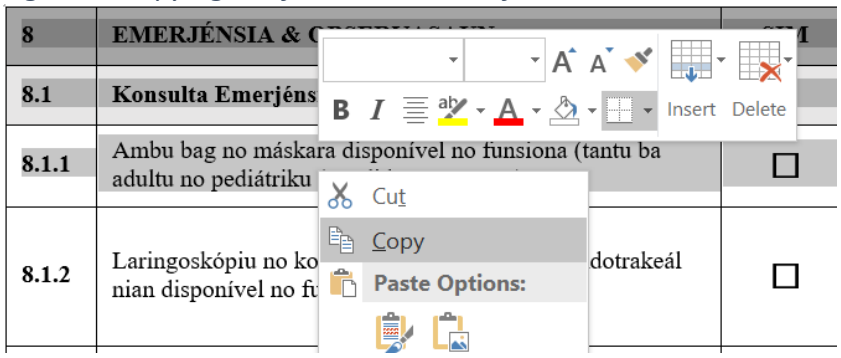
The Excel-based spreadsheet has been designed with space for 50 additional questions for each facility level. These questions will automatically be included in all analyses once they are present. Adding more than 50 questions is a much more complex task that would require expertise in Excel, and is therefore discouraged.

Adding a question requires a change to the Word-version of the tool and to the Excel-based spreadsheet. Note that this process must be repeated for the tools of each facility level in which the question is to be introduced. Additional questions can only be added at the end of the assessment.

First, the change must be made on the Word-versions of the tool. Users must add an 'Additional Questions' section manually at the end of the tool. This can easily be done by copying the first three rows of any section and pasting them at the end of the tool. Afterwards, the text and numbers in the table can be changed to reflect its new position in the tool. Make sure that each new question is assigned a unique question number on its left (for example, 10.1.1) and that the numbers for the subsection and section above match.

Users are free to include any question they want but must ensure that it can be answered using the 'Yes' or 'No' format used in all other questions. Alternatively, numbers can be used as responses (as used for the availability of staff). It is recommended that clear instructions are included to the right of the question to guide assessors.

Figure 8: Copying the first three rows of a section to use as a template



The Word-document can now be saved and distributed to assessors. Users must ensure they also change the 'version number' on the first sheet to allow others to recognize the updated version.

Lastly, the question must be introduced in the Excel spreadsheet. This is done on a sheet that is normally hidden from end users. To 'unhide' it, users must right-click on the bar on the bottom left showing sheet names and click 'Unhide'. The sheet that must be selected is named after the respective facility level, i.e. for CHC1 'CHC level 1', for HP2 'HP level 2' etc. (see Figure 7).

This sheet is protected to prevent unauthorized users from making (accidental) changes to it. It can be unprotected by right-clicking on the sheet name and selecting 'Unprotect sheet'. The password is 'hitap123' (without quotation marks).

Once the password is entered, the sheet can be edited. Users must navigate to the bottom of the sheet, where they will notice a section titled 'Additional Questions (optional)'. Question can be inserted directly below this section, and must follow the same format used in the existing questions shown above. This means that in column 'D', the unique question number must be inserted, and in column 'E' and 'F' the question must be entered in English and Tetun respectively.

A score for the question must now be attached in column 'H', which will decide its impact on facility scores. Users are recommended to compare the proposed points attached to the question with the points attached to existing questions listed above, to ensure that it is weighted appropriately. Finally, users can choose to include the question in 'Section scores' by marking an 'X' where appropriate in columns L through Z, although this is not required.

Figure 9: Example of how a newly introduced question should look

338			8.2.5	Is the privacy of the patient ensured in the observation room?	Privasidade pasiente nian asegura iha sala observasaun ka la'e?		1
339	**9**	**ADDITIONAL QUESTIONS (optional)**			**PERGUNTA ADISIONÁL (opsionál)**		**2**
340			9.1.1	New question	Tetun Pergunta		2

Once all desired changes have been made, the Excel spreadsheet must be 'restored' to its original version ready for end users. This means that the sheet that was 'unprotected' must be protected again, and as it was 'Unhidden' it must now be hidden again. To protect the sheet, users follow

the same approach used to unprotect but now press on ‘Protect Sheet’. In the screen that pops up, users must type the password (hitap123) at the top, all other options can be left untouched. Press ‘OK’ and confirm by typing the password again. Next, the sheet must be hidden. This can be done by right-clicking on the sheet name and selecting ‘Hide’.

All changes have been made now, and the Excel will automatically require a response for the new question, use it for all further calculations, and use it in is Output sheet. The Excel-file must be saved, and then redistributed to end users. In order to differentiate it from older versions, it is recommended to use a version number or date identifier in the file name.

Note that by adding a question, one more piece of data is collected. This means that any new results copied into the database file will be one cell ‘wider’. Therefore, it is important to also add the question number to the first row of the database file, so that any future responses can be recognized correctly.

Scenario 3: Changing the way scores are calculated

Changing the weighting of individual indicators or in which section scores they must be included is a very quick task, as it only requires changes to the Excel-based spreadsheet. Note that this process must be repeated for each facility level in which the scoring must be changed.

Weightings can be changed on a sheet that is normally hidden from end users. To ‘unhide’ it, users must right-click on the bar on the bottom left showing sheet names and click ‘Unhide’. The sheet that must be selected is named after the respective facility level, i.e. for CHC1 ‘CHC level 1’, for HP2 ‘HP level 2’ etc. (see Figure 7).

This sheet is protected to prevent unauthorized users from making (accidental) changes to it. It can be unprotected by right-clicking on the sheet name and selecting ‘Unprotect sheet’. The password is ‘hitap123’ (without quotation marks).

Once the password is entered, the sheet can be edited. Users must navigate to the question they would like to change and can use the question numbers in column ‘D’ to locate it. The weighting of the question is shown in column ‘H’. This can be directly edited to change its impact on facility scores. In order to add or remove the question from certain section scores, users must scroll to the right and either add or remove an ‘X’ in the column that corresponds to that section (columns L through Z).

Once all desired changes have been made, the Excel spreadsheet must be ‘restored’ to its original version ready for end users. This means that the sheet that was ‘unprotected’ must be protected again, and as it was ‘Unhidden’ it must now be hidden again. To protect the sheet, users follow the same approach used to unprotect but now press on ‘Protect Sheet’. In the screen that pops up, users must type the password (hitap123) at the top, all other options can be left untouched. Press ‘OK’ and confirm by typing the password again. Next, the sheet must be hidden. This can be done by right-clicking on the sheet name and selecting ‘Hide’.

All changes have been made now, and the Excel will automatically use the new weighting and section ‘tags’ in the calculation of facility scores. The Excel-file must be saved, and then redistributed to end users. In order to differentiate it from older versions, it is recommended to use a version number or date identifier in the file name.