



COSTS OF HIV VIRAL LOAD AND EARLY INFANT DIAGNOSIS: FORECASTING TOOL MANUAL FOR APPLICATION

April 2017

This publication was produced for review by the United States Agency for International Development. It was prepared by Peter Stegman, Rachel Sanders, Chris Cintron, and Carlos Avila for the Health Finance and Governance Project.

The Health Finance and Governance Project

USAID's Health Finance and Governance (HFG) project will help to improve health in developing countries by expanding people's access to health care. Led by Abt Associates, the project team will work with partner countries to increase their domestic resources for health, manage those precious resources more effectively, and make wise purchasing decisions. As a result, this five-year, \$209 million global project will increase the use of both primary and priority health services, including HIV/AIDS, tuberculosis, malaria, and reproductive health services. Designed to fundamentally strengthen health systems, HFG will support countries as they navigate the economic transitions needed to achieve universal health care.

April 2017

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.

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I. BACKGROUND

The Excel-based spreadsheet tool, developed by USAID's Health Finance and Governance (HFG) project, can be used to estimate the costs and human resource implications of scaling up HIV viral load monitoring and the use of viral load testing for early infant diagnosis (EID). Users can choose between different testing platforms, target populations, and supporting practices, and view outputs accordingly. Some sections of the tool are pre-populated based on the costing study that guided creation of this tool – these inputs should be viewed only as an example, not as a depiction of what all VL and EID testing arrangements will or should include.

The spreadsheets have a consistent color code – green cells must be filled in in order to generate results; grey cells can be overwritten if needed, and white cells should be left alone, as they contain a formula required to generate results.

2. SETUP

The blue tab labeled "Setup" is used to define the parameters for the estimates of the costs of viral load testing. Users should first select their country from the drop-down list, and then enter the local currency and exchange rate to US dollars. This should also include an entry that shows the year of the exchange rate, for documentation purposes. Users have the option to enter costs in either local currency of in US dollars. Results will be displayed in US dollars.

Test types should be entered in cells B18 to B27. Users can name up to five different test types, or multiples of the same test type, which is used by the country to scale up viral load monitoring and EID testing.

Users should then use the dropdown menus to select the target populations for adult and child viral load monitoring, as well as early infant diagnosis. Pre-populated target populations have been provided by default, described below. Numbers are drawn from the Spectrum modeling that countries complete with UNAIDs, and are drawn from the UNAIDS database of country files. These files are updated every year. If, however, the tool is implemented prior to the latest update being released, the previous year's data will be used.



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Pre-populated options for adult viral load costing include:

- Adult HIV+ (15 and over)
- Adults on ART (15 and over)
- Other if the "other" option is selected, the user will need to enter their own target population on the Drop Down Master List tab.

Pre-populated options for child viral load monitoring include:

- HIV+ children (0-14)
- Children on ART (0-14)
- Other if the "other" option is selected, the user will need to enter their own target population on the Drop Down Master List tab.

Pre-populated options for early infant diagnosis include:

- Women needing PMTCT (HIV+ pregnancies)
- Women receiving PMTCT (known HIV+ pregnancies receiving PMTCT services)
- Other if the "other" option is selected, the user will need to enter their own target population on the Drop Down Master List tab.

Note that we are using HIV+ pregnancies as a proxy for HIV exposed infants, as this is a number available from Spectrum modeling.

Users can then add the location and level of the facilities that are being included in the implementation of the tool. This data is not essential for the working of the tool, but can be used for comparing costs at different health facility level, or between geographic locations.



3. UNIT COSTS

The first gold tab in the tool is for entering unit costs for all the inputs into VL monitoring and EID testing. This sheet is important in that it contains much of the data for calculating the costs for different testing and monitoring sub-processes, so please check your data and make sure that it is input correctly. The User should input the testing machine in use in the country of study. Either the cost of the particular machine can be entered, if it has been purchased, or the user can specify that the machine is part of a leasing arrangement, or what is called "placement" or "reagent rental". In a leasing arrangement, the costs of the machine are subsumed in the overall costs of reagents.

