

# QuanTB User's Guide







# QuanTB User's Guide

Version 5.0.0.0





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## About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

## **Recommended Citation**

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Management Sciences for Health 4301 North Fairfax Drive, Suite 400 Arlington, VA 22203 USA Telephone: 703.524.6575 E-mail: <u>quantb@msh.org</u> Website: <u>www.msh.org</u>

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#### INTRODUCTION

### The Challenge

Ensuring that patients have continuous access to tuberculosis (TB) treatment requires complex projections and calculations by TB program staff. These projections are becoming more challenging as new diagnostic tools rapidly increase the number of individuals diagnosed, and thus the quantities of medicines needed. In addition, as treatment guidelines change, national programs must plan carefully for phasing in and out various regimens and medicines in order to manage the risk of stock outs. Frequent quantification, along with management of stock on hand, are vital to ensuring that appropriate types and quantities of medicines are available to meet the changing needs of programs and that TB programs are alerted of potential problems with TB medicines in a timely manner.

#### A Solution

To promote a systems-strengthening approach to TB medicines management, the USAID-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program developed QuanTB—a downloadable, electronic tool that transforms simple data and assumptions and complicated calculations into a user-friendly dashboard displaying key forecasting and supply planning information. By alerting users to risks of stock outs, shortages or overstocks, QuanTB operates as an early warning mechanism.

QuanTB allows you to determine forecast and procurement requirements of tuberculosis medicines for any period of time. Quantification can be done by:

- using multidrug or single drug regimens
- when using multidrug regimens, enrolled and expected cases by regimen can either be entered as monthly absolute numbers or as percentages of the total monthly numbers
- when using the single drug regimen, users can only enter percentages for each medicine and the total number of cases per month

For cases currently on treatment (as of the inventory date), QuanTB takes into account the month when treatment was started and the duration of regimen, in order to calculate requirements of to finish the full treatment The system also takes into account the medicines currently (as of the inventory date) in stock (stock on hand), and the medicines on order (stock on order) and expiry dates of the stock on hand and the stock on order (if entered for the stock on order) during the quantification period. This tool allows you to project your future procurement and budget needs, including freight and logistics costs.

You may download the QuanTB software from http://www.msh.org/resources/quantb.

We would appreciate your testing of this tool under different scenarios and providing feedback, comments, and suggestions. Please send your comments to <u>quantb@msh.org</u>.

#### **INSTALLING QuanTB**

#### Prerequisites for installation and use of QuanTB

Specific conditions need to be fulfilled for computers to be used for quantification of products using QuanTB and they include:

- > CPU Intel I3 and above (it is possible to use less powerful CPU, however for own risk)
- System type shall be 64-bit operating system
- RAM 4Gb (minimum)
- HDD 10Gb free storage
- To install QuanTB, you must have the latest version of Java and the Java Development Kit (JDK) installed on your computer. Go to www.java.com to download updates if necessary. Your computer will prompt you to install the software if it is necessary.

In addition, basic knowledge/experience of using computers and excel is required to effectively use the tool and carry out a good quantification.

#### Note: QuanTB works with Microsoft office or MAC computers

#### First time Installation on a computer with Microsoft Office (PC)

- 1. Visit the QuanTB website at http://www.msh.org/resources/quantb to request a copy of QuanTB. You will receive an e-mail with a link to download the software. Use the link in the e-mail to download and **save** the QuanTB software to your computer. Alternatively, the installation file link may be sent to you by another person through email.
- 2. Double-click on the QuanTB.zip file to unzip it. You will get a folder called QuanTB Download.
- 3. In the QuanTB Download folder, double-click on the **QuanTBforPC.exe** file to run it. The **Language Selection** screen will appear:

🔠 Language S 💌
Please select your language
English 🗸
OK

4. In this example, English was selected. Click **OK** to continue. The following screen appears:





5. Click **Next** to continue then read the license agreement that appears. You must accept the terms of the agreement to continue the installation, as shown in the screen below.

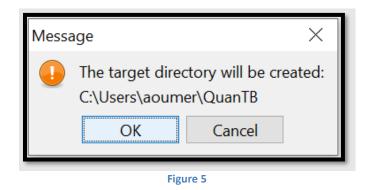
📓 IzPack - Installation of quantb			×
Please read the following license agreement carefully:			
End User License Agreement for QuanTB			^
QuanTB <sup>®</sup> SOFTWARE LICENSE			
READ THE TERMS AND CONDITIONS OF THIS QuanTB® SOFTWARE I	LICENS	E	
AGREEMENT ("EULA") CAREFULLY BEFORE DOWNLOADING, INSTALLING, OR USING THE QuanTB <sup>©</sup> SOFTWARE PROGRAM, THE SOURCE CODE, TOOLS, AND RELATED			
DOCUMENTATION ("PRODUCT"). YOU MAY USE THE PRODUCT ONL CONDITION THAT YOU ACCEPT ALL OF THE TERMS CONTAINED IN			J 🗸
• I accept the terms of this license agreement.	O NOT		
$\bigcirc$ I do not accept the terms of this license agreement.			
(Made with IzPack - http://izpack.org/)			
Previou	JS	Next	Quit

Figure 3

- a) Enter an installation path for the software, as shown on the screen below and then click Next. You can change the directory/path if you wish to. We recommend accepting the default path that the program suggests. The major reasons to use the default directory are:
  a) the default directory makes is easy for anyone to identify where the files are saved for example if the user forgets where the documents are saved
- b) if users save the folder in the desktop, he/she may delete it inadvertently, installing the program in default directory can avoid accidental deletion

IzPack - Installation of quantb	_			×
Select the installation path:				
C:\Users\aoumer\QuanTB			Brow	se
		,		
(Made with IzPack - http://izpack.org/)	Previous	Nex	t (	Quit
Figure 4				

6. The program will confirm the installation directory it will create Click **OK** to continue.



7. Select the packs you want to install. We recommend installing all of them. The greyed options are required, so you cannot unselect them. QuanTB comes with pre-populated lists of medicines and regimens standardized by the Global Drug Facility (GDF) and the World Health Organization (WHO) in the "dictionary" folder. QuanTB also has some "fictitious" quantifications for training/exercise purposes in the "documents" folder. If you have already installed QuanTB on your computer and have customized lists of medicines and regimens or saved quantifications, your information will be overwritten if a new version is installed, and the boxes are checked during the installation.

If this is the first time you are installing QuanTB, we recommend keeping all of the boxes checked. Click **Next** to continue.

Note: If you are reinstalling the software after customizing the medicines, regimens, or quantifications, please read the Upgrading or Reinstalling QuanTB section of this guide to learn how to protect your existing medicines and regimens lists.

IzPack - Installation of quantb	_		×
Select the packs you want to install: Note: Graved packs are required.			184.51 KB 167 KB 30.41 MB 1.4 MB
Description Dictionaries: regimens, medicines			
Total space Required: Available space: (Made with IzPaok - http://izpaok.org/)		1	32.4 MB 107.06 GB
(wave min te duk " http://tepduk.org/)	Previous	Next	Quit
Figure 6			

8. The software will display its installation progress, as shown on the screen below. Click **Next** to continue.

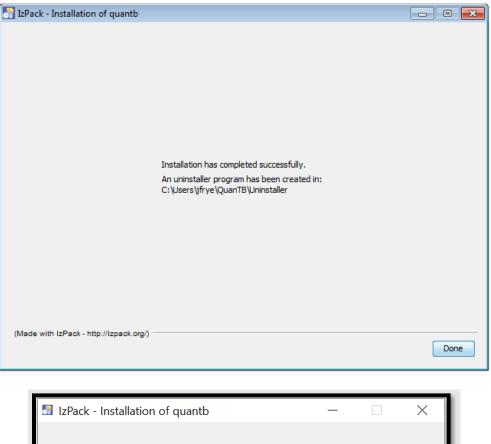
IzPack - Installation of quantb	_		×
Pack installation progress:			
[Finished]			
Overall installation progress:			
6/6			
(Made with IzPaok - http://izpaok.org/)	Previous	Next	Quit
Figure 7			

9. Choose which shortcuts you want the program to create for you, then click **Next**:

IzPack - Installation of quantb			×
<ul> <li>Setup Shortcuts</li> <li>Create shortcuts in the Start-Menu</li> <li>Create additional shortcuts on the desktop</li> <li>Accessibility</li> <li>Accessories</li> <li>Administrative Tools</li> <li>Chrome Apps</li> <li>Maintenance</li> <li>Startup</li> <li>System Tools</li> <li>Windows PowerShell</li> <li>Zoom</li> </ul>	create sh		
(Made with IzPack - http://izpack.org/)	Previous	Next	Quit

Figure 8

10. A screen confirming a successful installation will appear next.



🛅 IzPack - Installation of quantb —	$\times$
(Made with IzPack - http://izpack.org/)	 
	Done

Figure 9

Depending on your version of Windows, you may get a Program Compatibility Assistant message after the installation (shown below). You should click the "This program installed correctly" option.

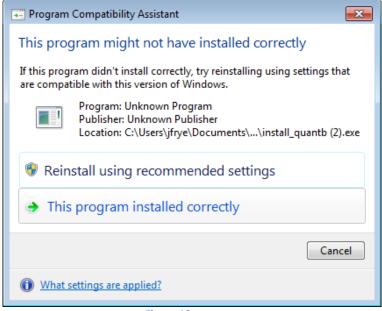


Figure 10

**Note:** As with any software, you should back up your data on a regular basis. If you used the default installation and QuanTB file saving options, the medicines and regimens lists are stored in C:\Users\*yourname*\QuanTB\data. Your quantification files are stored in C:\Users\*yourname*\QuanTB\data.

### First time Installation on a Macintosh

- 1. Visit the QuanTB website at http://www.msh.org/resources/quantb to request a copy of QuanTB. You will receive an e-mail with a link to download the software. Use the link in the e-mail to download and **save** the QuanTB software to your computer. Alternatively, the installation file link may be sent to you by another person through email.
- 2. Double-click on the QuanTB.zip file to unzip it. You will get a folder called QuanTB Download.
- 3. In the QuanTB Download folder, double-click on the **QuanTBforMacintosh.jar** file to run it.

- 4. If you downloaded the installation file from the Website, you may need to bypass the Mac Gatekeeper software to run the install. Do this by holding down the **Control** key and clicking the **QuanTBforMacintosh.jar** file. Then click **Open** on the menu that appears and **Open** on the popup window to begin the installation.
- 5. The Language Selection screen will appear:



6. Select your desired language and click **OK** to continue. The following screen appears:

IzPack - Installation of quantb
Operation       Operation         Description       Construction         Copyright @ 2012 Management Sciences for Health, Inc. All rights reserved. Developed by MSH
(Made with IzPack - http://izpack.org/)



7. Click **Next** to continue then read the license agreement that appears. You must accept the terms of the agreement to continue the installation, as shown in the screen below.

0 0	IzPack – Installation of quantb		
Please read the follow	Please read the following license agreement carefully:		
	End User License Agreement for QuanTB		
QuanTB <sup>©</sup> SOFTWARE LICE	INSE		
AGREEMENT ("EULA THE QuanTB <sup>©</sup> SOFTV DOCUMENTATION (" CONDITION THAT Y DO NOT AGREE TO T INSTALL, OR USE TI	AND CONDITIONS OF THIS QuanTB <sup>©</sup> SOFTWARE LICENSE A") CAREFULLY BEFORE DOWNLOADING, INSTALLING, OR USING WARE PROGRAM, THE SOURCE CODE, TOOLS, AND RELATED "PRODUCT"). YOU MAY USE THE PRODUCT ONLY ON THE YOU ACCEPT ALL OF THE TERMS CONTAINED IN THIS EULA. IF YOU THE TERMS AND CONDITIONS OF THIS EULA, DO NOT DOWNLOAD, HE PRODUCT. BY ACCESSING AND USING ANY PART OF THIS s of this license agreement. the terms of this license agreement. //izpack.org/)		
	Figure 13		

8. Enter an installation path for the software, as shown on the screen below and then click **Next**. You can change the directory/path if you wish to. We recommend accepting the Applications default path that the program suggests.

000	IzPack - Installation of quantb	
Select the installation path:		
/Applications/quantb		Browse
(Made with IzPack - http://izpack.org/)		
	(Previous) (Nex	t Quit
		_

Figure 14

9. The program will confirm the installation directory it will create. Click **OK** to continue.



10. Select the packs you want to install. We recommend installing all of them. The greyed options are required, so you cannot unselect them. QuanTB comes with pre-populated lists of medicines and regimens standardized by the GDF and WHO in the "dictionary" folder). QuanTB also has some "fictitious" quantifications for training/exercise purposes in the "documents" folder.

If this is the first time you are installing QuanTB, you need to keep all of the boxes checked. Click **Next** to continue.

Note: If you are reinstalling the software after customizing the medicines, regimens, or quantifications, please read the Upgrading or Reinstalling QuanTB section of this guide to learn how to protect your existing medicines and regimens lists.

0 0	IzPack - Installation of quantb
Select the packs you Note: Grayed packs a	
<ul> <li>✓ Dictionaries</li> <li>✓ Documents</li> <li>✓ Libraries</li> <li>✓ QuanTB</li> </ul>	30.28 KB 237.52 KB 5.89 MB 778.86 KB
Description Dictionaries: regime	ns, medicines
Total space Required Available space: (Made with IzPack - http:	3.26 GB
	Figure 16

11. The software will display its installation progress, as shown on the screen below. Click **Next** to continue.

00	IzPack – Installation of quantb
Pack installation progress:	
	[Finished]
Overall installation progress:	
	5 / 5
(Made with IzPack - http://izpack.org/)	
	Previous Next Quit
	Figure 17

12. A screen confirming a successful installation will appear next. Click **Done** to complete the installation process.



13. To run the program, go to Applications and double click on the **QuanTB** folder.



		Quar	nTB Q	
FAVORITES All My Files AirDrop Applicati Desktop Documents Oownloads Movies Movies Music Pictures SHARED i7erin julie-dell lerin2 va-jfrye2 DEVICES © Remote NO N ▲	data	docs Uninstaller	lib	QuanTB.command

14. When the folder opens, double click on the **QuanTB.command** file to launch QuanTB.



**Note:** As with any software, you should back up your data on a regular basis. If you used the default installation and QuanTB file saving options, the medicines and regimens lists are stored in C:\Users\yourname\QuanTB\data. Your quantification files are stored in C:\Users\ yourname \QuanTB\docs.

This user's guide is available electronically through the **Help** menu option in the software.

### Upgrading or Reinstalling QuanTB

If you are upgrading or reinstalling QuanTB after modifying the medicines and/or regimens lists, or after adding your own medicines and regimens, you need to take steps to ensure that you do not overwrite your data and lose your work. As a precaution before reinstallation, go to the location where your QuanTB files are saved and copy the "DATA" folder and save it in a different location. If you make a mistake during the reinstallation and overwrite your medicines or regimens lists, you can replace the new data files with your old files to restore your customized lists.

When upgrading or reinstalling QuanTB, you have three options:

- Use the same location as the old version and overwrite existing program files.
- Use the same location as the old version and do not overwrite existing program files.

• Use a different location for the installation and do not affect your original installation at all.

The program files of QuanTB are the medicines and regimens lists, the quantification examples (i.e., the "Fictitia" files), and the software itself.

#### Use the same location as the old version and overwrite existing program files

1. If you already have QuanTB installed on your computer with the same directory and name, and you want to update it with a new version, QuanTB will alert you that the directory already exists and if it should overwrite the old version, Click **YES** to proceed.

Warning!	×
The directory already exists! Are you sure you want to install here and possibly overwrite existing fil           Yes         No	es?
	_



2. If you already have QuanTB installed in the same location and with the same name, and the dictionary and document boxes are checked, the system will warn you that you will overwrite files, the medicines and regimens dictionary and the fictitious files. Click YES to overwrite and proceed. An example for one of the files is shown below. Select NO if you want to keep dictionaries or fictitious files from the old version.

File alrea	ady exists - med_dictionary.xml ×	, .
🕐 т	The following file already exists. Should it be overwritten?C:\Users\aoumer\QuanTB\data\med_dictionary.xn	nl
	Yes No	
_		

Figure	21
--------	----

**Note:** If you have created and saved quantification files with your own names, these are not overwritten, even if you reinstall in the same location as the old version and allow QuanTB to overwrite all existing files. QuanTB only overwrites the files that are distributed as part of the standard installation, i.e., the quantification examples, the medicines and regimens lists, and, of course, the software itself.

#### Use the same location as the old version and do not overwrite existing program files

You may need to keep the medicines and regimen lists (dictionaries) that you had from the previous version of QuanTB, for example, if you have customized the dictionaries for your own context, when you are running the installation program, uncheck the dictionaries box (Figure 6 or 16) to preserve the dictionaries. Your medicines list and regimens list will not be changed by reinstalling the software.

If you leave the documents box checked, QuanTB will ask you whether you want to overwrite the quantification examples (i.e., the "Fictitia" files) that were included in your original version of the software. If you have not modified these examples, it is fine to overwrite them. Any quantification files that you have created with your own names are not affected by the reinstallation.

**Note:** When upgrading from QuanTB version 1.0, you must update your existing medicines and regimens lists if you do not overwrite them with the files provided with the new software. The updates you need to do are:

- For the medicines list, go to each medicine and select the dosage form and category from the new dropdown list.
- For the regimens list, go to each regimen and click on the Composition link to auto-generate the composition.

#### Use a different location for the installation

If you change the default installation path (shown in Figure 4) to a different location than you used previously, you are creating a new copy of QuanTB on your computer. You can have multiple copies of QuanTB on your computer in different locations, for example if you want to do quantifications for different countries. In this case, you must leave the document and dictionary boxes checked because the program requires the folders and files to run.

**Note:** QuanTB must find a data folder with files named med\_dictionary.xml and reg\_dictionary.xml in it (e.g., C:\Users\*yourname*\QuanTB\data) to run with full functionality. If that folder or files are missing, you can open and run quantifications and change the numbers of cases in them, but you can't access the regimens or medicines through the File menu. You can delete medicines and regimens from quantifications, but you can't add or edit them.

### Version Compatibility

If you create a treatment regimen with three or more phases in QuanTB version 2.0.0 (or later), then try to open that regimen dictionary file (or a quantification using it) in a previous version of QuanTB, it will NOT work properly because information will be lost. This is because earlier versions of the software only recognize treatment regimens with two phases or fewer. For this reason, we recommend that all current users upgrade to version 4.0 (or later), which recognizes all treatment regimens and quantifications, regardless of which version was used to create them.

In addition, QuanTB files that are created with a later version of QuanTB software may not be compatible with earlier versions of QuanTB. For example, if you have QuanTB version 4.2 on your computer and if someone that has the newer version of QuanTB (5) creates a QuanTB file and sends it to you, you may not be able to open or edit the QuanTB file. For this and other reasons related to continuous improvement of the software, it is recommended that all users of QuanTB update the software whenever a new version is released.

Note that QuanTB files that are created with earlier versions of QuanTB software, such as version 4.2, can be opened, viewed and edited using a later version such as 5.

