

1<sup>st</sup> Edition: 30 September, 2020



## COVID-19 Quantification User Guide

(Users: DGHS relevant personnel)



1<sup>st</sup> Edition: 30 September, 2020

Supported by,

USAID MEDICINES, TECHNOLOGIES, AND PHARMACEUTICALS (MTaPS) Program



## Table of Contents

1.	How to Browse the COVID-19 SCM.....	3
1.1.	How to go to the (COVID-19 SCM) Home page.....	3
1.2.	How to Log In .....	4
1.3.	Administration Menu .....	5
1.4.	Quantification menu .....	5
2.	PPE and Disinfectant Quantification .....	6
2.1.	National/Regional/Facility Level quantification - NEW.....	6
	Step 1 of 6: Background .....	6
	Step 2 of 6: COVID-19 Cases.....	7
	Step 3 of 6: HR Categories.....	7
	Step 4 of 6: Product Selection Entry/Edit.....	8
	Step 5 of 6: Product Selection Entry/Edit.....	9
	Step 6 of 6: Quantification Results.....	10
	Major action buttons in Step 6.....	11
2.2.	Facility Level Quantification - NEW .....	13
	Step 1 of 6: Background .....	13
	Step 2 of 6: COVID-19 Cases.....	13
	Step 3 of 6: HR Categories.....	13
	Step 4 of 6: Commodity Usage Rate.....	13
	Step 5 of 6: Product Selection .....	13
	Step 6 of 6: Quantification results .....	13
3.	Diagnostics Quantification .....	14
3.1.	National/Regional/Facility Level Quantification - NEW .....	14
	Step 1 of 6: Background .....	14
	Step 2 of 6: COVID-19 Cases.....	14
	Step 4 of 6: HR Categories.....	16
	Step 5 of 6: Product Selection .....	16
	Step 6 of 6: Quantification Results.....	17
4.	Open Quantification Run.....	19
4.1.	Quantification Run - EDIT .....	19
5.	Administration Menu .....	20
5.1.	Case Groups Entry .....	20
5.2.	Products to Quantify .....	20
5.3.	HR Categories.....	21
5.4.	Commodities Usage Heads Entry .....	21
5.5.	Commodities Usage Rate Entry.....	22
5.6.	HR Personnel per Day Entry .....	22

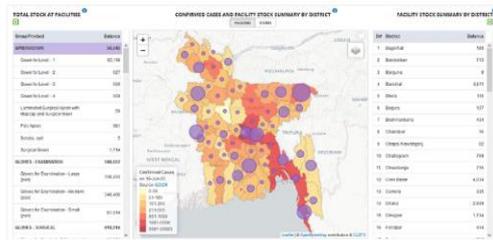
# 1. How to Browse the COVID-19 SCM

## 1.1. How to go to the (COVID-19 SCM) Home page

- Open any internet browser, like Google Chrome or Firefox.
- Type <http://128.199.100.54/> in the address bar.
- The COVID-19 SCM homepage will appear as seen below:

## COVID-19 eLMIS

The COVID-19 electronic Logistics Management Information System allows proper management of COVID-19 commodities at the health facilities of Bangladesh. Initially the health facilities were entering daily commodity stock status at end of each day. Gradually sites will be trained to use the eLMIS module which allows the sites to do their day to day transaction and manage their COVID-19 commodities stock. Major functions include - indent to higher tier, receive from higher tier, receive as donation, receive from supplier, transfer/issue invoice, dispensing from store and stock adjustment. As a result, current stock balance of commodities will be readily available to decision makers. Monitoring of procurement packages and management of COVID-19 related equipments will also be incorporated soon.



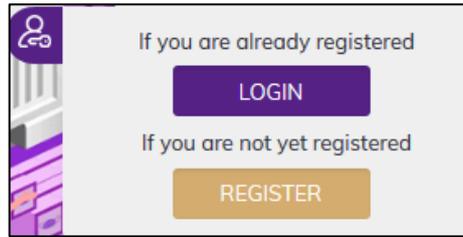
## COVID-19 Quantification Tool

The tool can be used for national level quantification of COVID-19 commodities, taking current stock balance, morbidity, human resource, commodity usage pattern into account. The user has flexibility to tweak the parameters and generate different scenarios based on needs. The final output is the commodity required for a certain period both in terms of quantity and value. The tool can also be used at facility level for generating indents.

SL#	Product Name	Unit	Current Stock	Current Demand	Current Shortage	Current Excess	Current Value	Current Weight	Current Volume	Current Density
1	Mask, protective	kg	10000	0	10000	0	1000000	10000	10000	10000
2	Mask, face	kg	50	0	50	0	5000	50	50	50
3	Mask, eye	kg	50	0	50	0	5000	50	50	50
4	Mask, n95	kg	50	0	50	0	5000	50	50	50
5	Mask, surgical	kg	50	0	50	0	5000	50	50	50
6	Mask, face shield	kg	50	0	50	0	5000	50	50	50
7	Mask, n95	kg	50	0	50	0	5000	50	50	50
8	Mask, n95	kg	50	0	50	0	5000	50	50	50
9	Mask, n95	kg	50	0	50	0	5000	50	50	50
10	Mask, n95	kg	50	0	50	0	5000	50	50	50

## 1.2. How to Log In

- Click on the icon ‘**human and key**’ to log into the system. See the following screen:



- To log into the system, click **LOGIN** button, following screen will show:

- Type the **User Name** and **Password**. Press the ‘**Login**’ button to access the COVID-19 quantification menu. When a user with Quantification Entry Manager role log in, they will land in the following page –

**COVID-19 SCM Bangladesh** Home Administration **Quantification**

**Open Quantification Runs**

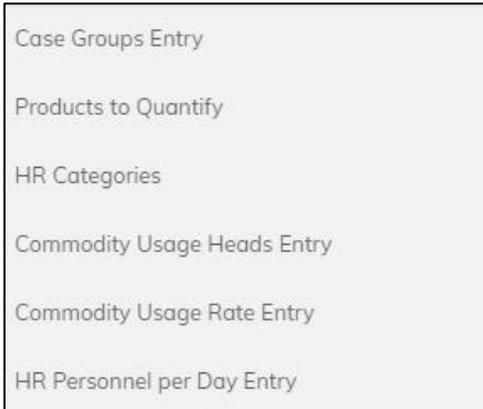
Product Group: PPE and Disinfectants Print Excel

Show 25 entries Search: \_\_\_\_\_

SL	Quantification Run	Action
1	Bangladesh: Facility: Tejgaon Health Complex, Dhaka: PPE and Disinfectants: 17SEP2020160331048	[Icons: Add, Edit, View, Delete, Refresh]
2	Bangladesh: Facility: Kaliganj Upazila Health Complex, Gazipur: PPE and Disinfectants: 17SEP2020143626626	[Icons: Add, Edit, View, Delete, Refresh]
3	Bangladesh: National: PPE and Disinfectants: 16SEP2020223406762	[Icons: Add, Edit, View, Delete, Refresh]
4	Bangladesh: Facility: Tejgaon Health Complex, Dhaka: PPE and Disinfectants: 16SEP20202143307461	[Icons: Add, Edit, View, Delete, Refresh]
5	Bangladesh: National: PPE and Disinfectants: 15SEP20201038584754	[Icons: Add, Edit, View, Delete, Refresh]
6	Bangladesh: National: PPE and Disinfectants: 15SEP20201038330663	[Icons: Add, Edit, View, Delete, Refresh]

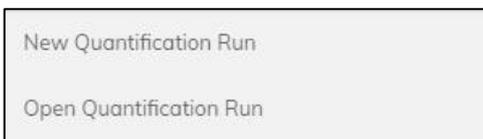
### 1.3. Administration Menu

The Quantification Entry Manager only have access to the Administration menu -



### 1.4. Quantification menu

The Quantification Entry Operator and Quantification Entry Manager have access to the Quantification menu -



## 2. PPE and Disinfectant Quantification

### 2.1. National/Regional/Facility Level quantification - NEW

For starting a fresh quantification run you need to go to New Quantification Run under Quantification menu. This is a multi-step process.

#### Step 1 of 6: Background

The user should enter the background information about the quantification. The following are what need to be entered -

- A. Enter the name of the Country for which the quantification is conducted. Example: Bangladesh
- B. Enter the name of the preparer - First and last name.
- C. Select the quantification level - National / Regional / Facility for which quantification will be performed
- D. Enter the email address of the preparer.
- E. If level is regional - select which Division or District. If Facility level - select for which facility
- F. Enter the contact number of the preparer - include country code.
- G. Select whether quantification is for PPE & Disinfectants or will be for Diagnostics commodities
- H. Enter date on which the quantification was completed
- I. Enter the minimum stock level set for the health facility or nation or region in days
- J. Enter the maximum stock level set for the health facility or nation or region in days
- K. Quantification Start date will be the current date auto selected. End date will depend on Quantification Period selected which is expressed in days.
- L. Select a currency for the quantification, default is US\$.

Step 1 of 6: Background

Name of Country Bangladesh		Name of the Preparer MAHMUDUL ISLAM	
Quantification Level <b>National</b> Regional   Facility		Email mahmudmia@yahoo.com	
Division Select Division	District Select District	Facility Select Facility	Contact# 01715010789
Quantification For PPE and Disinfectants		Date of Preparation 14/09/2020 04:53:12 PM	
Minimum stock level in days 15	Maximum stock level in days 30	Quantification Start Date 14/09/2020	Quantification Period (days) 90
Remarks		Quantification End Date 12/12/2020	Currency Name USD (United States Dollar)

**NEXT >**

Press NEXT button after filling up the necessary fields.

## Step 2 of 6: COVID-19 Cases

- # of New COVID-19 Cases during Quantification Period: Enter the total estimated number of new COVID-19 cases to be notified during the quantification period.
- Percentage of cases by type: Enter the estimated proportions of COVID-19 cases by type. The cases are divided into four groups namely – mild, moderate, severe and critical. The corresponding number of cases for each group of cases is automatically calculated by multiplying the total number of cases by the corresponding proportion (%).
- Days of stay by type of COVID-19 cases: Enter the estimated, average, number of days of stay or hospitalization by type of COVID-19 cases separately. If mild and moderate cases are not staying in health facilities, enter 0 for the number of days of stay, for these groups.