If you want to remove the QuanTB software from your computer completely, you can do it in two ways:

- 1- Deleting the QuanTB installed folder from the C drive
  - a. Locate the QuanTB folder you have installed to your computer. If you have used the default, the directory is C:/Users/YOUR NAME/QuanTB
  - b. Select the folder "QuanTB" and delete it just like you delete any folder or file from your computer

**Note:** This will remove all of you QuanTB files created by you and saved in the QuanTB/docs folder. If you want to keep those, you need to make a copy and save them somewhere else before you start to uninstall QuanTB.

- 2- Using the uninstaller
  - a. Locate the QuanTB folder you have installed to your computer. If you have used the default, the directory is C/Users/ "YOUR NAME"/QuanTB
  - b. In the QuanTB folder, click and open the folder called "Uninstaller"

Name	Date modified	Туре	Size
📙 data	03/12/2021 6:56 PM	File folder	
📜 docs	03/12/2021 6:55 PM	File folder	
📙 lib	03/12/2021 6:56 PM	File folder	
📙 Uninstaller	03/12/2021 6:56 PM	File folder	
.installationinformation	03/12/2021 6:56 PM	INSTALLATIONINFOR	5 KB
🔇 logo	09/19/2013 10:55 PM	lcon	121 KB
(U) quantb-4.2.0.6	03/27/2020 12:24 PM	Application	1,438 KB

Figure 22

# c. Open the "Uninstaller" folder, and double click on the JAVA file called "Uninstaller", that is the only file in the folder

Name	Date modified	Туре	Size
실 uninstaller	03/12/2021 6:56 PM	Executable Jar File	182 KB

Figure 23

d. Check the box that asks to force deletion of the QuanTB folder and click on uninstall

📓 IzPack - Uninst	_		×			
Output: This will remove the installed application!						
Force the deletion of C:\Users\aoumer\QuanTB						
🗟 Uninstall			🙁 Quit			
Fi	gure 24					

3- Close the window by clicking on the "X"/close window button, once the uninstallation is finished.

📓 IzPack	_		×	
🔒 This will remo	ve the i	nstalled ap	plication!	
✓ Force the deletion of C:\QuanTB				
[Finished]				
🖀 Uninstall 🚳 Quit				

Figure 25

**Note:** This will remove all of your QuanTB files created by you and saved in the QuanTB/docs folder. If you want to keep those, you need to make a copy and save them somewhere else before you start to uninstall QuanTB.

#### CUSTOMIZING QuanTB

Double-click the QuanTB icon or filename on your computer to start the software. Before you start using QuanTB, you need to customize the tool for specific country settings, e.g., adding new medicines or regimens to the system or editing the existing ones to customize them to your context.

The opening screen summarizes the steps you need to take. You can click the option at the bottom of the screen to display or hide this text.

🕢 QuanTB - Tuberculosis Medicines Quantification Tool	_		×
File Medicines & Regimens Import & Export Divide & Merge Help		Systems for Impro to Pharmaceutical	Ved Access s and Services
Before using QuanTB, follow the steps below to adapt it for your location.			
1. Go to the Medicines & Regimens menu and select Edit medicines.			
<ul> <li>QuanTB is installed with all of the medicines from the Global Drug Facility (GDF) catalogue.</li> <li>If this medicines list is not compatible with your location, update it. Refer to the QuanTB User's Guide for help.</li> </ul>			
2. Go to the Medicines & Regimens menu and select Edit treatment regimens.			
<ul> <li>QuanTB contains treatment regimen examples for training purposes only.</li> <li>Refer to the QuanTB User's Guide for information on how to enter your treatment regimens.</li> </ul>			
3. After updating the Medicines and Treatment Regimens, you are ready to start using QuanTB.			
<ul> <li>To create a new quantification (forecasting), go to the File menu and select New.</li> <li>To open a saved quantification (forecasting), go to the File menu and select Open.</li> </ul>			-
As you use QuanTB, save your work on a regular basis. QuanTB does not save data automatically.			
<u>Go to QuanTB User's Guide</u>			
Click here to hide or display the quick help message			
Copyright © 2012 Management Sciences for Health, Inc. All rights reserved. Develop	ed by MSH.		

Figure 26

#### Modifying the medicines list

1. Go to "Medicines & Regimens" menu option and select the Edit medicines option.

QuanTB - Tuberculosis Medicines Quantification Tool	-		×
File Medicines & Regimens Import & Export Oxide & Merge Help			
Catheadment regiments Add hum gupethod ton	USAID	SIAP Prevente for hereit	Si
Before using QuanTB, follow the steps below to adapt it for your location.			
1. Go to the Medicines & Regimens menu and select Edit medicines.			
OuanTB is instated with all of the medicines from the Clobal Drug Facility (CDF) catalogue.     If this medicines list is not compatible with your location, update it. Refer to the QuanTB User's Guide for help.			- 3
2. Go to the Medicines & Regimens menu and select Edit treatment regimens.			
CuranTIB contains theatment regimen examples for training purposes only.     Refer to the CuranTIB Upen's Guide for intornation on how to enter your treatment regimens.			
3. After updating the Medicines and Treatment Regimens, you are ready to start using QuanTB.			
<ul> <li>To create a new quantification (forecasting), go to the Fee menu and select New.</li> <li>To open a saved quantification (forecasting), go to the Fie menu and select Open.</li> </ul>			1
As you use QuanTB, save your work on a regular basis. QuanTB does not save data automatically.			12
FGoto QuanTB User's Guide			
			- 3
			2
Click here to hide or display the quick help message			
Copyright © 2012 Management Sciences for Health, Inc. All rights reserved. Developed by NSH			



2. QuanTB is installed with all of the medicines from the Global Drug Facility (GDF) catalogue; however, users need to customize the medicines to their context as needed or add new ones. To add medicines to this list, click on the New button. In the New medicine dialog box that appears, enter the international nonproprietary name (INN), abbreviated name, strength, and select the dosage form and type from the dropdowns. If you select "Other" you can enter information in the field below the dosage form. The type could be "First-Line," "Second-Line (group A)," etc. and is selected from the dropdown window. Click on the Save button to confirm adding your new medicine or click on Cancel to undo it.

	New Edit	Delete Type of	f medicine: [	N	Q		
Abbreviated name	International Non (IN		Strength	Dosage form	Type of medicine		
Am(500/2)	Amikacin		500mg/2ml	Solution for injection	Second-Line Injectable (Group C)		
Amx/Clv(250/125)	Amoxicillin + Clavula	pic acid	250ma+125ma	Film costed tablet(s)	Second-Line		
Amx/Clv(500/125)	Amoxicillin + Clavula	New medicine		$\times$	Second-Line		
Amx/Clv(875/125)	Amoxicillin + Clavula	International Nonproprietary Name (INN)			Second-Line		
Bdq(100)	Bedaquiline				International Nonproprietary Name (INN) Second		Second-Line (Group A)
Cfz(100)	Clofazimine				Second-Line (Group B)		
Cm(1000)	Capreomycin				Abbreviated name Second-Line Ir		Second-Line Injectable
Cs(125)	Cycloserine	Abbreviated name			Second-Line (Group B)		
Cs(250)	Cycloserine	Strength			Second-Line (Group B)		
DIm(50)	Delamanid				Second-Line (Group C)		
E(100)	Ethambutol	Dosage form	Not Applicable	~	First-Line/Second-Line (Group C)		
E(100)	Ethambutol	Dosage Ionn	liveryppicable		First-Line/Second-Line (Group C)		
E(400)	Ethambutol	1			First-Line/Second-Line (Group C)		
Eto(125)	Ethionamide	Turne		~	Pediatric First-Line/Second-Line (Group		
		Туре	-	· · · · · ·	Close		

#### Figure 28

**Note:** If you try to create a new medicine with (or edit an existing medicine to have) the exact same name, abbreviated name, strength, and dosage form of another existing medicine, QuanTB will not permit it. Any difference in any of these fields, including capitalization, dots, or spaces will be understood by QuanTB as a different medicine and you will be permitted to save the item. Be careful not to create duplicates

3. To change/edit or delete medicines on the list, click on the medicine you want to edit or delete and the **Edit** and **Delete** buttons will be enabled. Click on the buttons and follow instructions in the respective dialog boxes that appear. If you modify a medicine that has been used in a regimen, you must delete it from the regimen and re-add it so that the updated information appears in the regimen.

#### Modifying the treatment regimens list

1. Go to "Medicines & Regimens" menu option and select the Edit Treatment regimens option.



#### Figure 29

2. The tool already contains treatment regimens based on the latest WHO recommendations; however, users need to customize the regimens to their context as needed or add new ones. To create a regimen, select Multidrug or Single-drug in the dropdown window, and then click on the **New** button.

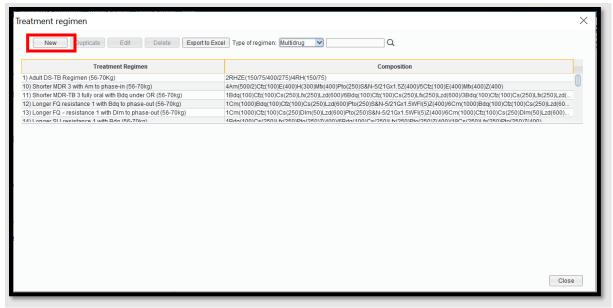


Figure 30

**Note:** When creating or selecting regimens, please remember that in QuanTB, quantification can be done either by regimens, or by percent of use of each medicine. Thus, two types of regimens can be created depending on how you want to quantify: multi-drug regimens for quantification by regimens, or single-drug regimens for quantification by percent of use of each medicine. The steps below describe multidrug regimens first, then single-drug regimens. The term "single-drug regimen" is used for convenience, to distinguish it from multidrug regimens.

3. In the **New Treatment Regimen** dialog box that appears, enter information in the Name field. The Composition field will be automatically completed by the software, based on the medicines you enter, later. You may modify it after the regimen is created, if you wish.

**NOTE:** If you want to number your treatment regimens, you should use a leading 0 with the numbers 1 through 9 (e.g., 01, 02, 03), so that they will appear in the correct order. If you don't use a leading 0 and you have more than nine regimens, the numbers 10 and higher will appear in the wrong order.

You may add up to 10 phases for each regimen and have a duration of weeks or months for each phase.

While you are on the Phase 1 window that appears when you create a new treatment regimen, click on the **Add Medicine** button. In the list of medicines that appears, select the medicines you want to add to the regimen by clicking the checkbox(es), and click on the **Save** button to

confirm or **Cancel** to undo it. Use the dropdown window to set the **Duration** by choosing the duration of the phase in weeks or months.

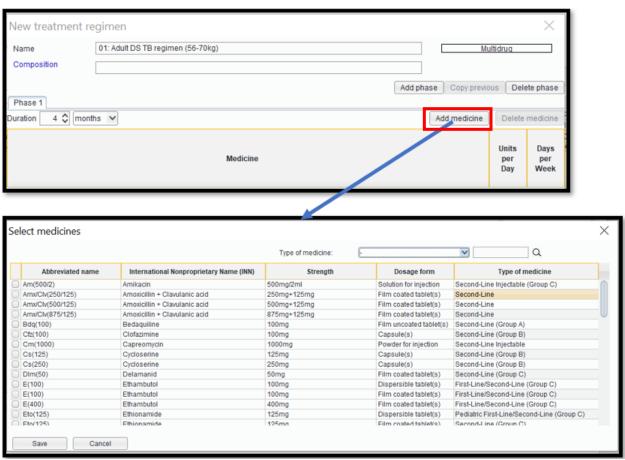
For each medicine in the phase, click in the appropriate column to enter the **Units per Day** and **Days per Week**.

New treatment regimen		×
Name	Multidrug	
Composition		-
	Add phase Copy previous Del	ete phase
Phase 1 Duration 1 🗘 months 💌	Add medicine Delete	medicine
Medicine	Units per Day	Days per Week
Save		Cancel

#### Figure 31

If you have more than one phase for the regimen you are adding, click the **Add phase** button. Repeat the process described above by clicking on the **Add Medicine** button in the Phase 2 window. Another option is to copy the previous phase by clicking on a phase, then clicking the **Copy previous** button. When you click this button, the system copies medicines and dosage information from the immediate previous phase of the one that is selected and replaces all existing information in the selected phase. For example, if there are 3 phases and the second is selected (i.e., opened), the system will copy data from the first phase. This resource can be useful when the same medicines have been used in more than one phase.

**Note:** Because there is an average of 4.3 weeks per month, the quantities required for a regimen defined in weeks will differ from a regimen defined in months. The difference increases with the length of the regimen and can be surprising, if you are assuming that 4 weeks equals one month. Four weeks does not equal one month, because four weeks is 28 days and one month is 30 or 31 days.





4. After adding medicines in the relevant number of phases and entering information on the **Phase Duration (weeks or months)**, **Units per Day**, and **Days per Week** fields, click on the **Save** button to confirm or **Cancel** to undo it. Only whole numbers can be entered for these fields. The software will fill out the **Composition** field for you, automatically, based on the information you enter.

The first number in the Composition field displays the number of months of the first phase of the regimen. After each phase of the regimen (e.g., when changing to the continuation phase), the software will insert a "/" to divide the description. The first number after the "/" displays the number of months for the next phase. The abbreviated names of the medicines (with their strength in parentheses) follow the numbers of months, for each phase. When phases have durations in weeks, the weeks are converted to months in the Composition field.

**Note:** In keeping with international standards and for accurate calculations, all medicines in a phase have the same duration, i.e., durations of treatment are defined for each phase and all medicines in each phase will have the same duration.

New treatment re	gimen				×
Name	01) Adult DS-TB Regimen (56-70Kg)		Mu	ltidrug	
Composition	2RHZE(150/75/400/275)/4RH(150/75)				-
		Add phase	Copy previo	us Dele	te phase
Phase 1 Phase 2 Duration 4 🗘 month	s V	Ad	d medicine	Delete	medicine
	-				
	Medicine			Units per Day	Days per Week
2-FDC RH (150/75) 150r	ng+75mg Film coated tablet(s)			4	7  💠
Save					Cancel

Figure 33

5. To modify/edit an existing treatment regimen, select the regimen you want to change and click on the **Edit** button. In the Edit treatment regimen screen that appears (below), you can edit name of the regimen, phase numbers and durations, and dosage of each medicine. You cannot edit medicines, if you want to change medicines, you need to delete the one you want to replace with a new one and add the correct one from the list.

Edit treatment re	gimen				×
Name	01) Adult DS-TB Regimen (56-70Kg)		Mu	ıltidrug	
Composition	2RHZE(150/75/400/275)/4RH(150/75)				
		Add pha	se Copy previo	us Dele	ete phase
Phase 1 Phase 2 Duration 4 🗘 mont	hs 🗸		Add medicine	Delete	medicine
	Medicine			Units per Day	Days per Week
2-FDC RH (150/75) 150	mg+75mg Film coated tablet(s)			4	7
Save					Cancel

Figure 34

6. To delete a medicine, click on it and then click on the **Delete Medicine** button. In the confirmation dialog box that appears, click on the **Yes** button to confirm or **No** to undo it. If necessary, repeat the process for other medicines you want to delete in all phases. When you delete a medicine, it is not only the medicine name that is deleted, information on units per day and number of treatment days per week are also deleted along with it.

Edit treatment regimen X						
Name Composition	01) Adult DS-TB Regimen (56- 2RHZE(150/75/400/275)/4RH	ltidrug us Delete phase				
Phase 1     Phase 2       Duration     2      month	hs 🗸		Add medicine	Delete medicine		
	0/275) 150mg+75mg+400mg+;	Delete X Confirm delete?	4	Units Days per per Day Week		
Save				Cancel		

Figure 35

- After all modifications are made, click on the word Composition to update the description automatically. Then click the Save button to confirm or on the Cancel button to undo them. Be careful not to create duplicate regimens. QuanTB follows the rules below:
  - If you try to create a new treatment regimen with the exact same name, medicines, units per day, duration, and days per week of an existing regimen, QuanTB will not permit it.
  - If you create a new treatment regimen with the same name but other different information (medicines, units per day, duration, and days per week), QuanTB displays a warning message, but will allow the creation if you click the yes button.
  - If you create a new treatment regimen with a different name but the exact same other information (medicines, units per day, duration, and days per week), QuanTB displays a warning message, but will allow the creation if you click the yes button.
  - If you edit a treatment regimen to have exactly the same name, medicines, units per day, duration, and days per week of another existing regimen, QuanTB displays a warning and will not save the information.

- If you edit a treatment regimen, keeping the name, but changing information for the medicines, units per day, duration, and days per week to match an existing regimen, QuanTB will display a warning message, but will allow the regimen creation if you click the yes button.
- If you edit a treatment regimen, changing the name, but keeping information for the medicines, units per day, duration, and days per week to match an existing regimen, QuanTB will display a warning message, but will allow the regimen creation if you click the yes button.
- 8. To delete recorded treatment regimens, select the regimen you want to remove and then click on the **Delete** button. In the confirmation dialog box that appears, click on the **Yes** button to confirm or **No** to undo it. If necessary, repeat the process for other regimens you want to delete.

Treatment regimen           New         Duplicate         Edit         Delete         Export to Exc	Type of regimen: Multidrug		×
Treatment Regimen	Composition		
01) Adult DS-TB Regimen (56-70kg)           02) Pediatic DS-TB Regimen (12-15kg)           03) Adult Hr-TB 1: 6HRZE (56-70kg)           04) Adult Hr-TB 2: 6HRZE (56-70kg)           10) Shorter MDR 3 with Am to phase-in (56-70kg)           11) Shorter MDR-TB 3 July real with Edm under OP (56-70kg)           Phase 1           Phase 2           Duration           2 ♦ months	2RH2E(15075/400)275)/4RH(15075)           2E(100)RH2(75/50/150)/4RH(15075)           6RH2E(15075/400)275)/0           6LH2(250)RH2E(15075/400)275)/0           4Am(500/2)C/2L(100)E(400)H6(250)58N-5/21Gx1.52(400)/5C/2(100)E(400)Mfb(400)2(400)           18dv(100)C/400)C/410)C/400)C/400)C/400)C/400)C/400)C/400)C/400)C/400)C/400)C/400)C/400)C	Units Day	Days per Week
4-FDC RHZE (150/75/400/275) 150mg+75mg+400mg+275mg Film coate	d tablet(s)	4	Close



9. When creating new multidrug or single-drug regimens, you may duplicate an existing regimen and edit it. The regimen you want to duplicate must be selected first, then click the **Duplicate** button to copy it. The regimen will appear in the list of regimens with "- Copy" after the name. Click on it and modify or edit it as described above.

Treatment regimen			×					
New Duplicate Edit Delete Export to Exce	al Type of regimen: Multidrug V							
Treatment Regimen	Composition							
01) Adult DS-TB Regimen (56-70Kg)	2RHZE(150/75/400/275)/4RH(150/75)							
01) Adult DS-TB Regimen (56-70Kg) - Copy	2RHZE(150/75/400/275)/4RH(150/75)							
02) Pediatric DS-TB Regimen (12-15kg)	2E(100)RHZ(75/50/150)/4RH(75/50)							
03) Adult Hr-TB 1: 6HRZE (56-70Kg)	6RHZE(150/75/400/275)/0							
04) Adult Hr-TB 2: 6HRZE+Lfx (56-70Kg)	6Lfx(250)RHZE(150/75/400/275)/0							
10) Shorter MDR 3 with Am to phase-in (56-70kg)	Aam/500/2)Cfz(100)E(A00)H/300)Mfy(A00)Pto/250)S&NL5/21Cv1.57(A00)/5Cfz(100)E(A00)Mfy(A00)7(A00)							
Phase 1 Phase 2								
Duration 2 🗘 months 🗸								
	Medicine Units Days per per Day Week							
4-FDC RHZE (150/75/400/275) 150mg+75mg+400mg+275mg Film coated	i tablet(s)	4	7					
			Close					

**Note:** You can generate the details of all the regimens in your QuanTB system by clicking on **Export to Excel** button in the treatment regimen window (see figure 41 above) in order to review all the regimens in your QuanTB regimens dictionary and identify any issues that may need to be changed.

10. If your quantification is based on the percentage of use of each single TB medicine, you must create single-medicine regimens. At the **Treatment Regimen** screen, select **Single Drug** in the dropdown window, and then click **New**.

Treatment regimen		$\times$
New Duplicate Edit Delete Export to Exce	I Type of regimen: Single drug 💟 Q	
Treatment Regimen	Composition	_
Amikacin 8 months	8Am(500/2)	
Capreomycin 8 months	8Cm(1000)	
	22Cs(250)	
	22Eto(250)	
	8Km(1000)	
Levaflavaria 22 monthe	221 fr/2501	
	Close	e

11. Enter the Name of the treatment regimen, the generic name of the medicines to be used for the regimen and duration of treatment in months or weeks, and then click on Set Medicine. Select a medicine by clicking on it on the Select medicines screen that appears. Click Save to confirm your choice or Cancel to discard it.

New treatment r	egimen		$\times$
Name	Ethambutol 9 months Sing	le drug	
Composition			
Phase 1	Add phas	se Dele	te phase
Dur: tion	ths 🗸	Set N	ledicine
		Units	Days
	Medicine	per Day	per Week

		Type of medicine:	[	<b>v</b> Q
Abbreviated name	International Nonproprietary Name (INN)	Strength	Dosage form	Type of medicine
Am(500/2)	Amikacin	500mg/2ml	Solution for injection	Second-Line Injectable (Group C)
Amx/Clv(250/125)	Amoxicillin + Clavulanic acid	250mg+125mg	Film coated tablet(s)	Second-Line
Amx/Clv(500/125)	Amoxicillin + Clavulanic acid	500mg+125mg	Film coated tablet(s)	Second-Line
Amx/Clv(875/125)	Amoxicillin + Clavulanic acid	875mg+125mg	Film coated tablet(s)	Second-Line
Bdq(100)	Bedaquiline	100mg	Film uncoated tablet(s)	Second-Line (Group A)
Cfz(100)	Clofazimine	100mg	Capsule(s)	Second-Line (Group B)
Cm(1000)	Capreomycin	1000mg	Powder for injection	Second-Line Injectable
Cs(125)	Cycloserine	125mg	Capsule(s)	Second-Line (Group B)
Cs(250)	Cycloserine	250mg	Capsule(s)	Second-Line (Group B)
DIm(50)	Delamanid	50mg	Film coated tablet(s)	Second-Line (Group C)
E(100)	Ethambutol	100mg	Dispersible tablet(s)	First-Line/Second-Line (Group C)
E(100)	Ethambutol	100mg	Film coated tablet(s)	First-Line/Second-Line (Group C)
Eto(125)	Ethionamide	125mg	Dispersible tablet(s)	Pediatric First-Line/Second-Line (Group
Eto(125)	Ethionamide	125ma	Film coated tablet(s)	Second-Line (Group C)

Figure 43

12. On the **New treatment regimen** screen, enter the **Duration of treatment for phases (in weeks or months)**, **Units per Day** and **Days per Week for** that medicine. The system will not allow you to enter more than one medicine. Click on composition to see the composition of the regimen, then click on the **Save** button to confirm or on the **Cancel** button to undo it.

**Note**: If you would like to change the medicine you have already added to the single-drug regimen, simply click on the Set Medicine button again and select the correct medicine; the medicine that you would like to replace will automatically disappear and be replaced by the new one.

New treatment re	gimen		$\times$
Name	Ethambutol 9 months Since	gle drug	
Composition	9E(400)		
	Add pha	se Dele	te phase
Phase 1 Duration 9 🗘 mont	15 🗸	Set M	ledicine
	Medicine	Units per Day	Days per Week
Ethambutol 400mg Film	coated tablet(s)	6	7  💠
Save			Cancel
Save			Cancer

**Note**: The list of medicines is stored in the med\_dictionary.xml file and the list of regimens is stored in the reg\_dictionary.xml file, both located in the QuanTB data folder. You can only have one version of each of these files in this folder. If you need to have two different lists of medicines (or regimens), e.g., because you are working with two countries, you must install two copies of QuanTB on your computer in different folders.

#### **Changing languages**

After QuanTB is installed, you can switch from one system language to another by clicking the flag icons at the top of the screen. If you hover the mouse over the flags, you can see the name of the language that each of them represent. When changing the language of the tool, QuanTB checks all open quantifications before making the change. If any quantification is not executed, the system will prompt you to save it. If any quantification was executed with an error or warning message (e.g., for cases or percentage with zero or missing information on parameters tab) QuanTB will display these messages again before changing the language.

QuanTB - Tuberculosis Medicines Quantification Tool		_	
File Medicines & Regimens Import & Export Divide & Merge Help	QuanTB		SIAPS Systems for Improved Access to Pharmaceuticals and Services

Figure 45

If you created your medicines and regimens in one language, when you change to another language, everything that is free text (i.e., not in a dropdown window, for example comments) will remain in the language in which it was created. You will have to go to each field and re-enter the free text information in the new language, if necessary. Please note that the medicines list and the sample regimens that come with QuanTB when installed are in English. You may translate these to another language if necessary.

### **STARTING A NEW QUANTIFICATION**

As you use QuanTB, please save your work on a regular basis.

# **QuanTB does not save data automatically.**

### Adding a new quantification

Go to the **File** menu and select the menu option for **New** or click on the **New** icon in the left upper corner. Enter the variables/parameters in the fields and check/select the regimens you want to quantify for from the list. All fields must be filled out. See the explanation below about the fields in the **New quantification** dialog box.

New quanti	fication							$\times$
Name of Countr	ry/Region/Facility:			XXXXXXXXX				]
Name of the per	rson performing the	quantification:		YYYYYY				]
Inventory date:	Mar	31, 2021 🔲						
Lead time:	6	(months)						
End date of qua	ntification: Dec	31, 2022 🔯	20 months, 30	days				
Minimum month	hs of stock:	1 🗘 (month)						
Maximum mont	hs of stock:	3 🔷 (months)						-
Regimen type:		Multidrug	Y	•				
Enrolled Cases	8:	By number	~	Expected C	ases:	By number	~	
Select regimen	s				Se	lect all	Deselect all	
	Treatment	Regimen		Co	omposit	ion		_
	01) Adult DS-TB Reg	imen (56-70Kg)	2RHZE(150/7	5/400/275)/4	4RH(150	)/75)		
	01) Adult DS-TB Reg	imen (56-70Kg)	2RHZE(150/7	5/400/275)/4	4RH(150	)/75)		_
	02) Pediatric DS-TB	Regimen (12-1	2E(100)RHZ(	75/50/150)/4	RH(75/	50)		
	03) Adult Hr-TB 1: 6H	RZE (56-70Kg)	6RHZE(150/7	5/400/275)/0	)			
	04) Adult Hr-TB 2: 6F	RZE+Lfx (56-7	6Lfx(250)RH2	E(150/75/40	0/275)/0	)		
	10) Shorter MDR 3 w	ith Am to phase	4Am(500/2)C	fz(100)E(400	))H(300)	Mfx(400)Pto(2	50)S&N-5/2	
	11) Shorter MDR-TB	3 fully oral with	1Bdq(100)Cf2	(100)Cs(250	0)Lfx(25	0)Lzd(600)/6B	dq(100)Cfz(	
Save	Cancel							

Figure 46

Name of Country/Region/Facility: Defines the context to which the quantification refers

**Name of the person performing the quantification:** Defines the individual who is entering data and generating the results of the quantification. In practice, you may indicate few names

here who have been involved in the development and review of the quantification. A contact number or email address is also helpful for future reference and clarifications.

**Inventory date**: The current day as set on your computer is automatically entered. You may move the **Inventory date** back to the past if needed (e.g. if your medicines stock information is dated), but you cannot move it forward. The inventory date should be thedate you counted the stock information you are entering, so an inventory date in the future will not have correct inventory information. The quantification begins one day after the **Inventory date**. **Lead time:** Enter the number of months normally necessary for your orders to arrive. The figure entered should include all of the time that starts with planning for quantification and ends when the medicines are available on the shelf. It is not simply the suppliers' lead time. The dates for ordering and receiving stocks of medicines are determined based on the lead time. QuanTB will allow you to enter 0 for the lead time, but we strongly recommend that you don't because it is not realistic.

**Note**: If the remaining period of time to reach the minimum months of stock is shorter than the set lead time, QuanTB recommends emergency/accelerated orders.

**End date of quantification**: Defines last day of the period for which the quantification is made. This is a future period and the start date must be later than the inventory date plus the lead time. When you enter a date, the quantification period will automatically appear next to the end date.

**Minimum months of stock and Maximum months of stock:** Enter the minimum and maximum number of months of stock that you want to keep on hand. They are used to set the range of months on the dashboard. QuanTB does not allow you to make the minimum months of stock 0, it has to be at least 1 month, and the maximum stock level should be greater than the minimum stock level in months. The value you enter for the minimum stock level in months affects the quantity to order. QuanTB calculates and recommends quantities of each medicine to be received just before the stock level of the medicines goes below the minimum stock level, in so doing QuanTB helps to maintain at least the minimum stock levels at any time during the quantification period.

**Regimen type:** Select multidrug or single-drug in the dropdown window.

**Enrolled cases:** Use the dropdown window to select whether you want to enter the number of enrolled cases by number or by percentage.

**Expected cases:** Use the dropdown window to select whether you want to enter the number of expected cases by number or by percentage.

**Select Regimens**: All treatment regimens previously defined in the system are displayed here. Check the boxes for regimens you want to quantify for.

**Note:** QuanTB doesn't allow performing quantification for multidrug regimens and single drugs in the same quantification. You can either select full multidrug regimens for quantification, or select single-drug regimens. In the **New quantification** dialog box you may check only multidrug regimens or single-drug regimens in the **Select Regimens** boxes and create two separate forecasts to accommodate these needs. You cannot simultaneously use both methods.

For the greatest precision, and whenever possible, use multidrug regimens and numbers of cases. The next most precise option is to use multidrug regimens and percentages. Using single-drug regimens will produce less precise quantifications.

After filling in the fields, click on the **Save** button to confirm your choices. The system creates a **New quantification** tab with the **Parameters** tab inside. If you **Click** on the **Cancel** button, you will close the dialog box and all entered information will be lost.

It is important to understand that the calculations in QuanTB assume 100% treatment adherence, that is, all patients receive all doses of all medicines and no one is lost to follow-up or no treatment interruption. If you expect to have attrition in your program, you can use the **Adjust medicines quantity for attrition** button to reduce the quantity initially calculated for each medicine related to enrolled and expected cases. This adjustment is reflected in the quantity needed (summary, medicine, and medicine detailed reports), and also appears in the dashboard. In the example below, the medicine quantities have been adjusted for a 10% reduction in enrolled cases and a 5% reduction in expected cases.

Adjust medicines quantities $ imes$									
Medicine	Adjust for enrolled cases (%)	Adjust for expected cases (%)							
Bedaquiline 100mg Film uncoated ta	90	95							
Clofazimine 100mg Capsule(s)	90	95							
Cycloserine 250mg Capsule(s)	90	95							
Ethambutol 400mg Film coated tablet	90	95							
Ethionamide 250mg Film coated tabl	90	95							
Isoniazid 300mg Film uncoated tablet	90	95							
Levofloxacin 250mg Film coated tabl	90	95							
Linezolid 600mg Film coated tablet(s)	90	95							
Pyrazinamide 400mg Film uncoated t	90	95							
Save		Cancel							

Figure 47

If you make changes in the Parameters, **save** them, and then click on the **Execute Quantification** button to make them effective and see updated results. **QuanTB does not save data automatically.** 

## **Case information**

Previously entered variables, described in the section above, are displayed in the top part of the Parameters tab of the **New quantification** and can be changed as needed. The **Enrolled Cases**, **Expected Cases** and **Stock of Medicines** tabs are also displayed in the lower part of the Parameters tab and they need to be completed as described below. You can click on the regimens of the quantification to see more details about them. You can't make changes to the regimens here.

### **Enrolled Cases**

### Number of Enrolled Cases per Month by Regimen:

The system will display all of the months for the selected regimens depending on their duration, starting with the months in which cases were enrolled that could still be on treatment as of the e inventory date and/or beyond. For example, if the duration of a selected regimen to treat MDR-TB is 12 months and the inventory date is March 31<sup>st</sup>, 2021, the system will display months starting with April 2020. Users need to enter the actual enrolled number of cases for each regimen and for each month because cases enrolled during this period could still be on treatment beyond the inventory date, and thus must be accounted for in the quantification process.

**Note:** All cases entered for each month are assumed to start at the beginning of the month unless the inventory date is not the last day of the previous month. The same applies for expected cases. If the inventory date is in the middle of a month, the same month will appear for both enrolled and expected cases and users need to enter the corresponding number of cases for each part of the same month. To avoid this, enter the inventory as of the end of each month, preferably. See below, under expected cases, for more details and example on this.

**Note:** Every time inventory date is updated users need to update enrolled cases for the past months.

You may copy and paste data from another source (e.g., Excel spreadsheet, Word table, another QuanTB file, etc.) to the enrolled or expected cases. To copy and paste, please follow these rules and principles:

- The sequence of the regimens in the source information must be same as for QuanTB data. The system cannot verify that the information you are entering matches, so please be careful that the sequence matches.
- The number of columns of the source information cannot be more than the number of months of the longest regimen in your QuanTB quantification.
- The number of rows in the source information can be less than QuanTB but cannot be more.
- If the source information has fewer rows than QuanTB, the data will be pasted from the top to the bottom (so the last rows in QuanTB will be blank).
- Only whole numbers from the source information can be pasted to QuanTB, or an error message is displayed. Zero is considered a whole number. Text is not permitted either, so be careful that you don't copy the names of your regimens from the source information.
- An empty cell in Excel is considered a "non-whole number" and will trigger an error message.
- You may copy selectively, e.g., only one cell (one month of specific regimen) of enrolled and/or expected cases by double-clicking the number, hitting "Ctrl C" and pasting it to another cell using "Ctrl V".
- As in Excel, if you copy a number, you may paste that number into multiple months in QuanTB by selecting the range of months, then hitting "Ctrl V".

When regimens have different durations, the system considers the number of columns of the longest for the pasting process (also for validation and generation of the error message related to the number of columns displayed). If you leave the months not used for the shorter regimens blank, the system displays an error message. You must fill the months not used in the shorter regimens with some valid data (e.g., 0) to allow pasting, even if this information won't be used later. Alternatively, you may copy and paste case numbers for each regimen separately.

In the example below, only the blue cells in Excel should be copied. No cells are blank, because 0 has been entered as the value for the cells with no enrolled cases in the MDR-TB 1 regimen.

MDR-TB 1	10	10	10	10	10	10	10	10	0	0	0	0
MDR-TB 2	5	5	5	5	5	5	5	5	5	5	5	5

Note: If monthly enrollment data are not available, you can use the number of cases enrolled per quarter, divide the total by three and enter the same number of cases for each month of the quarter; if the result of the division is not a whole number, you may round it up or down and apply the difference compared to the total for the quarter to one of the months . Quantification in this case may be less precise. The same applies for expected cases

To perform "what if" scenarios, you can use the **Enable** box to mark which regimens should be included in the quantification. Unchecking the **Enable** box means that the regimen won't be included when you execute the quantification, although all of the information about regimen

remains and can be included in the quantification by simply checking the **Enable** box and executing the quantification again. If you enable/disable stock or regimens, you must execute the quantification to apply the changes and get the updated results. The same applies to expected cases.

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Module 6 Ex 5.2 -May 🗙											
Parameters Summary Medicines Report Cases Report Medicines Detailed	Report Ord	ler and Sched	ule Graphs	Quantity lik	ely to expire						
Inventory date: Lead time: End date of quantification: Quantification period: Name of Country/Region/Facility:          Mar 31,2021       6        (months)       Dec 31,2022       20 months, 30 days       Name of the person performing the quantification:         Minimum months of stock       Maximum months of stock       Andualem											
7 🗘 (months)			A	djust medicine	s quantity for a	attrition	Sele	ect treatment i	regimens		
Comment This is created for exercise purpose					<b>)</b> E	kecute quai	ntification				
Enrolled cases Expected cases Stock of medicines											
Number of enrolled cases per month   Change to: By percentage								Copy	selected	Paste numb	ber(s)
Enable Treatment Regimen	Aug-2019	Sep-2019	Oct-2019	Nov-2019	Dec-2019	Jan-2020	Feb-2020	Mar-2020	Apr-2020	May-2020	Jun
1. Longer MDR with Bdq (56-70kg): 1Bdq(100)Cfz(100)Cs(250)Lfx(25	2	2	2	2	2	3	3	3	3	:	3
2. Shorter MDR fully oral with Bdq (56-70kg) 2: 1Bdq(100)Ctz(100)E(4	lanagement S	ciences for He	ealth, Inc. All r	ights reserved	. Developed b	y MSH.				-	

Figure 48

#### **Percentage of Enrolled Cases per Treatment Regimen:**

If you select to quantify by percentage of use of each regimen, the system will display all selected regimens. Enter the percentage of enrolled cases that are using each regimen out of the total number of cases enrolled on all regimens per month. For multi-drug regimens the total percentage must be 100%. (For single-drug regimens the calculations are different, so the cumulative percentage could be any number. Also enter the **Total Number of Enrolled Cases per Month** for each month.

Note: Using the percentage method is not recommended for quantification in a setting with a small number of enrolled cases. However, if you do so, the system will keep cases in the Case Report tab as decimals and round up only for the total medicines quantities needed by month. The same applies for expected cases.

QuanTB - Tuberculosis Medicines Quantification To	ool		-			
File Medicines & Regimens Import & Export Divide & Merge Help						
	💽 Qu	anTB		stems for Improved Access Pharmaceuticals and Services		
Module 6 Ex 5.2 -May 🗙						
Parameters Summary Medicines Report Cases Report Medicines E	etailed Report Order and Sche	lule Graphs Quantity likely to expire				
Inventory date: Lead time: End date of quantification:	Quantification period:	Name of Country/Region/Facility:				
Mar 31, 2021  G (months) Dec 31, 2022  Minimum months of stock: Maximum months of stock:	20 months, 30 days	Ethiopia Name of the person performing the quant Andualem	fication:			
		Anduaiem				
7 🗘 (months) 13 🗘 (months)	Adjust medicines quantity for attrition	Adjust medicines quantity for attrition Select treatment regimens				
Comment: This is created for exercise purpose		Execute qu	antification			
Enrolled cases Expected cases Stock of medicines						
Percentage of enrolled cases per treatment regime	en. Change to: By number	Total number of enrolled	cases per month Copy selected	Paste number(s)		
Enable Treatment regimen	Percentage of enrolled cases	Month Jun-2020	Number of e	nrolled cases		
1. Longer MDR with Bdg (56-70kg): 1Bdg(100)Cfz(100)Cs(250)	75.32	Jul-2020		4		
<ul> <li>2. Shorter MDR fully oral with Bdq (56-70kg) 2: 1Bdq(100)Cfz(10</li> </ul>		Aug-2020		14		
		Sep-2020		12		
		Oct-2020		16		
		Nov-2020		13		
		Dec-2020 Jan-2021		15		
		Feb-2021		13		
Total 100.00 %		Mar-2021		15		
Copyright®	2012 Management Sciences for H	ealth, Inc. All rights reserved. Developed by MSH.				