Step 2 of 6: COVID-19 Cases

# of New COVID-19 Cases during Quantification Period \*

565565

SL.	Group of Cases	% of Cases	# of Cases	Days of Stay
1	# of Critical Cases(Hospitalization)	5.00	28,278	14
2	# of Severe cases(Hospitalization)	15.00	84,835	14
3	# of Moderate cases(Isolation)	40.00	226,226	14
4	# of Mild cases(Isolation)	40.00	226,226	14
<b>Total</b>		100.00	565,565	

< PREV
NEXT >

Press NEXT button after filling up the necessary fields.

## Step 3 of 6: HR Categories

If quantification is for National or Regional, assigned staff for each HR Categories of the quantification automatically fills up if available. the user shall enter the following against each type of health facilities:

- Number of health facilities by type/level: Enter the number health facilities or HR categories by type/level.
- Total number of HCWs: Enter the total number of HCWs of the health facility group. It should include HC professionals including clinicians, nurses, lab techs... only, i.e. does not include cleaners and admin staff. Note: This is not used in any calculations in the tool, however it can be used as a reference on the assumptions on number of HCWs on duty per day. This total cannot/should not be less than the number of HCWs on duty per day.
- Number of HCWs per day per department/unit: Enter the number of total HCWs on duty per day, considering the number of shifts per day, for each of the departments/units by HF category.

Bangladesh: National: PPE and Disinfectants: 14SEP20201653127167

**Step 3 of 6: HR Categories**

# of personnel or people per day per facility category by department (Consider shifts when applicable i.e multiply the # of HCWs per shift by the # of shifts in a day)

SL.	HR Categories	# of HFs by Category	Total # of HCWs by HF category	# of HCW: Triage, point of entry, ambulance	# of Specimen collector	# of Laboratory personnel	# of HCW: Handling suspected or confirmed cases with no aerosol generating procedures	# of HCW: Handling cases with aerosol generating procedures	cleaning
1	Covid specialized hospitals	20	40	66	5	0	0	0	
2	COVID testing centers/departments	10	4,000	6	23	0	0	0	
3	UHC (Upazila Health Complex)	520	0	0	0	0	0	0	
4	Sub-district except UHC	30	0	0	0	0	0	0	
5	District Hospital	64	0	0	0	0	0	0	
6	District level/General/other	0	0	0	0	0	0	0	
7	Medical/dental college Hospital	0	0	0	0	0	0	0	
8	Medical/dental college/institute	0	0	0	0	0	0	0	
9	Specialized Hospital	0	0	0	0	0	0	0	
10	Community Clinics (CC)	0	0	0	0	0	0	0	

< PREV
NEXT >

Press NEXT button after filling up the necessary fields.

If quantification for a single facility, following information to be filled in -

- A. Total number of HCWs: Enter the total number of HCWs of the health facility. It should include HC professionals including clinicians, nurses, lab techs... only, i.e. does not include cleaners and admin staff. Note: This is not used in any calculations in the tool, however it can be used as a reference on the assumptions on number of HCWs on duty per day. This total cannot/should not be less than the number of HCWs on duty per day.
- B. Number of HCWs per day per department/unit: Enter the number of total HCWs on duty per day, considering the number of shifts per day, for each of the departments/units.

Press NEXT button after filling up the necessary fields.

### Step 4 of 6: Product Selection Entry/Edit

Enter the average quantity of each product in basic units used per day by the corresponding group of users i.e. HCWs in ICU, laboratory, cleaners in ICU/lab, admin staff, population, and patient groups (inpatient, out-patient) etc. Note that some products such as face masks, hand sanitizers can be used by multiple groups (e.g. patients, HCWs, Cleaners). Some products may be reused for multiple days, in this case take the reciprocal of the number of days one unit can be used per user. For example, if one goggle can be used for 10 days per one user, the usage rate per case will be 1/10 (1 divided by 10) i.e. 0.1 per user per day. Daily usage rates have been entered mainly based on WHO's recommendations, but they can be edited by the user. The quantification team should discuss the usage rates and agree to use them as they are or change them based on local context.

Bangladesh: National: PPE and Disinfectants: 14SEP20201653127167

Step 4 of 6: Commodity Usage Rate

Average quantity per day per personnel/patient

SL.	Product Description	HCW: Triage, point of entry, ambulance	Specimen collector	Laboratory personnel	HCW: Handling suspected or confirmed cases with no aerosol generating procedures	HCW: Handling cases with aerosol generating procedures	Cleaners: cleaning COVID-ICUs	CI ward
1	Gown, protective	2	2	2	1	1	1	
2	Scrubs, tops	0.03	0.03	0	0.03	0.03	0.03	
3	Scrubs, pants	0.03	0.03	0	0.03	0.03	0.03	
4	Apron, disposable	0	0	0	0	1	0	
5	Apron, heavy duty, reusable	0	0	0	0	0	0.05	
6	Gum boots	0	0	0	0	0	0.01	
7	Gloves, heavy duty	0	0	0	0	0	0.1	
8	Gloves, examination	8	8	8	4	24	0	