### **Expected Cases**

**Estimated number of expected cases per month:** The period to enter expected cases starts the day after the inventory date. The system will display all of the months for the selected regimens, starting with one day after the inventory date and ending with the end of the quantification period. The inventory date divides the enrolled cases and expected cases. Enter the number of cases you expect to enroll patients on each regimen by month for the quantification period. On the Expected Cases tab, the first month displayed can be the same as the last month of the enrolled cases, if the inventory date is not the last day of the month. For example, if the inventory date is April 15, 2021, the enrolled cases stop on April 15, 2021 and the expected cases start on April 16, 2021; in this case, you will see April as the last month for the enrolled cases and the first month for the enrolled cases and enter the estimated number of cases to be enrolled from April 16<sup>th</sup> to 30<sup>th</sup> for expected cases. Be careful not to double-count cases in that month if the inventory date is in the middle of the month.

**Note:** The same rules and principles described for enrolled cases apply for the expected cases for copying and pasting number of cases from another source (e.g., Excel spreadsheet, Word table, QuanTB quantification, etc.) to your QuanTB file.

**Estimated Number of Expected Cases per Month:** Enter the total numbers of cases you expect to enroll by month of the quantification period, for each regimen. **Changing from quantification by number to quantification by percentage and vice versa** 

You can change how you enter information about your enrolled and expected cases by clicking the **By number** or **By percentage** button, which is above the treatment regimens on the **Parameters** tab, as shown below. The option on the button will be the method you are not currently using.

Using this option allows you to try different scenarios, but certain things must be understood:

- You can only switch between the percentage and number methods for multidrug regimens (not for single-drug regimens). For single-drug regimens, the only option available is "by percentage"
- You must execute the quantification to see the results of your change.
- The results of each type of quantification will be slightly different.
- If you change the quantification method, saving, executing, or exporting the quantification results will replace your last numbers or percentages with the newly calculated values, so you should save the quantifications under different names if you want to be able to see them all.
- If you want to keep your changes after changing from one method to the other, you must save the quantification.

**Note:** It is possible to shift from the percentage method to the number method and vice versa irrespective of what was used initially. You can do this by clicking on the "By percentage" if you are already working on "By number" and vice versa. The same applies for enrolled and expected cases.

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Parameters Summary Medicines Report Cases Report Medicines Detailed Report Order and Schedule Graphs Quantity likely to expire									
Inventory date: Lead time: End date of quantification: Quantification period: Name of Country/Region/Facility:									
Mar 31 2021     6 (months)     Dec 31,2022     20 months, 30 days     Name of the parced porferming the quantification:									
Mar 31, 2021     Image: Book of the person performing the quantification:       Minimum months of stock:     Maximum months of stock:									
7 O (months)     13 O (months)       Adjust medicines quantity for attrition     Select treatment regimens									
Comment This is created for exercise purpose									
Execute quantification									
Enrolled cases Expected cases Stock of medicines									
Estimated number of expected cases per month   Change to: By percentage Copy selected Paste number	(s)								
Enable         Treatment Regimen         Apr-2021         May-2021         Jun-2021         Jul-2021         Aug-2021         Sep-2021         Oct-2021         Nov-2021         Dec-2021         Jan-2022	Feb-								
🗹 1. Longer MDR with Bdq (56-70kg): 1Bdq(100)Ctz(100)Ctz(250)Ltx(25 11 11 11 11 25 25 25 25 25 30 30 30 30									
Image: Constraint and the state of	_								
Copyright © 2012 Management Sciences for Health, Inc. All rights reserved. Developed by MSH.									

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Parameters	Summary Medicines Report Cases Report medicine	s Detailed Report Order and Schedul	le Graphs Quantity likely	to expire			
Inventory date	End date of quantification	: Quantification period:	Name of Country/Re	egion/Facility:			
Mar 31, 2021 Minimum mo	1 6 (months) Dec 31, 2022	20 months, 30 days	Ethiopia Name of the person Andualem	n performing the quantifica	ation:		
		A.	Anddalein				
7 🗘	(months) 13 🗘 (months)		Adjust medicines q	uantity for attrition	Select t	reatment regimens	
Comment:	This is created for exercise purpose						
			Ð	Execute quan	tification		
Enrolled cas	es Expected cases Stock of medicines						
-	Percentage of enrolled cases per treatment reg	gimen. Change o: By number	Tot	al number of enrolled cas	es per month	Copy selected	Paste number(s)
Enable	Treatment regimen	Percentage of enrolled		Month		Number of enr	olled cases
	-	cases		n-2020			4
	1. Longer MDR with Bdq (56-70kg): 1Bdq(100)Cfz(100)Cs(250			1-2020			12
<ul><li>✓</li></ul>	<ol><li>Shorter MDR fully oral with Bdq (56-70kg) 2: 1Bdq(100)Cfz(*</li></ol>	10 24.68		g-2020			14
				p-2020			12
				t-2020			16
				ov-2020 ec-2020			13
				n-2021			15
				b-2021			13
Total 100	0.00 %			ar-2021			15
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	Copyrigh	t @ 2012 management Sciences for Hea	aur, inc. Air rights reserved. De	everoped by MSH.			

Figure 52

## **Stock information**

#### **Stock of Medicines**

This tab displays all the medicines that compose the selected treatment regimens. Clicking on the quantity causes the batch details for that medicine to appear. For the stock on hand, the first-to-expire batches are listed first. For the stock on order, the earliest expected receiving date is listed first.

QuanTB has a feature to create a template that you can fill in and then import into the software, saving time. You must have a quantification file open. Then go to the **Import & Export** menu, click on **Import from Excel**, then click on **Get template for stock data**.

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File Medicines & Regmens: Impart & Dayoff Divide & Nerge Help	0	Qu	anTB			3	US		SI SI	APS	i de
Parameters Dummary Medicanes Report Cases Report Nedicanes Detailed	sReport O	ider and Diche			itely to expose						
Inventory date Lead time End data of quantification Quar Mar 11, 2021 (C) 6 (months) Dec 31, 2022 (C) 20 m Namum months of stock: Waarnum months of stock		Tame of Count Ethiopia Name of the per- Anduate	erson pedarm		lcation						
7 0 (months) 13 0 (months)			udjust medicin	es quantity fo	r attrition	Si	iect Yeatmen	tragimens			
Commant This is created for exercise purpose					<b>O</b> E	Execute que	entification				
Encelled cases Expedied cases Stock of medicines Estimated number of expedied cases per month   Change to: By percentage								Cos	ly selected	Paste numb	e(s)
Esable Treatment Regimen	Apr-2021	May-2021	Jun-2021	1505-lut.	1505-guA	Sep-2021	0ct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-
1 Longer MDR with Bog (56-70kg): 188g(100)/Ctc/100)/Ctc/2004/25     2. Shorter MDR full, ana with Bog (16-70kg) 2: 186g(100)/Ctc/100)E(4-	10	01 8	10				25 19	28 17		25	
	C					9					
Capyright © 2012 M	Ashapement	Sciences for H	Halth, Inc. All	rights reserve	d. Developed	by MSH					-

Figure 53

A window asking you to give your template a name will appear as shown below. Name the file and decide where you want to save it.

Get t	emplate for stock data $ imes$
Save in:	docs
🙀 teampla	te 1.xlsx QuanTB folder
-	
File name:	Stock import template
File Types:	Excel file (.xlsx)
	Save Cancel
	Figure 54

When the file is created, you will be asked whether you want to open it. If you click on  $\underline{Yes}$ , the Excel file opens .

Export to Excel	$\times$								
Success! Do you want to ope	en file?								
<u>Y</u> es <u>N</u> o									
Figure 55									

A sample template is shown below.

Inventory date:	03/31/2021						
Medicines		Expiration date of the stock on hand	Stock on order (in basic units)	Expected receiving date	Expiration date of the stock on order (optional)	Batch number and/or comments	Supplier

Fill in your inventory information, including the Medicines, Stock on hand, Expiration date of the stock on hand, Stock on order, Expected receiving date, and Expiration date of the stock on order (if known), Batch number and any other comments, and Supplier. For example, you can specify if the supplier is GDF. When done entering the stock information, Save your file.

**Note:** You may copy and paste date from external source (excel) to the template but ensure that you use the same formats and order of columns.

To import stock data using this template into QuanTB, click on the **Import & Export** menu, then click on **Import from Excel**, then click on **Import stock data**.

After selecting your file, the template with the data entered, the following screen appears so that you can match the medicines in QuanTB with the medicines in your template. Click the dropdown arrow to see the list of medicines from your template and match the two lists. When you are done matching, click on **Save**, the stock information you have entered into the template will be imported into the QuanTB file.

Bedagutine 100mg Film uncoated tablet(s) Bedagutine 100mg Film uncoated tablet(s) Glotasmine 100mg Capsule(s) Glotasmine 100mg Capsule(s) Gridosenie 200mg Capsule(s) I Ethamibuli 400mg Film coated tablet(s) Ethamibuli 400mg Film coated tablet(s) Ethamibuli 400mg Film uncoated tablet(s)	QuanT8 medicine	Medicine to import
Ethambulisi 400mg Film coated tablet(s) Ethionamide (150mg Film coated tablet(s) Bedaquiline 100mg Film uncoated tablet(s)		- I S AND AN ENVIRONMENTAL ALL AND CONTRACT DISTRICT.
Ethionamide 250mg Film coated tablet(s) Bedaguitne 100mg Film uncoated tablet(s)	Cycloserine 250mg Capsule(s)	1 North Statement of Contraction of
Isonado scong Film (incode tablets) Clatamina 100mg Capude(a) Levofisican 250mg Film coaled tablets) Cycloseme 200mg Capude(a) Levofisican 250mg Film coaled tablets) Levofisican 250mg Film coaled tablets) Pyrachamide 400mg Film uncoaled tablets) Lineariali 600mg Film coaled tablets)	Ethionamide 250mg Film coated tablet(s) Isoniacid 300mg Film uncoated tablet(s) LevoRoxacin 250mg Film coated tablet(s) Linezolid 600mg Film coated tablet(s)	Ciofacimine 100mg Capoule(a) Cycloserne 250mg Capoule(s) Levofisiacin 250mg Film coated tablat(a)

Figure 57

**Note:** If you import your stock on hand data using the template, it will overwrite the stock on hand data that you have in the quantification already. If the quantity figure for an item is blank in the import template, the quantification's original data is preserved. If the quantity figure is 0, the quantity for that item in the quantification will become 0.

You can also enter your stock on hand data manually. Click on the cell value of **Stock on Hand** for one medicine. Then, in the **Batches Details** box click on the **Add** button. In the dialog box that appears, enter the expiration date of the batch and the quantity of units available in stock (on the inventory date). Click on the **Save** button to confirm or **Cancel** to undo it. If needed, repeat the process for all existing batches of the same product and for all other medicines available on stock.

**Note:** You may copy and paste numbers into the **Quantity** field of the Batches Details window, from another source (e.g., Excel file, Word table, QuanTB quantification, etc.) by copying a number using Ctrl C and pasting it with Ctrl V. You can also copy text and numbers from external source to the **Batch number and/or comments** filed. These apply for both stock on hand and stock on order.

Parameters Summary Medicines Report Cases Report M	edicines Detailed Re	port Order and Schedule	Graphs Quantity likely	to expire		
Inventory date: Lead time: End date of quanti	ification: Quantif	New stock on hand	Name of Country/P	agion/Eaci	lity:	
Mar 31, 2021     6 Image: Constraint of the second se	20 mor	Expirationdate			ig the quantifica	ation:
7 🛇 (months) 13 🛇 (months)	ths)	Quantity (in units) Batch number and/or com		]	attrition	Select treatment regimens
Comment This is created for exercise purpose			nents		kecute quant	ification
Enrolled cases Expected cases Stock of medicines						
Quantity of medicines on hand and on order at the inventory date						Add Edit Delete
Medicines	Stock on hand	Save	Cancel		Quantity (in units)	Batch number and/or comments
Bdq(100) Bedaquiline 100mg Film uncoated tablet(s)				_		
Cfz(100) Clofazimine 100mg Capsule(s)	-	-				
Cs(250) Cycloserine 250mg Capsule(s)	-	-				
E(400) Ethambutol 400mg Film coated tablet(s)	-	-				
Eto(250) Ethionamide 250mg Film coated tablet(s)	-	-				
H(300) Isoniazid 300mg Film uncoated tablet(s)	-	-				
Lfx(250) Levofloxacin 250mg Film coated tablet(s)	-	•				
Lzd(600) Linezolid 600mg Film coated tablet(s)	-	-				
Z(400) Pyrazinamide 400mg Film uncoated tablet(s)	-	-				



To enter stock data for stock on order, **click** on the cell value of **Stock on Order** for one medicine. Then, in the **Batches Details** box click on the **Add** button. In the dialog box that appears, Check the box next to "GDF" if the order is to be procured via GDF, and leave the box unchecked if it is not; enter the expected receiving date, expiration date (if known, otherwise leave blank), and the quantity of units to be received. Enter any comments on the order under "Batch number and/or comments" such as source of the product or supplier, especially if it is not GDF, order number and any other comments related to the order. If you make a mistake with the expiration date, click the Clear date link to delete it and re-enter it. Click on the **Save** button to

confirm or **Cancel** to undo your batch details. If needed, repeat the process for all products and orders expected to arrive during the quantification period.

File Medicines & Regimens Import & Export Divide & Merge H	elp								
🗋 🚔 🕘 🗐 💷 📟 💷 💴 🚥						STRATES TO			
							USAI	D SIAF	50
		New stock on o	rder			$\times$	FROM THE AMERICAN P	EOPLE Systems for Impr to Pharmaceutic	roved Access als and Services
Module 6 Ex 5.2 -May 2 🗶 Module 6 Ex 5.2 -May 🗶		GDF							
Parameters Summary Medicines Report Cases Report Me	dicines Detailed Re	Expected receiving da	ate	May 29, 202	21				
Inventory date: Lead time: End date of quantif	ication: Quantifi	Expirationdate			ĺ	<b></b>			
Mar 31.2021         ⊡         6 ♦         (months)         Dec 31.2022           Minimum months of stock:         Maximum months         Maximum months           7 ♦         (months)         13 ♦         (months)		Quantity (in units) Batch number and/or	comments	Clea 0	ar date.		ication:	ent regimens	
Comment: This is created for exercise purpose					18	antification			
Enrolled cases Expected cases Stock of medicines									
Quantity of medicines on hand and on order at the inventory date		Save		Cancel		_	Add	Edit	Delete
Medicines	Stock on hand	Stock on order	Enable	Expected receiving date	Expiration date	Quantity units		and/or comments	GDF
Bdq(100) Bedaquiline 100mg Film uncoated tablet(s)	-	· · · · · · · · · · · · · · · · · · ·		uate					
Cfz(100) Clofazimine 100mg Capsule(s)	-	-							
Cs(250) Cycloserine 250mg Capsule(s)	-	-							
E(400) Ethambutol 400mg Film coated tablet(s)	-	-							
Eto(250) Ethionamide 250mg Film coated tablet(s)	-	-							
H(300) Isoniazid 300mg Film uncoated tablet(s)	-	-							
Lfx(250) Levofloxacin 250mg Film coated tablet(s)	-	-							
Lzd(600) Linezolid 600mg Film coated tablet(s)	-	-							
Z(400) Pyrazinamide 400mg Film uncoated tablet(s)	-	-							

Figure 59

**Note:** By default, the **Expected receiving date** is the current date that you are entering the date on (based on your computers calendar), make sure that you change it to the correct expected date that the stock is estimated to be received at the central medical store.

#### Changing recorded information regarding stock on hand and stock on order:

To edit previously entered stock on hand or stock on order data, double click on the specific information you want to change of a specific medicine, under the **stock on hand** or the **stock on order** column, then click on the record you want to edit from the list in the **Batches details** window, then the Edit button will be enabled. Click on the **Edit** button and in the dialog box that appears change required data and click on the **Save** button to confirm or **Cancel** to undo it.