< PREV
NEXT >

### Step 5 of 6: Product Selection Entry/Edit

This step lists the products to quantify with their unit of measurement. User is able to change the following fields -

- A. Unit Price: Enter the unit price of the product per unit, in selected currency.
- B. Stock Balance: Enter the quantity of available and usable stock on hand (not expired, that can be used before expiry or not damaged) in units. Stock on hand should be taken from all warehouses in the health facility, and if possible, all wards and pharmacies, as of the same day - the inventory date entered as part of the background information. Fetch Balance button allows to get the stock balance from available eLMIS via API calls.
- C. Expected Shipments: Enter the quantity of pending stock on order in packs.
- D. Adjustments in %: By default, the adjustment factor is set to be 100%, that means no adjustment done on the forecasted demand; however, if the quantification team needs to make some adjustments for any reason (either increase or decrease the forecasted demand for the quantification period) the adjustment factor should be changed. For example, if the quantification team wants to increase the demand of gloves by 3%, to account for training requirements, the 100% adjustment should be changed to 103%. Note that this is not adjustment for wastage or buffer.
- E. Wastage rate: Enter the estimated wastage rate of each of the products as a percentage of the estimated forecasted quantity after adjustment for the quantification period.
- F. Buffer: Enter the estimated buffer allocation for each of the products as a percentage of the estimated forecasted quantity after adjustment for the quantification period.

After all parameters are filled in, press GENERATE QUANTIFICATION RESULTS button, this will calculate the quantification and will show the results in next page.

Bangladesh: National: PPE and Disinfectants: 14SEP20201653127167

Step 5 of 6: Product Selection

Date of Inventory  
13/09/2020 Fetch Balance

SL.	Product	Unit	Unit Price (USD)	Stock Balance	Expected Shipments	Adjustment %	Wastage %	Buffer %
1	Gown, protective	each	0.80	0	0	80.00	5.00	25.00
2	Scrubs, tops	each	2.60	0	0	80.00	5.00	25.00
3	Scrubs, pants	each	2.60	0	0	100.00	5.00	25.00
4	Apron, disposable	each	0.20	0	0	100.00	5.00	25.00
5	Apron, heavy duty, reusable	each	4.00	0	0	100.00	5.00	25.00
6	Gum boots	pair	4.60	0	0	100.00	5.00	25.00
7	Gloves, heavy duty	pair	1.80	0	0	100.00	5.00	25.00

<< PREVIOUS GENERATE QUANTIFICATION RESULTS

## Step 6 of 6: Quantification Results

The tool calculates forecasted demand of each product during the quantification period, wastage allocations, buffer quantities, quantity of each product required for procurement, and value of procurement for the quantification period. It also provides analysis of stock status in days and relative contribution of each product to the total procurement value. Following are the column descriptions:

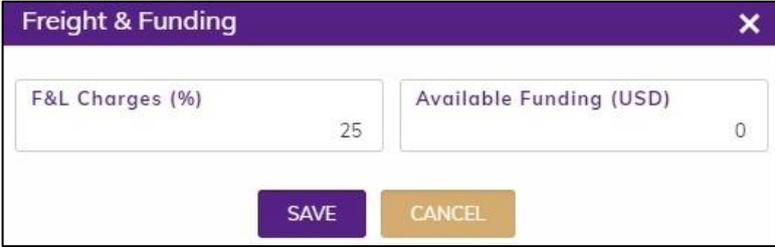
- A. Product Name: Products which are quantified.
- B. Daily demand by HCW, cleaners, and population: Total daily demand of each product by HCWs, cleaners and population is automatically calculated by multiplying the usage rate of each product per day by the number of users; and then by calculating the sum of estimated daily usage by the groups. Note that this does not include demand by patients.
- C. Demand by patients: Total demand of each product by patients is automatically calculated by multiplying the usage rate of each product per day by patient numbers and then by number of days of use of each product. When various patient groups are using the same products, the sum is calculated by adding the demand of each group of patients.
- D. Demand during the quantification period: Total demand of each product by all groups of users (HCWs, cleaners, patients, general population...) is calculated by adding the demand by each of the groups.  $D = (B \times \text{Quantification period}) + C$
- E. Adjustment%: Comes from the previous step, allows to change if required.
- F. Demand after adjustment during the quantification period: Total demand of each product by all groups of users (HCWs, cleaners, patients, general population...) after adjustment is calculated by multiplying demand during the quantification period by the adjustment factor.  $F = D \times E.G.$
- G. Wastage%: Comes from the previous step, allows to change if required.
- H. Wastage quantity in units: Is calculated by multiplying the wastage rate (as % of total demand) by the total estimated demand of each product after adjustment during the quantification period.  $H = F \times G$
- I. Buffer%: Comes from the previous step, allows to change if required.
- J. Buffer quantity in units: Is calculated by multiplying buffer as % by the total estimated demand of each product after adjustment during the quantification period.  $J = F \times I$
- K. Total demand including wastage and buffer in units: Is calculated by adding the demand after adjustment during the quantification period, wastage quantities and buffer quantities, all in basic units.  $K = F + H + J$
- L. Stock in Hand: Available stock balance, comes from previous step.



START FRESH: Will go to the first step of wizard

Freight & Funding: Allows entering 2 values - Freight and Logistics Charges (cost of procurement, transportation, insurance, clearance, storage...) which is typically a percentage, and Available Funding. Based on these 2 values the total requirements and GAP is calculated and displayed below the table.

User can export the quantification results to Excel for further analysis, copy and start quantification run with different parameters or start fresh quantification run.



The image shows a dialog box titled "Freight & Funding" with a close button (X) in the top right corner. It contains two input fields: "F&L Charges (%)" with the value "25" and "Available Funding (USD)" with the value "0". Below the input fields are two buttons: "SAVE" and "CANCEL".

## 2.2. Facility Level Quantification - NEW

For starting a fresh quantification run for a single facility you need to go to New Quantification Run under Quantification menu. There are some difference in the process from national/regional, which is explained below -

### Step 1 of 6: Background

User have to select a Facility for which the quantification will be done.

Step 1 of 6: Background

Name of Country: Bangladesh

Name of the Preparer: Rubel Mea

Quantification Level: National Regional **Facility**

Division: Dhaka District: Gazipur Facility: Kaliganj Upazila Healt...

Email: rubel714@gmail.com

Contact#: 01689763654

Quantification For: PPE and Disinfectants

Date of Preparation: 17/09/2020 02:36:26 PM

Minimum stock level in days: 15 Maximum stock level in days: 30

Quantification Start Date: 17/09/2020 Quantification Period (days): 90

Remarks:

Quantification End Date: 15/12/2020 Currency Name: USD (United States Dollar)

NEXT >

### Step 2 of 6: COVID-19 Cases

Same as National/Regional.

### Step 3 of 6: HR Categories

User have to enter the total number of health care workers in the selected facility, then put the number of workers by category who are in duty on a daily basis.

Bangladesh: Facility: Kaliganj Upazila Health Complex, Gazipur: PPE and Disinfectants: 17SEP2020143626626

Step 3 of 6: HR Categories

# of personnel or people per day per facility category by department (Consider shifts when applicable i.e multiply the # of HCWs per shift by the # of shifts in a day)

SL	HR Categories	Total # of HCWs	# of HCW: Triage, point of entry, ambulance	# of Specimen collector	# of Laboratory personnel	# of HCW: Handling suspected or confirmed cases with no aerosol generating procedures	# of HCW: Handling cases with aerosol generating procedures	# of Cleaners: cleaning COVID-ICUs
1	Kaliganj Upazila Health Complex, ...	15	2	1	5	1	1	2

<PREV

NEXT >

### Step 4 of 6: Commodity Usage Rate

Same as National/Regional.

### Step 5 of 6: Product Selection

Same as National/Regional.

### Step 6 of 6: Quantification results

Same as National/Regional.

## 3. Diagnostics Quantification

### 3.1. National/Regional/Facility Level Quantification - NEW

Follow the same steps shown in the PPE and Disinfectants product quantification run you can quantify Diagnostics product also. For starting a fresh quantification run you need to go to New Quantification Run under Quantification menu. This is a multi-step process.

#### Step 1 of 6: Background

The user should enter the background information about the quantification. The following are what need to be entered -

- A. Enter the name of the Country for which the quantification is conducted. Example: Bangladesh
- B. Enter the name of the preparer - First and last name.
- C. Select the quantification level - National / Regional / Facility for which quantification will be performed
- D. Enter the email address of the preparer.
- E. If level is regional - select which Division or District. If Facility level - select for which facility
- F. Enter the contact number of the preparer - include country code.
- G. Select whether quantification is for PPE & Disinfectants or will be for Diagnostics commodities
- H. Enter date on which the quantification was completed
- I. Enter the minimum stock level set for the health facility or nation or region in days
- J. Enter the maximum stock level set for the health facility or nation or region in days
- K. Quantification Start date will be the current date auto selected. End date will depend on Quantification Period selected which is expressed in days.
- L. Select a currency for the quantification, default is US\$.

The screenshot shows a web form titled "Step 1 of 6: Background". The form is organized into several sections:

- Name of Country:** A text input field containing "Bangladesh".
- Name of the Preparer:** A text input field containing "MAHMUDUL ISLAM".
- Quantification Level:** Three radio buttons labeled "National", "Regional", and "Facility". "National" is selected.
- Email:** A text input field containing "mahmudmia@yahoo.com".
- Division, District, Facility:** Three dropdown menus. "Division" is set to "Select Division", "District" to "Select District", and "Facility" to "Select Facility".
- Contact#:** A text input field containing "01715010789".
- Quantification For:** A dropdown menu set to "Diagnostics".
- Date of Preparation:** A text input field containing "23/09/2020 11:10:53 AM".
- Minimum stock level in days:** A text input field containing "15".
- Maximum stock level in days:** A text input field containing "30".
- Quantification Start Date:** A text input field containing "23/09/2020".
- Quantification Period (days):** A text input field containing "90".
- Remarks:** A text area with a small icon for adding attachments.
- Quantification End Date:** A text input field containing "21/12/2020".
- Currency Name:** A dropdown menu set to "USD (United States Dollar)".