Enrolled cases Expected cases Stock of medicines         Expected cases Stock of medicines         Outantity of medicines on hand and on order at the inventory date         Medicines         Medicines         Stoo         Outantity of medicines on hand and on order at the inventory date         Medicines         Stoo         Cancel       e       Quantity (in uncoated tablet(s)         Stoo       Cancel       e       Cancel       e       Quantity (in uncoated tablet(s)         Bdq(100) Bedaquiline 100mg Film uncoated tablet(s)       Stoo       Cancel       e       Quantity (in untits)         Bdq(100) Bedaquiline 100mg Capsule(s)       Stoo       Cancel       e       Quantity (in untits)         Bdq(100) Capsule(s)       Stoo       Cancel       e       Quantity (in untits)       Bdt(100 Capsule(s)       To the tot tablet(s)         Cancel       e       Quantity (in untits)       Bdt(100) Capsule(s)       To the tot tablet(s)									
Image: Lead time       End date of qualification:         Image: Lead time       Dec 31.2022         Minimum months of stock:       Maximum months of stock:         Ø (months)       13 @ (months)         Image: Lead time       Maximum months of stock:         Ø (months)       13 @ (months)         Comment:       This is created for exercise purpose         Enrolled cases       Stock of medicines         Quantity of medicines on hand and on order at the inventory date       Expiration date         Medicines       Stoc         Bdq(100)       Bdaquiline 100mg Film uncoated tablet(s)       58,400         C2520)       Crancel         VE(100)       Cidazenie 250mg Capsule(s)       76,300         C2520)       Crancel         VE(100)       Stock dablet(s)       76,300         C41500       76,300       V         C4250)       Capsule(s)       76,300         C4250)       Cancel       V         VE(250)       This coated tablet(s)       76,300         C4250)       Cancel       V         VE(250)       This coated tablet(s)       76,300         C4250)       Cancel       V         VE(250)       This coated tablet(s)       76,300	Parameters Summary Medicines Report Cases Report N	ledicines De	tailed Report Or	der and Sche	dule Graphs Q	antity likely t	o exp	pire	
Minimum months of stock:       Maximum months of stock:       Expirationdate       Apr 30, 2022         T O (months)       13 O (months)       0       380000       Introduction         Comment:       This is created for exercise purpose       0       0       Introduction       Introduction         Enrolled cases       Stock of medicines       0       0       Introduction       Execute quantification         Countity of medicines on hand and on order at the inventory date       Introduction       Add       Edit       Delete         Medicines       Stoc       Save       Cancel       Introduction       Batch number and/or comments         Edit(100) Bedaguiline 100mg Film uncoated tablet(s)       58,400       30,000       Introduction       Introduction         C2(250) Cycloserine 250mg Capsule(s)       79,000       110,000       Feb 28,2023       410,000         C2(250) Cycloserine 250mg Film coated tablet(s)       76,300       115,000       Introduction       Introduction         E(250) Ethambutol 400mg Film coated tablet(s)       76,300       Introduction       Introduction       Introduction         E(250) Ethambutol 400mg Film coated tablet(s)       208,000       312,000       Introduction       Introduction         E(250) Ethambutol 400mg Film coated tablet(s)       208,000			Edit stock o	n hand		×	on	n/Facility:	
Comment:     This is created for exercise purpose     Batch number and/or comments     Execute quantification       Enrolled cases     Stock of medicines     Execute quantification       Quantity of medicines on hand and on order at the inventory date     Add     Edit       Medicines     Stock of nedicines     Add     Edit       Quantity of medicines on hand and on order at the inventory date     Stock of nedicines     Add     Edit       Delete     Quantity (in grading Film uncoated table(s)     58,400     30,000     ✓     Apr 30, 2022     380,000       CK(100) Clotazmine 100mg Capsule(s)     15,000     115,000     Feb 28, 2023     410,000       CK(200) Clotazmine 250mg Capsule(s)     76,300     -     Execute table(s)     41,500       El(250) Ethionamide 250mg Film coated table(s)     96,500     -     -       H(300) Isonizaid 300mg Film uncoated table(s)     208,000     312,000       Lx(260) Luezoling 600mg Film coated table(s)     184,000     -			Expirationdate	1	Apr 30, 2022		erf	forming the quantificat	ion:
Enrolled cases Expected cases Stock of medicines Duantity of medicines  Duantity of medicines on hand and on order at the inventory date  Medicines  Stoc on ha Save Cancel  e  Quantity (in Batch number and/or comments Bdq(100) Bedaquiline 100mg Film uncoated tablet(s) 58,400 30,000  Apr30,2022 380,000  Ctr(100) Clotazimine 100mg Capsule(s) 15,000 115,000  Feb 28,2023 410,000  Ctr(200) Clotazimine 100mg Film coated tablet(s) 76,300 - E(400) Ethionamide 250mg Film coated tablet(s) 76,300 - Eth(250) Ethionamide 250mg Film coated tablet(s) 15,000 100,000  Feb 28,2023 410,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000  Feb 28,202  Ctr(200, Clotazimine 100mg Film coated tablet(s) 16,000 Film coated tablet(	7 ♦ (months) 13 ♦ (mon	iths)		-			ntit	ty for attrition	Select treatment regimens
Add       Edit       Delete         Medicines       Stop on ha       Stop Save       Cancel       te       Quantity (in units)       Batch number and/or comments         Bdq(100) Bedaquiline 100mg Film uncoated tablet(s)       58,400       30,000       ✓       Apr 30, 2022       380,000         C5(250) Cycloserine 250mg Capsule(s)       15,000       115,000       ✓       Feb 28, 2023       410,000         C4(200) Charamide 250mg Film coated tablet(s)       76,300       -       -       -       -         C1(250) Cycloserine 250mg Capsule(s)       76,300       -       -       -       -       -         C1(250) Cycloserine 250mg Film coated tablet(s)       76,300       - <td>Comment This is created for exercise purpose</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Execute quanti</td> <td>fication</td>	Comment This is created for exercise purpose							Execute quanti	fication
Medicines         Medicines         Cancel         Image: Concent of the control of the contrelicont of the control of t	Enrolled cases Expected cases Stock of medicines								
Cancel         Cancel         E         units)         Batch number and/or comments           Bdq(100) Bedaquiline 100mg Gapsule(s)         58,400         30,000         ✓         Apr 30, 2022         380,000           Cs(200) Closerine 250mg Capsule(s)         15,000         115,000         ✓         Feb 28, 2023         410,000           Cs(250) Cycloserine 250mg Capsule(s)         76,300         -          Feb 28, 2023         410,000           Cs(250) Cycloserine 250mg Capsule(s)         76,300         -          Feb 28, 2023         410,000           Cs(250) Cycloserine 250mg Capsule(s)         76,300         -          Feb 28, 2023         410,000           Cs(250) Cycloserine 250mg Film coated table(s)         76,300         -         -         Feb 28, 2023         410,000           Li(250) Levofloxarind 250mg Film coated table(s)         41,500         -         -         -         -           Li(250) Levofloxarin 250mg Film coated table(s)         98,500         -         -         -         -         -           Li(2600) Linexolid 600mg Film coated table(s)         208,000         312,000         -         -         -         -	Quantity of medicines on hand and on order at the inventory date								Add Edit Delete
Conception         Concep	Medicines			]	Cancel		te		Batch number and/or comments
Cs(250)         Cycloserine         250mg Capsule(s)         790,000         100,000           E(400)         Ethambutol         400mg Film coated table(s)         76,300         -           Ex(250)         Ethic coated table(s)         41,500         -           H(300)         Isoniada 300mg Film unccated table(s)         96,500         -           Lb(250)         Levofloxacin         250mg Film coated table(s)         312,000           La(2600)         Inexcelet(s)         184,000         -	Bdq(100) Bedaquiline 100mg Film uncoated tablet(s)		58,400	30,000		Apr 30, 20	22	380,000	
E(400)         Ethambutol         400mg         Film coated tablet(s)         76,300         -           Eto(250)         Ethionamide         250mg         Film coated tablet(s)         41,500         -           H(300)         Isoniazid         300mg         Film coated tablet(s)         66,500         -           L/2(50)         Levofloxacin         250mg         Film coated tablet(s)         206,000         312,000           Lzd(600)         Linezolid         600mg         Film coated tablet(s)         -	Cfz(100) Clofazimine 100mg Capsule(s)		15,000	115,000	<ul><li>✓</li></ul>	Feb 28, 20	23	410,000	
Eto(250)         Ethionamide         250mg         Film coated tablet(s)         41,500         -           H(300)         Isoniazid         300mg         Film uncoated tablet(s)         96,600         -           Lbx(250)         Levofloxacin         250mg         Film coated tablet(s)         312,000           Lbx(260)         Linezolif         600mg         Film coated tablet(s)         312,000	Cs(250) Cycloserine 250mg Capsule(s)		790,000	100,000					
H(300) Isoniazid 300mg Film uncoated tablet(s)         96,500         -           Lfs(250) Levofloxacin 250mg Film coated tablet(s)         208,000         312,000           Lzd(600) Linezolid 600mg Film coated tablet(s)         184,000         -	E(400) Ethambutol 400mg Film coated tablet(s)		76,300	-					
Lft(250) Levofloxacin 250mg Film coated tablet(s)         208,000         312,000           Lzd(600) Linezolid 600mg Film coated tablet(s)         184,000         -	Eto(250) Ethionamide 250mg Film coated tablet(s)		41,500	-					
Lzd(600) Linezolid 600mg Film coated tablet(s) 184,000 -	H(300) Isoniazid 300mg Film uncoated tablet(s)		96,500	-					
	Lfx(250) Levofloxacin 250mg Film coated tablet(s)		208,000	312,000					
Z(400) Pyrazinamide 400mg Film uncoated tablet(s) 91,000 -	Lzd(600) Linezolid 600mg Film coated tablet(s)			-					
	Z(400) Pyrazinamide 400mg Film uncoated tablet(s)		91,000	-					



To delete stock information, double click on the specific information you want to change of a specific medicine, under the **stock on hand** or the **stock on order** column, then click on the record you want to edit from the list in the **Batches details** window, then the **Delete** button will be enabled. Click on the **Delete** button and in the confirmation dialog box that appears click on the **Yes** button to confirm or **No** to undo it.

For your reference, the system uses the following date-related rules:

- The expiration date of stock on hand can be the same as or after the inventory date but cannot be earlier.
- The expected receiving date of the stock on order can be the same as or after the inventory date but cannot be earlier.
- The expiration date of the stock on order can be the same as or after the expected receiving date but cannot be earlier.

#### Adding other treatment regimens to an existing QuanTB file:

To add other treatment regimens to be included in your existing quantification, click on the **Select Treatment Regimens** button and in the **Select Regimens** dialog box that appears check the additional regimens you want to add from the displayed list. Click on the **OK** button to confirm or **Cancel** to undo it. If you have changed the selection of regimens done initially (in the **New quantification** dialog box), you will need to repeat processes described above for entering data on Enrolled Cases, Expected Cases, and Stock of Medicines (stock on hand and stock on order).

**Note:** If you execute the quantification, then edit any regimen information (e.g., dosages, duration or medicines) that is included in this quantification, you must remove and re-insert the regimen from the quantification for the regimen changes to register. Do this at the parameters tab by unchecking the box at the "Select regimen" dialog box and clicking the **OK** button, then

insert the regimen again by checking the box and clicking the **OK** button. When you do this, the cases numbers related to that regimen will disappear and you will have to re-enter them before executing the quantification.

In order to avoid losing case numbers and stock data and to avoid re-entry of these parameters duplicate and rename the regimen under consideration before editing the regimen, then editing the regimen, unselecting the regimen, saving the file and selecting it again to the QuanTB file and copying the number of cases from the duplicated regimen to the edited regimen. To avoid confusion, delete the duplicated and renamed regimen before completing execution.

Parameters	Summary Medicines Repo	rt Cases	Report Medicines Detailed Report Order and Sc	hedule Graphs Quantity likely to expire							i
Inventory date	: Lead time:	Select re	gimens 🔨	>	$\times$						
Mar 31, 2021				Select an Deselect all		e quantif	ication:				
Minimum mor	nths of stock.		Treatment Regimen	Composition							
7 🗘 (	months)		14) Longer SLI resistance 1 with Bdq (56-70kg)	1Bdq(100)Cs(250)Lfx(250)Pto(250)Z(40		ion	Sel	ect treatment r	regimens		
			15) Longer SLI resistance 2 with DIm (56-70kg)	6Cs(250)DIm(50)Lfx(250)Pto(250)Z(400				ooraodamonti	ogimono		
Comment	This is created for exercise p		16) Longer FQ+SLI resistance 1 with Bdq (56-70kg)	1Bdq(100)Cfz(100)Cs(250)Lzd(600)PAS					_		
			17) Longer FQ+SLI resistance 2 with DIm (56-70k	9Cfz(100)Cs(250)DIm(50)Lzd(600)PAS		the second	-				
			18) LTBI therapy 6H (56-70kg)	6H(300)/0		ute qua	ntification				
C Translin d an an	- Eventual and a start		19) LTBI therapy 3HR (56-70kg)	3H(300)R(300)/0							
Enrolled case	es Expected cases Stock		20) LTBI therapy 3HP (56-70kg)	3H(300)Rpt(150)/0							
Number of enro	lled cases per month   Chan		5) Longer MDR 1 to be phased-out (56-70Kg): 8 L	8Km(1000/4)Cs(250)Lfx(250)Pto(250)S				Copy	selected	Paste num	per(s)
	-		6) Longer MDR 2 to phase-out (56-70kg): 8 Lfx/C	8Cm(1000)Cs(250)Lfx(250)Pto(250)S&			5 1 0000				
Enable	Treat		6) Longer MDR 2 to phase-out (56-70kg): 8 Lfx/C	8Cm(1000)Cs(250)Lfx(250)Pto(250)S&		in-2020	Feb-2020	Mar-2020	Apr-2020	May-2020	Jun
<b>V</b>	1. Longer MDR with Bdq (56-		7) Longer MDR 3 with Bdq to phase-in (56-70kg)	1Bdq(100)Cfz(100)Cs(250)Lfx(250)Lzd(6		3	3	3	3		3
<b>V</b>	2. Shorter MDR fully oral with		8) Shorter MDR 1 with Km to phase-out (56-70kg)	4Km(1000/4)Cfz(100)E(400)H(300)Mfx(4						-	
			9) Shorter MDR 2 with Cm to phase-out (56-70kg)	4Cm(1000)Cfz(100)E(400)H(300)Mfx(40							
			Longer MDR with Bdq (56-70kg)	1Bdq(100)Cfz(100)Cs(250)Lfx(250)Lzd(6							
		$\checkmark$	Shorter MDR fully oral with Bdq (56-70kg) 2	1Bdq(100)Cfz(100)E(400)Eto(250)H(300	0						
		ОК	Cancel								
						_					_

Figure 61

Once all parameters have been entered, **SAVE** them, then click on the **Execute Quantification** button or click on the **Arrow** icon in the left upper corner.

🙆 Qua	nTB - Tuberculosis Medici	nes Quantification Tool									— [	>	<
File Medic	ines & Regimens Import & Export	Divide & Merge Help											
	QuanTB QuanTB SIAPS A Structures and Services												
Module 6 Ex	Module 6 Ex 5.1 - May 🔀												
Parameters Summary Medicines Report Cases Report Medicines Detailed Report Order and Schedule Graphs Quantity likely to expire													
Inventory dat	Inventory date: Lead time: End date of quantification: Quantification period: Name of Country/Region/Facility:												
	Mar 31, 2021     Dec 31, 2022     20 months, 30 days     Ethiopia       Minimum months of stock:     Maximum months of stock:     Name of the person performing the quantification:												
7 🛇	7 O (months)     13 O (months)   Adjust medicines quantity for attrition Select treatment regimens												
Comment:	Comment  Execute quantification												
Enrolled ca	ses Expected cases Stock of me	dicines											
Number of en	rolled cases per month   Change to:	By percentage								Copy	selected	Paste numb	er(s)
Enable	Treatment	Regimen	Aug-2019	Sep-2019	Oct-2019	Nov-2019	Dec-2019	Jan-2020	Feb-2020	Mar-2020	Apr-2020	May-2020	Jun
1	1. Longer MDR with Bdg (56-70kg) 2. Shorter MDR fully oral with Bdg (	: 1Bdq(100)Cfz(100)Cs(250)Lfx(25 56-70kg) 2: 1Bdq(100)Cfz(100)E(4	2	2	2	2	2	3	3	3	3	3	
	z, choter mox runy oral mur bud (	00-1043) z. TBUQ 1007,042 100/E(4										-	

Figure 62

**Note:** If you re-execute the quantification after some days have passed (e.g., because you have updated case information) but you have not updated your inventory information, stock may have expired since you entered the inventory information. QuanTB will compare stock expiration dates to the inventory date and will prevent you from re-executing the quantification until you have adjusted expiration dates, expected receiving dates, and/or quantities, to ensure an accurate forecast.

If you need additional information on quantifying for multiple years, ancillary medicines, or patient kits, please see Annexes 1, 2, or 3, respectively.

## **QUANTIFICATION RESULTS**

After you execute the quantification, the following **tabs** with quantification results will appear:

Module 6 Ex 5.2 -May 🗶
Parameters Summary Medicines Report Cases Report Medicines Detailed Report Order and Schedule Graphs Quantity likely to expire

#### Figure 63

### **Parameters tab**

The Parameters tab includes the information on basic parameters, enrolled cases, expected cases and stock information, that you defined when you began the quantification.

### Summary tab

The Summary tab includes a list of all of the medicines in your quantification. It is a summary report. For each product, it lists the following information:

#### On the inventory date

**Stock on hand:** Quantity of units of medicines available on the inventory date, according to the stock on hand entered in the Parameters tab.

**Estimated Months of Stock (excluding the stock on order):** This is the estimated number of months of stock on hand as of the inventory date until the day before a stock-out. It doesn't include stock on order. The estimated months of stock on hand equals the number of months that the stock on hand is estimated to last. If the stock on hand expires completely within the quantification period and before use, the months of stock will be calculated by counting the number of months from the inventory date to the date the stock expires completely. The figure appears in red if it is below/at the minimum or above/at the maximum months of stock assigned by in the parameters. This alerts you to an issue needing attention, e.g., a pending stock-out or stock at risk of expiry. If stock on hand at the inventory date is zero, the estimated months of stock will be zero because stock is not counted as available until it has actually arrived.

#### Accelerated order period (with date range)

The Stock on order, Quantity dispensed, and Quantity likely to expire during the accelerated order period are displayed. The Stock on order and quantity likely to expire figures may be blank if they don't occur during accelerated order period. The accelerated order period dates are determined by adding the lead time onto the inventory date. For example, if the inventory date is March 31<sup>st</sup>, 2021 and the lead time is 6 months, the accelerated order period, also called emergency order period, will be from April 1<sup>st</sup> to Sep 30<sup>th</sup>, 2021 (183 days). If the accelerated order period ends in the middle of a month, the entire quantity to order for that month is included as an accelerated order.

### Regular order period (with date range)

The Stock on hand after accelerated order period, Stock on order, Quantity likely to expire,

**Estimated consumption (enrolled cases), and Estimated consumption (expected cases) are** shown for the regular order period. The regular order period begins the day after the accelerated order period ends and ends on the last day of the quantification period.

### Quantity to order (entire date range)

The quantities to order during the Accelerated order period and Regular order period are shown, along with the Total quantity.

🔕 QuanTB - Tu	uberculosis	Medicines	Quantifica	ition Tool								- [	
File Medicines & Reg	imens Import	& Export Divi	de & Merge 🛛 H	lelp									
						Qua	nTB					D SIL Systems to Pharm	APS of for Improved Access naceuticals and Servi
Module 6 Ex 5.2 -May	×												
Parameters Summa	ary Medicines	Report Cas	es Report Me	edicines Detailed	Report Ord	er and Schedule	e Graphs	Quantity likely to e	xpire				
Ethiopia/Andualem/ Com	ment: This is c	reated for exerc	ise purpose										
Quantities are in units, u	nless otherwise	especified											
	On the inve Mar 31			elerated order pe I, 2021 - Sep 30, (183 days)				egular order perio 1, 2021 - Dec 31, (457 days)				Quantity to orde 1, 2021 - Dec 3 <sup>-</sup> (640 days)	
Medicine	Stock on hand	Estim. months of stock (excl. on order)	Stock on order	Quantity dispensed	Quantity likely to expire	Stock on hand after accelerated order period	Stock on order	Quantity likely to expire	Estimated consumption (enrolled cases)	Estimated consumption (expected cases)	Accelerated order period	Regular order period	Total
Bedaquiline 100mg Film uncoated tablet(s)	58,400	10	30,000	23,175	-	65,226	-	-	-	123,911	-	108,852	-
Clofazimine 100mg Capsule(s)	15,000	2	115,000	37,844	-	92,157	-	-	23,533	216,652	32,400	247,300	-
Cycloserine 250mg Capsule(s)	790,000	> 20	100,000	83,588	-	806,413	-	110,445	67,295	445,225	-	100,900	-
Ethambutol 400mg Film coated	76,300	10	-	29,943	-	46,358	-	-	3,304	204,730	14,784	258,048	-



## **Medicines report tab**

The Medicine report tab displays the following information for each medicine and for each month of the quantification period: Stock on hand, Quantity needed, Quantity likely to expire, Stock on order, Estimated consumption (enrolled cases), Estimated consumption (expected cases), and Estimated consumption (total cases). The Quantity likely to expire will appear in red. If you hover over a cell, you will see the medicine and row name.

Parameters Sum	imary Med	dicines Repor	t Cases R	eport Med	icines Detaile	ed Report (	Order and Sc	hedule Gra	aphs Quan	tity likely to e	xpire					
thiopia/Andualem/ C	omment: Th	nis is created	for exercise p	ourpose												
Quantities are in units	, unless oth	erwise speci	fied													
Medicine	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22
Cycloserine 250mg	Capsule(s)															
Stock on hand	790000	779393	867639	855493	840912	824342	806413	785964	763862	738643	711083	684248	652721	510000	474834	439087
Minimum quantity to prevent stock-out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantity likely to expire	0	0	0	0	0	0	0	0	0	0	0	0	0	110445	0	0
Stock on order	0	100000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Estimated consumption (enrolled cases)	9668	9810	9326	9457	9237	8696	8699	8166	8169	7858	6647	6524	5515	4863	3857	3096
Estimated consumption (expected cases)	941	1944	2822	5125	7334	9234	11751	13937	17052	19703	20190	25004	26762	30305	31892	35606
Estimated																

#### **Cases report tab**

The Cases report tab displays the number of **Enrolled Cases**, **Expected Cases**, and **Total** cases by treatment regimen and by medicine (on a separate tab) for each month of the quantification period. The number of cases displayed is the cumulative number of cases on treatment as of each month of the quantification period.

Module 6 Ex 5.2 -May 🗙															
Parameters Summary	Medicines Report	Cases Report	Medicine	s Detailed Re	port Orde	r and Schedu	le Graphs	Quantity li	kely to expire						
Ethiopia/Andualem/ Comme	nt: This is created for	exercise purpo	se												
Treatment regimen Med	licine														
Treatment regimen		Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-2
		116.00	112.00	110.00	108.00	106.00	103.00	100.00	97.00	94.00	91.00	87.00	79.00	69.00	60
Ltk(250)Lzd(600)/BBdq(100) Ctz(100)Cs(250)Lfx(250) Lzd(600)/14Ctz(100)Cs(250) Lfx(250)Lzd(600)		11.00	22.00	33.00	58.00	83.00	108.00	133.00	163.00	193.00	223.00	253.00	283.00	313.00	343
	Total	127.00	134.00	143.00	166.00	189.00	211.00	233.00	260.00	287.00	314.00	340.00	362.00	382.00	403

Figure 66

Module 6 Ex 5.2 -May 🗙															
Parameters Summary Medici	nes Report	Cases Report	Medicines	s Detailed Re	eport Orde	r and Schedu	le Graphs	Quantity li	kely to expire						
Ethiopia/Andualem/ Comment: This	is created for e	xercise purpo	se												
Treatment regimen Medicine															
Medicine		Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-2
	Enrolled Cases	71.00	58.00	43.00	28.00	15.00	-	-	-	-	-	-	-	-	-
Bedaquiline 100mg Film uncoated tablet(s)	Expected Cases	16.00	32.00	48.00	88.00	128.00	168.00	192.00	221.00	250.00	255.00	260.00	270.00	280.00	285
	Total	87.00	90.00	91.00	116.00	143.00	168.00	192.00	221.00	250.00	255.00	260.00	270.00	280.00	285
	Enrolled Cases	154.00	150.00	144.00	138.00	133.00	125.00	118.00	111.00	103.00	96.00	87.00	79.00	69.00	60
Clofazimine 100mg Capsule(s)	Expected Cases	16.00	32.00	48.00	88.00	128.00	168.00	208.00	253.00	298.00	343.00	388.00	433.00	478.00	523
	Total	170.00	182.00	192.00	226.00	261.00	293.00	326.00	364.00	401.00	439.00	475.00	512.00	547.00	583

**Note:** The **Treatment regimen** tab in the **Case reports** tab is unavailable when the quantification is only for single-drug regimens. The case report by medicine is available for both multidrug and single-drug regimen quantifications.

#### **Medicines detailed report tab**

The Medicines detailed report tab allows you to select a medicine from the dropdown and see detailed information about that product's stock during the quantification period. The screen shows **Stock on hand as of the inventory date, Estimated consumption (enrolled cases), Estimated consumption (expected cases), Estimated consumption (total), Stock on order, Quantity likely to expire, and the Minimum quantity to prevent stock-out, and Quantity need to maintain the minimum months of stock. The Quantity likely to expire and the Minimum quantity to prevent stock-out, will appear in red.** 

Parameters S	Summarv	Medicines Report	Cases Report Medici	nes Detailed Report	Order and Schedule	Graphs Quantity likely	/ to evnire			
Talameters e	builling	inculation conceptit				oraphio Gaanaty Intely				
			Medicin	e: Isoniazid 300mg F	Film uncoated tablet(s)		(Quantities a	are in units, unless other	wise specified)	
Ethiopia/Andualen	m/ Commen	t: This is created for	exercise purpose							
	Period		Stock on hand	Estimated consumption (enrolled cases)	Estimated consumption (expected cases)	Estimated consumption (total cases)	Stock on order	Quantity likely to expire	Minimum quantity to prevent stock-out	Quantity needed to maintain the minimum months of stock
Apr 01, 2021Apr	r 30, 2021 (3	0 days)	96,500	1,733	428	2,161	-	-	-	-
May 01, 2021Ma	ay 31, 2021 (	(31 days)	94,340	1,431	884	2,315	-	-	-	-
Jun 01, 2021Jur	n 30, 2021 (	30 days)	92,026	1,012	1,283	2,295	-	-	-	-
Jul 01, 2021Jul	31, 2021 (3	1 days)	89,732	647	2,651	3,298	-	-	-	-
Aug 01, 2021Au	ig 31, 2021 (	(31 days)	86,434	214	3,976	4,190	-	-	-	-
Sep 01, 2021Se	ep 30, 2021	(30 days)	82,245	-	4,917	4,917		-	-	-
Oct 01, 2021Oct	t 31, 2021 (3	31 days)	77,329	-	5,957	5,957	-	-	-	-
Nov 01, 2021No	ov 30, 2021 (	(30 days)	71,372	-	6,627	6,627	-	-	-	-
Dec 01, 2021De	ec 31, 2021	(31 days)	64,746	-	7,268	7,268	-	-	-	-
Jan 01, 2022Jar	n 31, 2022 (	31 days)	57,478	-	7,268	7,268	-	-	-	75,264
Feb 01, 2022Fe	b 28, 2022	(28 days)	50,211	-	6,627	6,627	-	-	-	-
Mar 01, 2022Ma	ar 31, 2022 (	31 days)	43,585	-	7,795	7,795	-	-	-	-
Apr 01, 2022Apr	r 30, 2022 (3	0 days)	35,790	-	7,995	7,995	-	-	-	-
May 01, 2022Ma	ay 31, 2022 (	(31 days)	-	-	8,679	8,679	-	27,796	8,679	-
Jun 01, 2022Jur	n 30, 2022 (	30 days)	-	-	8,850	8,850	-	-	8,850	-
Jul 01, 2022Jul	31 2022 (3	1 days)	_		9.605	9.605			9.605	58,464

## Order and schedule tab

The Order and schedule tab has three sub-tabs: **Quantity and Costs, Additional Costs, and Schedule**.

### **Quantity and Costs**

The **Quantity and Costs** tab shows detailed information on the quantities needed for each medicine, separated in tables for **Consolidated regular orders**, **Consolidated accelerated orders**, and **Consolidated total orders** (the sum of regular and accelerated). The accelerated procurement is meant to ensure that you have enough stock before you receive your regular order. The tables are labeled "Consolidated" because there may be multiple accelerated and regular orders. The **Regular order** and **Accelerated order** tables display the:

- Medicines
- Quantity needed (in units)
- Adjustment (% of quantity needed): This is customizable by the user. It is "100" by default, meaning no adjustment is needed. By entering other numbers and based on statistics or experience, the order may be adjusted for some adjustment factors such as potential waste rate. As an example, if you want to apply 5% as a wastage rate, you need to change the adjustment % from 100% to 105%. If you enter "0%" it means that the medicine is not required at all.
- **Pack size:** This is customizable by the user. Enter the desired or known pack size here; the final quantities of units will be rounded up to a full pack size.
- **Pack price or unit price:** This is customizable by the user and is helpful for estimating budget needs. When using the unit price instead of pack price, enter "1" in Pack Size.
- Adjusted quantity to order (in units)
- Adjusted quantity to order rounded up to pack size
- Cost of the order

Note: You may copy and paste numbers into the Adjustment (% of quantity needed), Pack size, and Pack price or unit price fields from another source (e.g., Excel file, Word table, QuanTB quantification, etc.) by copying a number using Ctrl C, double-clicking into the target field, then pasting by hitting Ctrl V. You may also copy the pack sizes and prices of the regular order to the accelerated order and vice versa using the links provided in the Quantity and costs window at the top of each table for accelerate and regular orders.

The **Regular order** and **Accelerated order** adjustments can be entered separately, since they may differ.

**Note:** You must **SAVE** the quantification after entering or changing data in the Adjustment Pack Size and Pack Price columns **BEFORE** executing the quantification. If you do not save the data you enter, this information will be lost.

The **Total order** table displays the sum of the **Regular order** and **Accelerated order** tables and consists of:

- Medicines
- Quantity needed (in units)
- Adjusted quantity to order (in units)
- **Cost of the order** (The cost column is not displayed until you enter a pack price for each quantity needed.)

The Total cost of medicines is shown at the bottom of the Quantity and costs tab.

**Note:** If you have not completed pack sizes and pack prices for all medicines with positive **Quantity needed (in units)** value, QuanTB cannot calculate a cost for it and therefore the **Total cost of medicines** figure will not include the cost of that medicine. In addition, the **Additional and Total costs** and the **schedule** tabs will not be active.

Copy Quantity needed (in units) 108.844	pack sizes from acc Adjustment (% of quantity	elerated order <u>Cr</u> Pack size	opy pack prices from	accelerated order	Copy all at once from	accelerated order
needed (in units)	of quantity	Pack size				
100.044	needed)	(enter 1 for units) 00 188	Pack price or unit price (USD/\$)	Adjusted quantity to order (in units)	Adjusted quantity to order rounded up to pack size	Cost (USD/\$)
100,844	100.00	188	340.00	108,852	579	196,860.00
247,326	100.00	100	80.80	247,300	2,473	199,818.40
100,855	100.00	100	25.90	100,900	1,009	26,133.10
257,548	100.00	672	27.70	258,048	384	10,636.80
141,145	100.00	100	9.43	141,100	1,411	13,305.73
133,152	100.00	672	13.52	133,728	199	2,690.48
1,049,373	100.00	100	2.75	1,049,300	10,493	28,855.75
152,011	100.00	100	38.91	152,100	1,521	59,182.11
343,406	100.00	672	14.00	343,392	511	7,154.00



## **Additional Costs**

The Additional Costs tab displays the total cost of medicines for regular and accelerated orders, along with line items for additional costs specific to each TB program procurement, such as **Freight, Insurance, Pre-shipment inspection (PSI), Procurement agent, Customs clearance, etc.** These additional costs can be entered as percentage of order value or as flat fees/values per

shipment. You can enter your own types of costs and can add or delete the ones listed in the program. Any text you enter will not change if you change the language of the program. Additional costs should be added to both **Regular Orders** and **Accelerated Orders**, and the values may be different.

Module 6 Ex 5.2 -May 🔀				
Parameters Summary Medicines Report	Cases Report Me	dicines Detailed R	eport Order and Schedule Graphs Quantity likely to expire	9
Quantity and Costs Additional & Total Costs	Schedule			
			Consolidated regular order(s)	0
Cost of medicines 544,636.37 (USD/\$)				
Item	Percentage	Value (USD/\$)	Method	Comment
Freight	15.00	81,695.46	by percentage of medicines costs	
Insurance	0.20	1,089.27	by percentage of medicines costs	
Estimated pre-shipment inspection	-	300.00	by value and for each delivery	Add item
Customs clearance	0.10	544.64	by percentage of medicines costs	, ad tom
Total cost of regular orders 628,865.75 (USD/	\$)			Remove item Copy from accelerated order
			Consolidated accelerated order(s)	
Cost of medicines 31,161.09 (USD/\$)				
Item	Percentage	Value (USD/\$)	Method	Comment:
Freight	15.00	4,674.16	by percentage of medicines costs	
Insurance	0.20	62.32	by percentage of medicines costs	
li and a second s				

Figure 707

## **Schedule**

The Schedule tab displays the accelerated and regular order quantities for the quantification. By default, QuanTB proposes a monthly schedule based on the needs and the minimum stock level you have entered. You can select a monthly, all at once, annually, bi-annually, or quarterly order schedule.

**Note:** In most cases it is not realistic to have a monthly shipment schedule, many countries apply bi-annually as the frequency of shipment delivery.

The frequency of the orders will determine how many regular orders are needed. Only one accelerated order is calculated for the accelerated order period and it appears first. Each order includes the following information: order date, delivery date, medicines, adjusted quantity to order (in units), adjusted quantity to order rounded up to pack size, and costs of medicines, additional costs, and the total cost of the order.

There are certain rules for the schedules:

• The default calculation for the quantity to order is based on the "Monthly" delivery schedule. QuanTB recommends order quantities that need to be available at the beginning of each month to always maintain the minimum months of stock of each medicine. When you change the schedule to quarterly, the order quantities of each medicine for each of

the three months are summed up to make one bigger quantity to order and the delivery date for the aggregate is shifted to the beginning of the quarter.

- Choosing the "All at Once" delivery order means that the date of the order will be calculated based on the day that at least one of the medicines in the forecasting reaches the minimum stock level in the defined period.
- The additional costs you have entered for your forecasting will be applied to each delivery.
- The schedule is calculated to ensure that the minimum stock level for each medicine is available at any point during the quantification period.
- The quantities in the schedule of deliveries are only meant to meet the needs of the quantification period and to maintain the minimum months of stock level at the end of the quantification period. If you need to buy more in order to remain above your minimum stock level at the end of the quantification period, you can to make adjustments such as extending the period, or increasing the minim stock level.
- The order date is calculated as the delivery date minus the lead time.
- When calculating needs and schedules, orders are assumed to be available for use on the first day of the month in which they are expected, therefore their delivery date is assumed to be one day earlier/end of the previous month. For example, if an order is expected to be available in April 2021, QuanTB assumes that the stock in that order will be available on April 1<sup>st</sup>, 2021 and that the stock would be delivered on March 31<sup>st</sup>, 2021.

Parameters Summary Medicines Report Cas	es Report Medicine	s Detailed Report	Order and Sch	edule Graphs Quantity likely to expire			
Quantity and Costs Additional & Total Costs Sch	edule						
			Schedule of ord	ers: Bi-annually 💙			
Accelerated order # 1 Delivery date: As soon as poss Delivery date: As soon as poss	ible (should have be ible (should have be			Regular order # 1 Order date: Mar, 31 2021 Delivery date: Sep, 30 2021			
Medicines	Adjusted quantity to order (in units)	Adjusted quantity to order rounded up to pack size	Cost (USD/\$)	Medicines	Adjusted quantity to order (in units)	Adjusted quantity to order rounded up to pack size	Cost (USD/\$)
Cfz(100) Clofazimine 100mg Capsule(s)	32,400	324	26,179.20	Bdq(100) Bedaquiline 100mg Film uncoated tablet(s)	5,452	29	9,860.00
(400) Ethambutol 400mg Film coated tablet(s)	14,784	22	609.40	E(400) Ethambutol 400mg Film coated tablet(s)	44,352	66	1,828.20
to(250) Ethionamide 250mg Film coated tablet(s)	19,300	193	1,819.99	Eto(250) Ethionamide 250mg Film coated tablet(s)	25,500	255	2,404.6
fx(250) Levofloxacin 250mg Film coated tablet(s)	69,400	694	1,908.50	Lfx(250) Levofloxacin 250mg Film coated tablet(s)	45,100	451	1,240.2
(400) Pyrazinamide 400mg Film uncoated tablet(s)	30,912	46	644.00	Z(400) Pyrazinamide 400mg Film uncoated tablet(s)	59,136	88	1,232.00
Cost of medicine	3		31,161.09	Cost of medicines			16,565.10
Additional cos	t		5,167.64	Additional cost			2,834.42
Cost of order			36,328.73	Cost of order:			19,399.57
Acgular order # 2 Order date: Jun, 30 2021 Delivery date: Dec, 31 2021				Regular order # 3 Order date: Dec, 31 2021 Delivery date: Jun, 30 2022			
Medicines		Adjusted quantity to order rounded up to pack size	Cost (USD/\$)	Medicines		Adjusted quantity to order rounded up to pack size	Cost (USD/\$)

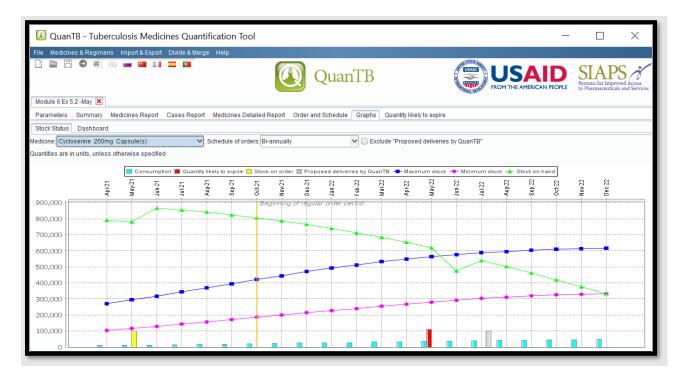
Figure 71

## Graphs tab

The Graphs tab has two sub-tabs: Stock Status and Dashboard.

### <u>Stock Status</u>

On this tab, you can select a medicine to see the stock movement information graphically, by each type of delivery schedule. The graph shows the effect of proposed deliveries, pending deliveries, and expiries. You can also exclude QuanTB proposed or planned deliveries from the graph to see the scenarios with and without them. The line graph shows the following information about the medicine: Consumption, Quantity likely to expire, Stock on order, Planned delivery, Maximum stock, Minimum stock, and Stock on hand.





**Note:** The **Stock Status graph** only provides an overview of the stock situation. For a more detailed view and analysis of the stock, you should always consult the **Medicines Detailed Report**.

In the stock status graph, parameters are color coded: the **green** line represents the stock status of the medicine, compared to the minimum stock level which is in **rose** and the maximum stock level which is represented by a **blue** line. Monthly consumption is represented by **light blue** colored bars, while stock on order is represented by **yellow** bars. Quantity likely to expire is represented by **red** bars. Finally, QuanTB proposed shipments to maintain at least the minimum stock level are represented by the grey bars.

To copy, save, or print the graph, right click anywhere in it and use the **Copy**, **Save As**, or **Print** options. The name of the medicine will not be included so please make a note of it.