A "NEXT >" button is located at the bottom right of the form.

#### Step 2 of 6: COVID-19 Cases

The user shall enter the following:

- A. Number of new COVID-19- cases: Enter the total estimated number of new COVID-19 cases to be notified/confirmed during the quantification period.
- B. % of cases by type: Enter the estimated proportions of confirmed COVI-19 cases by type. The cases are divided into two groups namely – mild and hospitalized (severe and critical). The corresponding number of cases for each group of cases is automatically calculated by multiplying the total number of cases by the corresponding proportion (%).
- C. Number of people to be tested to get one confirmed/notified COVID-19- case: Enter the number of testes that need to be done by average to detect one confirmed positive case. For example, if the case detection rate is 33% that mean you need to test 3 people to get one confirmed case. This is used to automatically calculate the number of tests to be performed.

- D. % of additional tests (repeat, training, quality control...): Enter the % of screening tests that need to be repeated for any reason – suspected false positive, mistake in conducting the test, etc. This is used to automatically calculate the number of repeat screening tests to be performed.
- E. Number of total testes per one hospitalized case: Enter the average total number of tests that need to be performed for each hospitalized case – from screening until discharge. This is used automatically calculate the number of additional tests required for hospitalized cases.
- F. Number of total testes per one mild and moderate (outpatient) case: enter the average total number of tests that need to be performed for each outpatient case – from screening until confirmed negative. This is used to automatically calculate the number of additional tests required for outpatient cases.
- G. Total number of COVID tests needed: Is automatically calculated to provide the total number of tests estimated to be performed during the quantification period.  $G = C+D+E+F$ .

Bangladesh: National: Diagnostics : 23SEP202011248773

Step 2 of 6: COVID-19 Cases

# of New COVID-19 Cases during Quantification Period \*

20000

SL.	Group of Cases	% of Cases	# of Cases
1	% Severe and Critical cases (Hospitalized)	20.00	4,000
2	% Moderate and Mild cases (Outpatient)	80.00	16,000
<b>Total</b>		<b>100.00</b>	<b>20,000</b>

# of people that need to be tested to get 1 confirmed case \*

5

% of repeat screening tests \*

20

# of people to be tested \*

100000

No of repeat screening tests \*

20000

No of tests per hospitalized case \*

3

No of tests per outpatient (Moderate and Mild) case \*

2

Additional tests for hospitalzied cases \*

8000

Additional tests for outpatient cases \*

16000

Total number of COVID-19 Tests Needed \*

144000

< PREV
NEXT >

## Step 4 of 6: HR Categories

Enter the average quantity, in basic units, of each product required to perform one test. Information on the usage rates may be found from manufacturers of the platform and reagents.

Bangladesh: National: Diagnostics : 23SEP2020111248773

Step 4 of 6: Commodity Usage Rate

SL.	Product Description	Usage rate/Test
1	Triple packaging boxes	0.01
2	Swab and Viral transport medium	1
3	Extraction kit	0.004
4	RT-PCR reaction kit (manual)	0.01
5	Test kits - high-throughput PCR	1

< PREV

NEXT >

## Step 5 of 6: Product Selection

This step lists the products to quantify with their unit of measurement. User is able to change the following fields -

- Unit Price:** Enter the unit price of the product per unit, in selected currency.
- Stock Balance:** Enter the quantity of available and usable stock on hand (not expired, that can be used before expiry or not damaged) in units. Stock on hand should be taken from all warehouses in the health facility, and if possible, all wards and pharmacies, as of the same day - the inventory date entered as part of the background information. Fetch Balance button allows to get the stock balance from available eLMIS via API calls.
- Expected Shipments:** Enter the quantity of pending stock on order in packs.
- Adjustments in %:** By default, the adjustment factor is set to be 100%, that means no adjustment done on the forecasted demand; however, if the quantification team needs to make some adjustments for any reason (either increase or decrease the forecasted demand for the quantification period) the adjustment factor should be changed. For example, if the quantification team wants to increase the demand of gloves by 3%, to account for training requirements, the 100% adjustment should be changed to 103%. Note that this is not adjustment for wastage or buffer.
- Wastage rate:** Enter the estimated wastage rate of each of the products as a percentage of the estimated forecasted quantity after adjustment for the quantification period.
- Buffer:** Enter the estimated buffer allocation for each of the products as a percentage of the estimated forecasted quantity after adjustment for the quantification period.
- After all parameters are filled in, press **GENERATE QUANTIFICATION RESULTS** button, this will calculate the quantification and will show the results in next page.