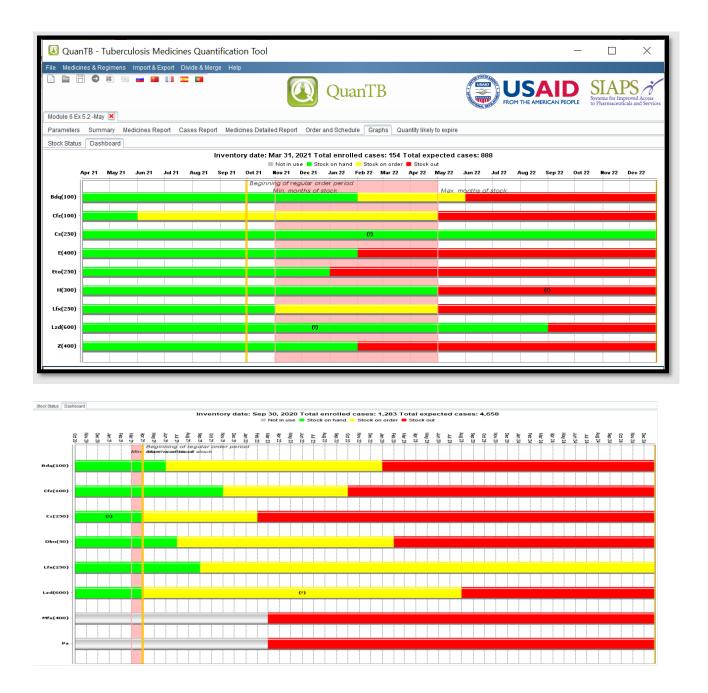
### **Dashboard**

The dashboard displays each medicine's status graphically on a timeline that begins with the inventory date and ends with the quantification period end date. The **green** color represents stock on hand. The **yellow** color is displayed for stock on order. The **red** color indicates a stock-out. The **pink** background on the chart is for the time in between the minimum and maximum months of stock that you have set. The **gray** color indicates that there was no stock and no planned consumption of the item during that period. The vertical **orange** bars mark the beginning and end of the quantification period. Information is displayed according to these rules:

- If stock on hand is zero, the system displays a red bar for the entire period (one day after the inventory date until the end of the quantification period). If the stock on hand is not enough for at least 1 month or if it expires before one month after the inventory date you see only the red bar in dashboard, but you see the exact amount of stock in the medicines detailed report and the stock status graph.
- When stock is on order, the estimated receiving date for the stock is displayed when you hover over the yellow bar. Where the bar is displayed does NOT necessarily represent when the stock is expected to arrive. The yellow bar for stock on order represents the number of months of stock to be added to your stock on hand based on the quantity to be received. It is displayed at the end of the green stock on hand bar to show this.
- When a stock-out occurs, the system displays a red bar from the respective month until the end of quantification period or until a month with another planned delivery. The system displays stock on order that will arrive later as a yellow bar inside the red bar. However, the system doesn't display a green bar after a red bar even if consumption occurred with enough quantity in stock on order to cover all patients in the future. Stock is not considered as available until it is received. Users need to enter the received delivery as part of stock on hand, up on confirming receipt, to change the color to green.
- Regardless of the date when stock on order will be received, the system displays a yellow bar for the entire month of receiving in case no consumption is planned to use that specific quantity. If the stock on order arrives when there is enough stock on hand to cover all patients in certain months, the system display the yellow bar only in months when the cases start consuming the stock on order (this is the reason a message with the month and year the stock on order will arrive is necessary).
- If you hover the mouse over the colored bars, the program will show the estimated consumption figure, estimated enrolled, expected, and total cases for that time period.
- If stock is likely to expire in a period, an exclamation mark (!) will be centered in the range. Where it appears does NOT represent precisely when the stock is likely to expire.
- If no patients are enrolled during a particular period, a grey colored bar is displayed in the dashboard until the month when patients start to be enrolled.

When reviewing the dashboard, a good guideline to use is that you want to see green bars for each medicine extending into the pink area on the chart. If the green bar for a medicine doesn't reach the pink area, you are in danger of a stock-out and should take action, the stock level is below the minimum you want to maintain at all times. If the green bar extends past the pink area, you may be overstocked and at risk of medicines expiring on the shelf.

**Note:** The **Dashboard** only provides an overview of the stock situation. For a more accurate view and analysis of the stock, you should always consult the **Medicines Detailed Report**.





To copy, save, or print the dashboard, right click anywhere in it and use the **Copy**, **Save As**, or **Print** options.

### **Quantity Likely to Expire**

The **Quantity likely to expire** tab displays summary of medicines that are likely to expire within the quantification period by expiration date and by quantity. There are three tables summarizing such information: the first table provides expiry information on medicines that will expire within the next six months starting from the inventory date. The second table shows expiry information on medicines that will expire within the next 6 months, i.e., up to 1 year. The third table provides the summary of all periods from the inventory date until the end of the quantification period.

QuanTB - Tuberculosis Medicines Qua	ntification Tool			_	$\Box \rightarrow$
File Medicines & Regimens Import & Export Divide & M	lerge Help				
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Module 6 Ex 5.2 -May 🗶 Belarus_send SOH_30.11.202	. 🗙				
Parameters Summary Medicines Report Cases Re	ort Medicines Detailed	Report Order and Sch	edule Graphs Quantity likely to expire		
Quantities are in units, unless otherwise specified					
Urgently. May 31, 2021 - Nov	30, 2021 (183) days		Attention. Nov 30, 2021 - May	y 30, 2022 (181) days	
Medicines	Quantity likely to expire	Expiry date	Medicines	Quantity likely to expire	Expiry date
zd(600) Linezolid 600mg Film coated tablet(s)		May 31, 2021	Cs(250) Cycloserine 250mg Capsule(s) H(300) Isoniazid 300mg Film uncoated tablet(s)	110,445	Apr 30, 2022 Apr 30, 2022
Lzd(600) Linezolid 600mg Film coated tablet(s)		May 31, 2021		110,445	
Lzd(600) Linezolid 600mg Film coated tablet(s) All expirations. May 31, 2021 - D	42,547	May 31, 2021		110,445	
	42,547	May 31, 2021 Expiry date		110,445	
All expirations. May 31, 2021 - D Medicines Cs(250) Cycloserine 250mg Capsule(s)	42,547 42,547 ec 31, 2022 (579) days Quantity likely to expire 110,445	Expiry date Apr 30, 2022		110,445	
All expirations. May 31, 2021 - D	42,547 42,547 ec 31, 2022 (579) days Quantity likely to expire 110,445 27,796	Expiry date		110,445	

Figure 74

## Saving quantifications

A quantification can be saved at any time, even before execution. Each quantification must be saved manually.

# **QuanTB does not save data automatically.**

Go to the **File** menu and select the **Save** menu option or click on the **Disk** icon in the left upper corner. In the confirmation dialog box that appears, click on the **Yes** button to confirm or **No** to undo it.

🕐 Qua	nTB - Tuberculosis Medici	nes Quantification Tool								-	—		×
File Medic	ines & Regimens Import & Export	Divide & Merge Help											
				Qua	anTB				US FROM THE A		Systems to Pharm	APS for Improved Acc naceuticals and Se	xess jervices
Module 6 E	(5.2 -May 🗙												
Parameters	Summary Medicines Report	Cases Report Medicines Detailed	Report Ord	ler and Sched	lule Graphs	Quantity I	ikely to expire						
Inventory da Mar 31, 202	1 6 🔷 (months)		tification perio onths, 30 days			Ethiopia ame of the pe	erson performir		cation:				
Minimum m	onths of stock:	Maximum months of stock:				Anduale	m						
7 🗘	(months)	13 🛇 (months)	Save o	juantificat	ion	$\times$ in	es quantity for	attrition	Sel	ect treatment r	egimens		
Comment			0	Save quanti	fication		• E	xecute qua	ntification				
Enrolled ca	ses Expected cases Stock of m	edicines		( <del></del>									
Number of en	rolled cases per month   Change to:	By percentage								Сору	selected	Paste numb	per(s)
Enable	Treatment	Regimen	Aug-2019	Sep-2019	Oct-2019	Nov-2019	Dec-2019	Jan-2020	Feb-2020	Mar-2020	Apr-2020	May-2020	Jun
V		: 1Bdq(100)Cfz(100)Cs(250)Lfx(25	2	2	2	1	2 2	3	3	3	3	3	3
<ul><li>✓</li></ul>	2. Shorter MDR fully oral with Bdq (	(56-70kg) 2: 1Bdq(100)Cfz(100)E(4										-	

Figure 75

You need to name and save a new QuanTB file or rename and save an existing QuanTB file after modification. To do this, go to the **File** menu in the left upper corner and select the **Save as** menu option. In the dialog box that appears, the system directs you to the "Docs" folder of the system but you can select another location on your computer. Fill out the **File Name** field and click on the **Save** button to confirm or **Cancel** to undo it. The **QuanTB** folder button is a shortcut to return you to the docs folder location in the QuanTB program with one click, if you have navigated away from it.

Save quantification ×
Save in: docs   Fictitia_FASTER_V4.2.qtb  Fictitia_PLANNED_V4.2.qtb  Fictitia_SLOWER_V4.2.qtb
File name:       New quantification         File Types:       Quantification data file         Save       Cancel

Figure 76

For saving a previously saved quantification, go to the **File** menu and select the **Save as** ... menu option. The same dialog boxes will appear to save the quantification in a selected folder. Change the **File Name** field and click on the **Save** button to confirm or **Cancel** to undo it. **Opening saved quantifications** 

Saved files can be retrieved later for further work. Go to **File** menu and select the **Open** menu option or click on the **Folder** icon in the left upper corner. In the dialog box that appears, select the location where the file was saved and then double click on the specific file to open or click on the **Open** button. Click on the **Cancel** button to undo it. The **QuanTB** folder button is a shortcut to return you to the docs folder location in the QuanTB program with one click, if you have navigated away from it. The **<Last 5 docs>** option in the **File** menu is also a convenient way to find the most recent 5 QuanTB files. If you have many files in the folder, you may need to scroll the scroll bar sideways to see more files and open the correct one.

Open quantification	document	×
Look in: 📔 Updates	~	
Final versions Mar 21 versions - Module 2-10 March Versions Merge 4.qtb Merge 5.qtb MErged 2.qtb Module 6 Ex 4 -May.qtb Module 6 Ex 5.1 -May.qtb	Module 6 Ex 5.2 -May 2.qtb Module 6 Ex 5.2 -May.qtb Module 7 Ex 3 - Region 1.qtb Module 7 Ex 3 - Region 2.qtb Module 7 Ex 3.1.qtb Module 7 Ex 3.1-4.6 test.qtb Module 7 Ex 3.2.qtb Module 7 Ex 4 -Mar.qtb	QuanTB folder
File name: Module 6 Ex 5.2 -Ma	y eth	
File name: Module 6 Ex 5.2 -Ma File Types: Quantification data fi		~
[	Open Cancel	

Figure 77

**Note:** If you erase cases and/or percentages data in an executed quantification, then execute the quantification again, QuanTB will generate an error message. The system will disable the existing tabs (except Parameters tab) until adequate data is entered to execute the quantification properly.

## **Exiting the system**

Go to the **File** menu and select the **Exit** menu option or click on the "X" in the right upper corner. In the confirmation dialog box that appears, click on the **Save all and exit** button to save your work before exiting or **Exit** to exit. Click **Cancel** if you do not want to exit. All unsaved information will be lost if you exit the system.

QuanTB - Tuberculosis Medicines Quantification	n Tool						
File Medicines & Regimens Import & Export Divide & Merge Help							
L 🔄 H 🗢 8 🖘 🛥 🖬 🖬 🎞 🗖		Quar	ηTB		USAI FROM THE AMERICAN F	D Syst	EAPS of the service
Module 6 Ex 5.2 -May 🗙							
Parameters Summary Medicines Report Cases Report Medicin	es Detailed Repoi	t Order and Schedule	Graphs Quantity likely f	o expire			
Inventory date:     Lead time:     End date of quantificatio       Mar 31. 2021     □     6 ♦ (months)     Dec 31. 2022     □       Minimum months of stock:     Maximum months of stock     Maximum months     Maximum months	20 months,		Name of Country/Re Ethiopia Name of the person Andualem	gion/Facility: performing the quantific	ation:		
7 🛇 (months) 13 🛇 (months)	Exiting	the application	×	ntity for attrition	Select treatm	ent regimens	
Comment:	Save all	What to do next? and exit Exit	Cancel	Execute quar	tification		
Quantity of medicines on hand and on order at the inventory date					Add	Edit	Delete
Medicines	Stock on hand	Stock on order					
Bdq(100) Bedaquiline 100mg Film uncoated tablet(s)	58,400	30,000					
Cfz(100) Clofazimine 100mg Capsule(s)	15,000	115,000					
Cs(250) Cycloserine 250mg Capsule(s)	790,000	100,000					
E(400) Ethambutol 400mg Film coated tablet(s)	76,300	-					
Eto(250) Ethionamide 250mg Film coated tablet(s)	41,500	-					
H(300) Isoniazid 300mg Film uncoated tablet(s)	96,500	-					
Lfx(250) Levofloxacin 250mg Film coated tablet(s)	208,000	312,000					
Lzd(600) Linezolid 600mg Film coated tablet(s) Z(400) Pyrazinamide 400mg Film uncoated tablet(s)	184,000 91,000	-					

Figure 78

#### **EXPORTING QUANTIFICATIONS TO EXCEL AND PRINTING**

Quantifications can be exported into an Excel file (<u>values only</u>) at any stage of the process and saved for references, comparison, or further analysis in Excel, or via Excel in other programs.

#### **Export to Excel**

Go to the **Import & Export** menu and select **Export to Excel** or click on the **Excel** icon in the left upper corner. In the dialog box that appears, the system directs you to the "Docs" folder of the system but you can select another location on your computer. Fill out the **File Name** field and click on the **Save** button to confirm or **Cancel** to undo it.

The dashboard and stock status graphs will not be exported with the Excel file. You can copy and paste those to another document, save them to another location, or print them. By right clicking on your mouse, you can see the different options, including the option to zoom in and out.

The quantification data can be printed as an Excel file. This is the only print option.

When you export to Excel, you can choose your type of export: All data or Without medicine details. Exporting without the medicine details is faster.

🛽 QuanTB - Tuberculosis Medicines Quantifi	cation Tool		- 🗆 X
File Medicines & File Import & Export Divide & Merge	Help		
		QuanTB	FROM THE AMERICAN PEOPLE
Module 6 Ex 5.2 -May 🗙			
Parameters Summary Medicines Report Cases Report	Export to Excel	×	
Inventory date: Lead time: End date of qu	Save in: 🚺 docs		
Mar 31, 2021 6 (months) Dec 31, 202 Minimum months of stock: Maximum more	Stock import template.xlsx	QuanTB folder	antification:
7 🗘 (months) 13 🗘 (n	template 2.xlsx		Select treatment regimens
Comment			quantification
Enrolled cases Expected cases Stock of medicines			
Quantity of medicines on hand and on order at the inventory date	File name: Excel export Ex 5.2		Add Edit Delete
<b>1</b>	Type of export: All data	♥ File Types: Excel file (.xlsx) ♥	
Bdq(100) Bedaquiline 100mg Film uncoated tablet(s) Cfz(100) Clofazimine 100mg Capsule(s)		Save Cancel	
Cs(250) Cycloserine 250mg Capsule(s)	790,000	100,000	
E(400) Ethambutol 400mg Film coated tablet(s)	76,300	-	
Eto(250) Ethionamide 250mg Film coated tablet(s)	41,500		
H(300) Isoniazid 300mg Film uncoated tablet(s)	50,500	-	
Lfx(250) Levofloxacin 250mg Film coated tablet(s)	208,000	312,000	
Lzd(600) Linezolid 600mg Film coated tablet(s)	104,000	-	
Z(400) Pyrazinamide 400mg Film uncoated tablet(s)	91,000		

Figure 79

**Note:** The format of the Excel file is controlled by the user's Windows configuration. For example, if you are using the Russian version of QuanTB and your computer's Windows configuration is English (United States), the QuanTB Excel file date and number formats will be in English (United States).

An example of the details exported Excel file is shown below, this is the parameters tab and consists of information regarding basic parameters and case numbers by regimen and by month for both enrolled and expected cases. There are multiple tabs of information, including a separate tab for each medicine as detailed medicine report. The Excel export file without the medicine details does not contain the separate tabs for each medicine.

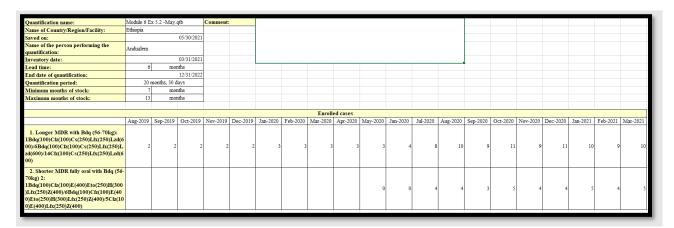


Figure 80

## **DIVIDING AND MERGING QUANTIFICATION FILES**

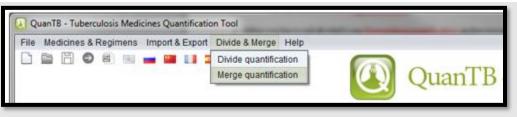
## **Dividing a quantification**

QuanTB has an option to divide a quantification. This may be useful, for example, if you create a multi-year quantification and you want to divide it by year for procurement planning purposes. To divide a quantification, open the quantification file, click the **Divide & Merge** menu, and then click **Divide quantification**.

**Note**: This feature of the tool is no more useful since more accurate result can be obtained using easier method – producing the procurement/schedule in excel export and diving the proposed delivery quantities and values for each year or period you would like to consider. Because of this, we have removed the detailed instructions on how to divide a quantification file.

#### Merging multiple quantification files

QuanTB has an option to merge multiple quantification files. This is helpful, for example, if you have quantifications done at the regional level of a country and want to combine them at the central level. To merge two or more quantification files, open the relevant quantification files, then go to the **Divide & Merge** menu and then click the **Merge quantifications** option. Ensure that you have saved the quantification files before merging them, because any changes made since the last time you saved the files will not be merged.





A screen will appear for you to select which quantification files you want to merge. Tick the boxes to select the quantification files you want to merge, then click **OK** to continue or click **Cancel** to undo it. A new quantification will be created from the quantifications you selected. The new quantification is only merging the parameters of the component quantifications, so you must execute it to see results, after you have reviewed the parameters.

Select quan	tification files to merge	$\times$
Ļ	Quantification files	
<b>V</b>	Module 7 Ex 3.1 - Region 1.qtb	
$\checkmark$	Module 7 Ex 3.1 - Region 2.qtb	
	Module 10 Ex 1.qtb	
Ok	Cancel	



When you merge quantifications, the system checks the inventory date, quantification start date, type of regimen, whether the quantification was done by numbers or percentages, then the regimens themselves to ensure that these values are the same in all quantifications. The order in which the files are checked is the order that the quantifications appear on the selection list for the merge. This means that the second file is compared to the first and if the second one doesn't match, you will get an error. If the first and second match, the third is the next to be compared, and so on. The order the quantifications appear on the list is determined by the order in which you opened the quantification files in the program before you selected the Merge option.