Bangladesh: National: Diagnostics : 23SEP2020111248773

Step 5 of 6: Product Selection

Products to Quantify Date of Inventory  
22/09/2020 [Fetch Balance](#)

SL.	Product	Unit	Unit Price (USD)	Stock Balance	Expected Shipments	Adjustment %	Wastage %	Buffer %
1	Triple packaging boxes	each	1.20	3,000	0	100.00	10.00	40.00
2	Swab and Viral transport medium	each	0.70	20,000	0	100.00	10.00	40.00
3	Extraction kit	each	1.10	100,000	0	100.00	10.00	40.00
4	RT-PCR reaction kit (manual)	each	4.50	90,000	0	100.00	10.00	40.00
5	Test kits - high-throughput PCR	each	2.50	10,000	0	100.00	10.00	40.00

[< PREV](#)

[GENERATE QUANTIFICATION RESULTS](#)

## Step 6 of 6: Quantification Results

The tool calculates forecasted demand of each product during the quantification period, wastage allocations, buffer quantities, quantity of each product required for procurement, and value of procurement for the quantification period. It also provides analysis of stock status in days and relative contribution of each product to the total procurement value. Following are the column descriptions:

- A. Product Name: Products which are quantified.
- B. Daily demand by HCW, cleaners, and population: Total daily demand of each product by HCWs, cleaners and population is automatically calculated by multiplying the usage rate of each product per day by the number of users; and then by calculating the sum of estimated daily usage by the groups. Note that this does not include demand by patients.
- C. Demand by patients: Total demand of each product by patients is automatically calculated by multiplying the usage rate of each product per day by patient numbers and then by number of days of use of each product. When various patient groups are using the same products, the sum is calculated by adding the demand of each group of patients.
- D. Demand during the quantification period: Total demand of each product by all groups of users (HCWs, cleaners, patients, general population...) is calculated by adding the demand by each of the groups.  $D = (B \times \text{Quantification period}) + C$
- E. Adjustment%: Comes from the previous step, allows to change if required.
- F. Demand after adjustment during the quantification period: Total demand of each product by all groups of users (HCWs, cleaners, patients, general population...) after adjustment is calculated by multiplying demand during the quantification period by the adjustment factor.  $F = D \times E.G.$
- G. Wastage%: Comes from the previous step, allows to change if required.
- H. Wastage quantity in units: Is calculated by multiplying the wastage rate (as % of total demand) by the total estimated demand of each product after adjustment during the quantification period.  $H = F \times G$
- I. Buffer%: Comes from the previous step, allows to change if required.
- J. Buffer quantity in units: Is calculated by multiplying buffer as % by the total estimated demand of each product after adjustment during the quantification period.  $J = F \times I$
- K. Total demand including wastage and buffer in units: Is calculated by adding the demand after adjustment during the quantification period, wastage quantities and buffer quantities, all in basic units.  $K = F + H + J$
- L. Stock in Hand: Available stock balance, comes from previous step.
- M. Stock on Order: Comes from the previous step.
- N. Procurement requirement: Is calculated by deducting the stock on hand and stock on order from the total demand.  $K - (L+M)$
- O. Price/Unit: Comes from previous step.

- P. Procurement requirement by value: Is calculated by multiplying the procurement requirements by quantity, by the unit price.  $P = N \times O$
- Q. Stock status in days: Is calculated by dividing the stock on hand (L) by the daily demand after adjustment in packs (F). The cell background has color, which provides alerts in terms of “stockout” if the stock level is 0 days, “Low stock” if the stock level is from > 0 to 14 days, “OK” if the stock level is between 14 and 30 days, and “Over Stock” if the stock level is above 30 days.
- R. %Value: Is calculated by dividing the procurement requirement of each product (P) by the total procurement by value.

Freight and Funding allows entering 2 values - Freight and Logistics (cost of procurement, transportation, insurance, clearance, storage...) which is typically a percentage, and Available Funding. Based on these 2 values the total requirements and GAP is calculated and displayed below the table.

User can export the quantification results to Excel for further analysis, copy and start quantification run with different parameters or start fresh quantification run.

Bangladesh: National: **Diagnostics**: 27AUG20201136375712

Step 5 of 5: Quantification Results

Usage Rate    Freight & Funding

SL#	Product Name	Demand in Quantification Period	Adjustment %	Adjustment Quantity	Wastage %	Procurement Requirements	Price/Unit (USD)	Procurement Requirements (USD)	Stock Status in Days	%Value
1	Triple packaging boxes	23,468	100.00	23,468	10.00	0	0.00	0	750	0.00
2	Swab and Viral transport ...	2,346,750	100.00	2,346,750	10.00	3,516,765	0.00	0	0	0.00
3	Extraction kit	9,387	100.00	9,387	10.00	10,797	0.00	0	31	0.00
4	RT-PCR reaction kit (manu...	23,468	100.00	23,468	10.00	34,865	0.00	0	1	0.00
5	Test kits - high-throughput...	2,346,750	100.00	2,346,750	10.00	3,498,456	0.00	0	1	0.00

Total (USD): 0

< PREV    COPY    EXPORT    START FRESH

█ Stockout    █ Lowstock    █ Optimal    █ Overstock

## 4. Open Quantification Run

### 4.1. Quantification Run - EDIT

When user first logs in the available quantification runs are displayed –

SL	Quantification Run	Action
1	Bangladesh: Facility: Tejgaon Health Complex, Dhaka: PPE and Disinfectants: 17SEP2020160331048	[Icons: Document with +, Pencil, List, Red X, Document with +]
2	Bangladesh: Facility: Kaliganj Upazila Health Complex, Gazipur: PPE and Disinfectants: 17SEP2020143626626	[Icons: Document with +, Pencil, List, Red X, Document with +]
3	Bangladesh: National: PPE and Disinfectants: 16SEP2020223406762	[Icons: Document with +, Pencil, List, Red X, Document with +]
4	Bangladesh: Facility: Tejgaon Health Complex, Dhaka: PPE and Disinfectants: 16SEP20202143307461	[Icons: Document with +, Pencil, List, Red X, Document with +]
5	Bangladesh: National: PPE and Disinfectants: 15SEP20201038584754	[Icons: Document with +, Pencil, List, Red X, Document with +]
6	Bangladesh: National: PPE and Disinfectants: 15SEP20201038330663	[Icons: Document with +, Pencil, List, Red X, Document with +]