File Medicin	nes & Regimens Import & Export Divide & Merge Help										
( <u>)</u> • E	] 🔷 8) 💷 📟 🖬 🎞 🖬		Qua	anTB						SIAP Systems for Impre to Pharmaceutica	S oved Access ls and Services
Module 7 Ex 3	3 - Region 1 🗶 Module 7 Ex 3 - Region 2 🗶 New quantification-(	× 1									
Parameters											
Inventory date	e: Lead time: End date of quantification: Qua	ntification perio	d:	N	lame of Countr	y/Region/Facil	ity:				
Jan 31, 2021 Minimum mo	1 C 6 (months) Dec 31, 2022 2 r onths of stock: Maximum months of stock:	nonths, 30 days	1	٨	lame of the per	son performin	ig the quantifi	cation:			
1 🗘 (	(month) 3 🗘 (months)			A	djust medicine	s quantity for a	attrition	Select	treatment regir	nens	
Comment:					(	<b>)</b> E>	kecute quar	ntification			
Enrolled case	es Expected cases Stock of medicines										
Number of enro	olled cases per month   Change to: By percentage								Copy sel	ected Paste	number(s)
Enable	Treatment Regimen	Aug-2020	Sep-2020	Oct-2020	Nov-2020	Dec-2020	Jan-2021				
<b>I</b>	1. 1) Adult DS-TB Regimen (56-70Kg): 2RHZE(150/75/400/275)/4RH	252	258	256	252	258	262				



Considerations when merging quantifications:

- The inventory date and lead time must be the same in all of the files to be merged.
- The merged file will have the longest quantification period of the component files.
- The merged file will not have the maximum and minimum months of stock, the name of the country/region/facility or the name of the person performing the quantification, these need to be entered as new.
- You can only merge quantifications if they were done by the same method, i.e., by number or by percentage. You cannot merge a quantification done by number with a quantification done by percentage.
- You can only merge quantifications if they were done for the same regimen type, i.e., multidrug or single-drug. You cannot merge a quantification using multidrug regimens with a quantification using single-drug regimens.
- You can merge quantifications done by percentage if the enrolled and expected cases are both done by percentage, if the composition of the regimens is the same, and if each quantification's regimens have the same percentage.
  - If the component quantifications done by percentage have multidrug regimens, the enrolled and expected cases for each regimen must have the same percentage in each quantification. (The percentage for enrolled and the percentage for expected can be different from each other.)
  - If the component quantifications done by percentage have single-drug regimens, you can have different regimens as long as the percentages for the regimens that exist in more than one quantification are the same. Each regimen of the enrolled and expected cases can have different percentages as long as they are the same in the other quantifications to be merged.

• When you merge quantifications, the merged file will keep pack sizes and prices of the fist QuanTB file in the list, for the same product found in multiple files. If you need to use other pack sizes or prices, you need to update.

**Note:** Two critical conditions that need to be fulfilled for successful merging of two or more QuanTB files: the QuanTB files to be merged need to have the same inventory date and lead time.

### USING QUANTB AS AN EARLY WARNING SYSTEM

## **Regular monitoring**

When used regularly (e.g., quarterly or monthly), QuanTB can serve as an effective early warning system to monitor the availability of medicines and potential wastages. This is especially important for rapidly expanding programs, or programs phasing-in/phasing-out TB medicines or regimens. A previously developed quantification file can be opened a month or a quarter later, saved as a new forecast, and edited for actual cases versus planned for the elapsed period, stock of medicines on hand updated to reflect the consumption, stock on order turned into stock on hand with expiration dates, etc. QuanTB will then alert you to possible issues that may lead to stockouts or waste of medicines. If the stock of a medicine is below the minimum level or above the maximum level, it will appear in red in the Estimated months of stock column.

For example, a TB program may appear to be quite balanced in the beginning of a year, with sufficient stock of medicines to cover current and expected cases throughout the year until the next regular procurement, with some medicines being over the maximum set level of 13 months (below):

	Report Cas	es Report Me	edicines Detailed	Report Ord	er and Schedule	Graphs	Quantity likely to e	expire				
					Regular order period Jul 01, 2021 - Dec 31, 2022 (549 days)					Quantity to order Jan 01, 2021 - Dec 31, 2022 (730 days)		
Stock on hand	Estim. months of stock (excl. on order)	Stock on order	Quantity dispensed	Quantity likely to expire	Stock on hand after accelerated order period	Stock on order	Quantity likely to expire	Estimated consumption (enrolled cases)	Estimated consumption (expected cases)	Accelerated order period	Regular order period	Total
210,000	11	100,000	79,695	-	230,306	-	-	58,046	583,381	-	702,600	702,600
80,000	10	-	33,402	-	46,598	-	-	2,956	249,430	20,160	296,352	316,512
45,000	9	-	25,702	-	19,299	-	-	-	144,701	20,800	162,800	183,600
700,000	21	-	25,702	-	674,299	-	558,384	-	144,701	-	87,360	87,360
	Annent: Inless otherwise On the inve Dec 31 Stock on hand 210,000 80,000 45,000	Stock on hand     Estim. months of stock on hand       210,000     11       80,000     10       45,000     9	Nonment:       Interso otherwise specified       On the inventory date Dec 31, 2020     Acce Jan 0       Stock on hand     Stock on stock (excl. on order)     Stock on order       210,000     11     100,000       80,000     10     -       45,000     9     -	Accelerated order pe Jan 01, 2021 - Jun 30, (181 days)       Stock on hand     Accelerated order pe Jan 01, 2021 - Jun 30, (181 days)       Stock on hand     Estim. months of stock (excl. on order)     Stock on order     Quantity dispensed       210,000     11     100,000     79,695       80,000     10     -     33,402       45,000     9     -     25,702	Numeric       Interstein offenties specified       On the inventory date Dec 31, 2020     Accelerated order period Jan 01, 2021 - Jun 30, 2021 (181 days)       Stock on hand     Estim. months of stock (excl. on order)     Stock on order     Quantity dispensed     Quantity likely to expire       210,000     11     100,000     79,695     -       80,000     10     -     33,402     -       45,000     9     -     25,702     -	Numeric       Interstein of solution of solution of solution of solution of stock on hand after of stock on hand after of stock on order order of order of stock (excl. on order)     Accelerated order period Uan 01, 2021 (181 days)       Stock on hand     Estim. months of stock (excl. on order)     Stock on order     Quantity dispensed     Quantity dispensed     Stock on dispensed       210,000     11     100,000     79,695     -     230,306       80,000     10     -     33,402     -     46,598       45,000     9     -     25,702     -     19,299	Interaction of the inventory date Dec 31, 2020         Accelerated order period Jan 01, 2021 - Jun 30, 2021 (181 days)         Stock on hand after accelerated (181 days)         Stock on hand after accelerated order         Stock on hand           80,000         10         -         33,402         -         46,598         -           45,000	Stock on hand         Estim. stock on order)         Stock on order)         Stock on stock         Stock on order)         Stock on order         Quantity dispensed         Quantity dispensed         Stock on order)         Stock on order         Stock on order         Quantity dispensed         Stock on order         Stock on order         Quantity dispensed         Stock on order         Stock on order         Quantity dispensed         Stock or order         Stock on order         Quantity dispensed         Stock or order         Stock or order         Quantity dispensed         Stock or order         Stock or order         Output dispensed         Stock or order         Stock or order         Output dispensed         Output dispensed         Stock or order         Output dispensed         Output dispensed         Stock or order         Output dispensed         Stock or order         Output dispensed         Stock or order         Output dispensed         Output dispensed	Note: The second secon	Numeric interview is specified         Accelerated order period         De 31, 2020       Accelerated order period         On the inventory date Dec 31, 2020       Accelerated order period         Stock on hand       Regular order period         Stock on order       Stock on nand after accelerated order       Stock on nand after accelerated order       Stock on order       Quantity likely to expire       Estimated consumption (encolled cases)       Estimated consumption (encolled cases)       Estimated consumption (expected cases)       Estimated consumption (expected cases)       Estimated consumption (expected cases)         210,000       11       100,000       79,695       -       230,306       -       -       58,046       583,381         80,000       10       -       33,402       -       46,598       -       -       2,956       249,430         45,000       9       -       25,702       -       19,299       -       -       144,701	Note the inventory date Dec 31, 2020       Accelerated order period Jan 01, 2021 - Jun 30, 2021	Note: The second secon



The situation in that same TB program may look very different three months later when it becomes clear that the number of actually enrolled cases during the previous quarter exceeds the planned numbers, and so will the expected number (e.g., due to successful implementation of new diagnostic technology). Some medicines (with estimated months of stock shown in red) are now at the critical level of availability and will require accelerated procurement:

niopia/Andualem/ <mark>Con</mark>	nment:												
uantities are in units, u	nless otherwise	especified											
Medicine				elerated order per I, 2021 - Sep 30, (183 days)		Regular order period Oct 01, 2021 - Dec 31, 2022 (457 days)					Quantity to order Apr 01, 2021 - Dec 31, 2022 (640 days)		
	Stock on hand	Estim. months of stock (excl. on order)	Stock on order	Quantity dispensed	Quantity likely to expire	Stock on hand after accelerated order period	Stock on order	Quantity likely to expire	Estimated consumption (enrolled cases)	Estimated consumption (expected cases)	Accelerated order period	Regular order period	Total
Cycloserine 250mg Capsule(s)	410,000	10	100,000	168,381	-	341,620	-	-	132,725	921,263	-	1,316,400	1,316,400
Ethambutol 400mg Film coated tablet(s)	76,300	5	-	76,300	-	-	-	-	13,259	419,563	159,936	515,424	675,360
Ethionamide 250mg Film coated tablet(s)	41,500	4	-	41,500	-	-	-	-	-	250,416	109,300	311,000	420,300
Isoniazid 300mg Film uncoated	96,500	8	-	65,964	-	30,537	-	-		250,416	54,432	311,136	365,568

#### Figure 82

The details for every medicine by month can be found in the **Reports** tabs and the whole situation will also be reflected on the graphs:

In yet a different scenario, that same program three months later may be failing to enroll the planned number of cases, e.g., due to slower than planned uptake of diagnostic technology, or lack of funding for patient care. In this case, it will be alert to the impending expiration of some medicines:

niopia/Andualem/ Con	nment:				hiopia/Andualem/ Comment:										
uantities are in units, unless otherwise specified															
	On the inve Mar 31			elerated order per 1, 2021 - Sep 30, (183 days)			Regular order period Oct 01, 2021 - Dec 31, 2022 (457 days)				Quantity to order Apr 01, 2021 - Dec 31, 2022 (640 days)				
Medicine	Stock on hand	Estim. months of stock (excl. on order)	Stock on order	Quantity dispensed	Quantity likely to expire	Stock on hand after accelerated order period	Stock on order	Quantity likely to expire	Estimated consumption (enrolled cases)	Estimated consumption (expected cases)	Accelerated order period	Regular order period	Total		
Cycloserine 250mg Capsule(s)	210,000	6	100,000	168,381	-	141,620	-	-	132,725	921,263	168,600	1,347,800	1,516,400		
Ethambutol 400mg Film coated tablet(s)	76,300	5	-	76,300	-	-	-	-	13,259	419,563	159,936	515,424	675,360		
Ethionamide 250mg Film coated tablet(s)	41,500	4	-	41,500	-	-	-	-	-	250,416	109,300	311,000	420,300		
Isoniazid 300mg Film uncoated tablet(s)	96,500	8	-	65,964	-	30,537	-	-	-	250,416	54,432	311,136	365,568		

Figure 83

When using QuanTB files for early warning system monitoring, you must update the following parameters:

- Inventory date
- Quantification period, if the time period for the quantification period is below the sum of inventory date plus the lead-time date. In addition, it may be a requirement to quantify for the next certain number of months (for example 24 months) every time you update your quantification and that will require extending the quantification period and entering expected number of cases for the extension.
- Expected cases
- Stock of medicines (stock on hand and stock on order). If stock is expired, you must delete that stock from the system, or the system will display an error message. If you have received a stock previously on order, make sure it is deleted from the system and included as stock on hand.

For example, if you have to update every three months, you need to ensure that you collect the current total number of enrolled cases per month in the previous three months and enter in the enrolled case field. For expected cases, review the patient trend to make sure it is the same based on current enrolled cases collected. If the trend is not the same, make adjustments as needed.

We strongly recommend that you update your quantification with current information every three months and execute it again.

# Viewing QuanTB files created by others

QuanTB files can be e-mailed to others for review. Files can be accessed in the locations where QuanTB was saved after installation. Go to the folder when you have saved your QuanTB files (e.g., Docs folder located at C:\Users\*yourname*\QuanTB\docs, if you have used the default) to select the QuanTB file you want to email to your colleague.

Upon receipt of your QuanTB file, your colleague can save the file in a location where it can be accessed. The QuanTB quantification file can be opened and your colleague can view or make certain changes in the file received. However, he or she will not have access to the medicines and regimens lists (dictionaries) for that quantification in the system unless they are added to the colleague's copy of QuanTB. To do this, your colleague needs to open the QuanTB file sent by you, go to the **Medicines & Regimens** menu, and then click **Add from quantification**.

File	Medicines & Regimens	Import & Export Divide	& Merge Help		
3	Edit medicines	) 🕮 💷 💷 🚺			
	Edit treatment regimens			$(\mathcal{O})$	OuanTB
	Add from quantification				Zamin

#### Figure 85

QuanTB will then automatically compare the medicines and regimens in the quantification file to the medicines and regimens in your copy of QuanTB and will add any new ones to your dictionary files (lists).

It is important to note the following about the adding process:

- When QuanTB compares the medicines in the quantification to the medicines in your dictionary, it will not import a medicine with an identical name, strength, form, etc. It will import the medicine if there are any differences, even if the difference is only slight.
- When QuanTB compares the regimens in the quantification to the regimens in your dictionary, it will not add regimens with identical compositions to your regimens. If there are any differences between a quantification's regimen and your regimen—even only a space or a period—it will add the regimen to your dictionary.

After QuanTB compares the medicines and regimens in the quantification file to those in your dictionary and adds the ones that you are missing, it will display a screen summarizing the medicines and regimens that were imported.

Add from quantification	$\times$
	-
	r.
Medicines added:	
Pa (200mg) Pretomanid 200mg Film coated tablet(s)(-)	
Regimens added:	
<ul> <li>Longer MDR with Bdq (56-70kg): 1Bdq(100)Ctz(100)Cs(250)Ltx(250)Lzd(600)/6Bdq(100)Ctz(100)Cs(250)Ltx(250)Lzd(600)/14Ctz</li> <li>Shorter MDR fully oral with Bdq (56-70kg): 1Bdq(100)Ctz(100)Cs(250)Ltx(250)Lzd(600)/6Bdq(100)Ctz(100)Cs(250)Ltx(250)Lzd(60)</li> <li>Shorter MDR with Pa (56-70 Kg): 1Bdq(100)Lzd(600)Pa (200mg)/6Bdq(100)Lzd(600)Pa (200mg)</li> </ul>	
Cancel	

Figure 86

## ANNEX 1: QUANTIFYING FOR ANCILLARY MEDICINES

The main challenge with quantifying ancillary medicines is making sure you have the right data. Most countries do not collect and compile data on adverse events and some countries do not have standardized guidelines for managing adverse events. In such situations, you need to use proxy data that would provide the most accurate estimate for your forecast. As data becomes available, later forecasts should be more evidence-based.

Some key data requirements are:

- List of recommended ancillary medicines for TB adverse events treatment.
- Ancillary medicine specifications (medicine name, strength, unit/pack price, etc.)
- Recommended quantity, duration, and frequency for each condition treated.
- Historic data on number or percentage of TB cases that will be treated with ancillary medicines.
- Data on total number or percentage of patients enrolled to receive ancillary medicine for the most recent 6 months (if the program is long-running).
- Previous quantification assumptions used for ancillary medicine quantification (if previously done).
- Country targets, expansion plans, planned interventions, etc. for TB ancillary treatment in the country.
- Total quantity of stock on hand for each ancillary medicine, with:
  - Expiration dates for each ancillary medicine by batch
  - Total quantity of stock on order (order placed but not yet received) for each ancillary medicine and date order is expected for delivery
  - Total lead time for procurement (consider total lead time from planning, to ordering, to shipment, to actual receipt in central warehouse for distribution
  - Total minimum stock level (consider all health care levels)

To quantify for ancillary medicines, you should use the **Single-drug** option. You cannot use the single-drug option and the regimen option at the same time. If you quantify other medicines by regimen, you must perform a separate quantification for single-drugs.

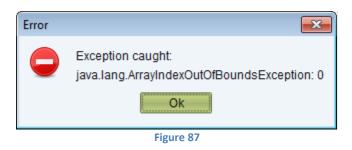
QuanTB does not have a specific feature to quantify patient kits, i.e., the complete medicine requirement for the duration of treatment in one box for one patient. QuanTB considers patient needs based on their enrollment date and calculates their needs (number of tablets per day, number of days per week, and duration in months) for the complete month (28, 30, or 31 days depending on the calendar month) until the quantification period ends. This means that if you assume that each case will receive 3 tablets daily for 7 days, QuanTB calculates that until treatment is complete and does not take into account wastages and weight adjustments during the quantification period. Wastages can be adjusted in the order tab, though.

Consider the following in quantifying ffor patient kits:

- 1. Create the kits as medicines in the **Medicines list**. If the kit contains two or more different products, you must enter each under separate names in the INN field. To differentiate regular medicines from patient kit medicines, set your medicine INN name as "patient kit" including any other identifiers if you have multiple kits in use. For example, "patient kit new adult cases intensive phase". Use an abbreviated identifier in the abbreviated name field example, "PK-Int (RHZE)". Enter medicines strength and dosage form and select type of medicines. Follow the same procedure for continuation phase medicines and save.
- 2. Create your **regimen** for the patent kit, including any other identifiers if you have multiple kits in use, for example, "patient kit new cases". Then click on or enter the composition of the regimen.
- 3. Do not number of cases for enrolled cases as every patient that has stated the treatment has already has the full treatment course allocated for him/her. But make sure that these allocated stocks are not considered as part of the stock on hand either.
- 4. **Stock of medicines:** Convert each patient kit contents into units. For example, a kit may contain 168 tablets of RHZE and 336 tablets of RH. Multiply these totals by the total number of patient kits to get the overall total units for each medicine. Enter each medicine's expiration date by batch. Follow the same steps for stock on order.
- 5. Click on the **Order** tab. On the **Quantity** tab, in the **Pack Size** column, enter 168 for RHZE and 336 for RH for the patient kits medicines (based on the example above; adjust your figures as necessary). Notice that quantities may vary slightly because there are differences in when a patient starts and stops components of the kit. For example RHZE is taken during the first 2 months followed by 4 months of treatment with RH. Use the product quantity requirement of the component with higher quantity as the total kit quantity to procure.

## **ANNEX 3: REPORTING AN ERROR**

If you receive an error message with an "Exception caught:" error or any other issues that prevents you from using the tool, please let us know so that we can continuously improve QuanTB.



Report problems to <u>quantb@msh.org</u> with the following information:

- 1. A step-by-step list of what you were doing in QuanTB when you got the error.
- 2. A screen capture of the error message itself.
- 3. The log file that QuanTB creates automatically about the error. If you installed the software in the default location, the error file will be in C:\users\*yourname*\QuanTB\data\log. The file name will contain the date of the error, e.g., 2014-02-20err.qtb.

Management Sciences for Health 4301 North Fairfax Drive, Suite 400 Arlington, VA 22203 USA Telephone: 703.524.6575 E-mail: <u>quantb@msh.org</u> Website: <u>www.msh.org</u>