Following functions are available for each quantification run –



**Export to Excel:** To export to Excel of a generated quantification run

**Edit:** To edit a previously generated quantification run

**View Results:** To see the quantification result again of a previously generated quantification run

**Delete:** To delete a quantification run

**Copy:** Copy an existing quantification run

## 5. Administration Menu

Following are the Sub-Menus under Administration Menu -

### 5.1. Case Groups Entry

The following form is used for entering different case groups for PPE and Diagnostics groups. This data will be used during the 2<sup>nd</sup> step of the quantification wizard. For every group you have to mention % of cases in each group, number of days of isolation and whether the group of patients need to be hospitalized or quarantined at home.

**Case Groups Entry**

Product Group: PPE and Disinfectants

+ Add   Print   Excel

Search: \_\_\_\_\_

SL.	Group of Cases	% of Cases	Days of Stay	In-Patient	Out-Patient	Action
1	# of Critical Cases(Hospitalization)	5	14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2	# of Severe cases(Hospitalization)	15	14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3	# of Moderate cases(Isolation)	40	14	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4	# of Mild cases(Isolation)	40	14	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

### 5.2. Products to Quantify

The following form is used for entering products which will be quantified. Left side table has the product list with product name, unit of measurement, unit price and 3 percentage columns used during quantification. Right side table shows the linkage of the product with actual LMIS product.

**Products to Quantify**

Product Group: PPE and Disinfectants

+ Add   Print   Excel

Products to Quantify

Search: \_\_\_\_\_

SL.	Product	Unit	Unit Price (USD)	Adjustment%	Wastage%	Buffer%	Action
1	Gown, protective	each	0.80	100	5	25	
2	Scrubs, tops	each	2.60	100	5	25	
3	Scrubs, pants	each	2.60	100	5	25	
4	Apron, disposable	each	0.20	100	5	25	
5	Apron, heavy duty, reusable	each	4.00	100	5	25	
6	Gum boots	pair	4.60	100	5	25	
7	Gloves, heavy duty	pair	1.80	100	5	25	
8	Gloves, examination	pair	0.06	100	5	25	

Showing 1 to 19 of 19 entries

Map with LMIS Products

Search: \_\_\_\_\_

Product Code	LMIS Product	Action
COVID052	Gown for Level - 1	
COVID091	Gown for Level - 2	
COVID092	Gown for Level - 3	
COVID093	Gown for Level - 4	

Showing 1 to 4 of 4 entries

### 5.3. HR Categories

The following form is used for setting the types of health organizations with total number of facilities and total number of HCWs under each category as a baseline.

HR Categories

Product Group: PPE and Disinfectants

+ Add   Print   Excel

Show 25 entries   Search:

SL	HR Categories	# of HFs by Category	Total # of HCWs by HF category	Action
1	Covid specialized hospitals	20	0	 
2	COVID testing centers/departments	10	0	 
3	UHC (Upazila Health Complex)	520	0	 
4	Sub-district except UHC	30	0	 
5	District Hospital	64	0	 
8	Medical/dental college/institute	0	0	 
9	Specialized Hospital	0	0	 
10	Community Clinics (CC)	0	0	 
11	Alternate/Homeo	0	0	 
12	Chest Disease Hospital	0	0	 
13	Chest Disease Clinic	0	0	 
14	Directorate and Health offices all level OSD	0	0	 
15	HI/AHI/HA/CHCP (Country total)	0	0	 
16	Newly appointed Doctors (2000)	0	0	 
17	Others	0	0	 

Showing 1 to 17 of 17 entries   First   Previous   1   Next   Last

### 5.4. Commodities Usage Heads Entry

The following form is used for default setting of Usage Heads of commodities. There are 2 types of usage – for Facility which is against different categories of workers, and another for in-patients/out-patients.

Commodity Usage Heads Entry

Product Group: PPE and Disinfectants

+ Add   Print   Excel

Search:

SL	Level	Heads	In-Patient	Out-Patient	Action
1	Facility	HCW: Triage, point of entry, ambulance	<input type="checkbox"/>	<input type="checkbox"/>	 
2	Facility	Specimen collector	<input type="checkbox"/>	<input type="checkbox"/>	 
3	Facility	Laboratory personnel	<input type="checkbox"/>	<input type="checkbox"/>	 
4	Facility	HCW: Handling suspected or confirmed cases with no aerosol generating procedures	<input type="checkbox"/>	<input type="checkbox"/>	 
5	Facility	HCW: Handling cases with aerosol generating procedures	<input type="checkbox"/>	<input type="checkbox"/>	 