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Nurse	SALARY PER YEAR (local currency)	SALARY PER YEAR (US\$)	(US\$)	(US\$)	WEEK	WORKED PER YEAR	HOUR WORKED			
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Narse Courselor Doctor Clinical Officer	SALARY PER YEAR (local currency) 721,419.94 420,828.22 2,284,497.34 841,675.74	SALARY PER YEAR (US\$) 7,100.59 4,142.01 22,485.21 8,284.21	(US\$) 710.06 414.20 2,248.52 828.42	(US\$) 7,810.65 4,556.21 24,733.73 9,112.63	40 40 40 40 40	WORKED PER YEAR 48 48 48 48 48	HOUR WORKED 4.07 2.37 12.88 4.75			
PERSONNEL TYPE (MOH) Nurse Courselor Doctor Clinical Officer Nurse assistant	SALARY PER YEAR (local currency) 721,419.94 420,828.22 2,284,497.34 841,675.74 420,828.22	SALARY PER YEAR (US\$) 7,100.59 4,142.01 22,485.21 8,284.21 4,142.01	(US\$) 710.06 414.20 2,248.52 828.42 414.20	(US\$) 7,810.65 4,556.21 24,733.73 9,112.63 4,556.21	40 40 40 40 40 40 40	WORKED PER YEAR 48 48 48 48 48 48 48	HOUR 4.07 2.37 12.88 4.75 2.37			
PERSONNEL TYPE (MOH) Nurse Courselor Doctor Clinical Officer Nurse assistant Driver	SALARY PER YEAR (local currency) 721,419,84 420,828,22 2,284,497,34 841,615,74 420,288,22 541,064,70	SALARY PER YEAR (US\$) 7,100,59 4,142,01 22,485,21 8,284,21 4,142,01 5,325,44	(US\$) 710.06 414.20 2,248.52 828.42 414.20 532.54	(US\$) 7,810.65 4,556.21 24,733.73 9,112.63 4,556.21 5,857.98	40 40 40 40 40 40 40 40	WORKED PER YEAR 48 48 48 48 48 48 48 48	HOUR 4.07 2.37 12.88 4.75 2.37 3.05			
PERSONNEL TYPE (MOH) Nurse Counselor Doctor Clinical Officer Nurse assistant Driver Philebotomist	SALARY PER YEAR (local currency) 721,419.94 420,828.82 2,284,497.34 841,675.74 420,828.22 541,064.70 420,828.22	SALARY PER YEAR (US\$) 7,100.59 4,142.01 22,485.21 8,284.21 4,142.01 5,325.44 4,142.01	(US\$) 710.06 414.20 2,248.52 828.42 414.20 532.54 414.20	(US\$) 7,810.65 4,556.21 24,733.73 9,112.63 4,556.21 5,857.98 4,556.21	40 40 40 40 40 40 40 40 40 40 40	WORKED PER YEAR 48 48 48 48 48 48 48 48 48	HOUR WORKED 4.07 2.37 12.88 4.75 2.37 3.05 2.37			
PERSONNEL TYPE (MOH) Nurse Counselor Doctor Clinical Officer Nurse assistant Driver Philebotomist	SALARY PER YEAR (local currency) 721,419,84 420,828,22 2,284,497,34 841,615,74 420,288,22 541,064,70	SALARY PER YEAR (US\$) 7,100,59 4,142,01 22,485,21 8,284,21 4,142,01 5,325,44	(US\$) 710.06 414.20 2,248.52 828.42 414.20 532.54	(US\$) 7,810.65 4,556.21 24,733.73 9,112.63 4,556.21 5,857.98	40 40 40 40 40 40 40 40	WORKED PER YEAR 48 48 48 48 48 48 48 48	HOUR 4.07 2.37 12.88 4.75 2.37 3.05			
PERSONNEL TYPE (MOH) Nurse Courselor Dottor Clinical Officer Nurse assistant Driver Philebotomist Lab technologist	SALARY PER YEAR (local currency) 721,419.94 420,828.82 2,284,497.34 841,675.74 420,828.22 541,064.70 420,828.22	SALARY PER YEAR (US\$) 7,100.59 4,142.01 22,485.21 8,284.21 4,142.01 5,325.44 4,142.01	(US\$) 710.06 414.20 2,248.52 828.42 414.20 532.54 414.20	(US\$) 7,810.65 4,556.21 24,733.73 9,112.63 4,556.21 5,857.98 4,556.21	40 40 40 40 40 40 40 40 40 40 40	WORKED PER YEAR 48 48 48 48 48 48 48 48 48	HOUR WORKED 4.07 2.37 12.88 4.75 2.37 3.05 2.37			
PERSONNEL TYPE (MOH) Nurse Courselor Doctor Clinical Officer Nurse assistant Driver Philebotomist Lab technologist Data Clerk	SALARY PER YEAR (local currency) 721,419,94 420,828,22 2,284,497,44 841,675,74 420,828,22 541,064,70 420,828,22 721,419,94	SALARY PER YEAR (US\$) 7,100.59 4,4142.01 22.485.21 4,142.01 5,325.44 4,142.01 5,325.44 4,142.01 7,100.59	(US\$) 710.06 414.20 2,248.52 828.42 414.20 532.54 414.20 710.06	(US\$) 7,810.65 4,556.21 24,733.73 9,112.63 4,556.21 5,857.98 4,556.21 7,810.65	WEEK 40 40 40 40 40 40 40 40 40	WORKED PER YEAR 48 48 48 48 48 48 48 48 48 48	HOUR WORKED 4.07 2.37 12.88 4.75 2.37 3.05 2.37 4.07			
PERSONNEL TYPE (MOH) Nurse Counselor Doctor Clinical Officer Nurse assistant Driver Philebotomist Lab technologist Data Clerk Admin Officer	SALARY PER YEAR (local currency) 721,419,44 420,828,22 2,284,497,34 420,828,22 541,064,70 420,828,22 721,419,94 721,419,94	SALARY PER YEAR (US\$) 7,100.59 4,142.01 22,485.21 8,284.21 4,142.01 5,325.44 4,142.01 7,100.59 7,100.59	(US\$) 710.06 414.20 2,248.52 828.42 414.20 532.54 414.20 710.06 710.06	(US\$) 7,810.65 4,556.21 24,733.73 9,112.63 4,556.21 5,857.98 4,556.21 7,810.65 7,810.65 7,810.65	WEEK 40 40 40 40 40 40 40 40 40 40 40 40 40 40	WORKED PER YEAR 48 48 48 48 48 48 48 48 48 48	HOUR WORKED 4.07 2.37 12.88 4.75 2.37 3.05 2.37 4.07 4.07			
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PERSONNEL TYPE (MOH) Nurse Courselor Doctor Clinical Officer Nurse assistant Driver Philebotomist Lab technologist Data Clerk Admin Officer Assistart Research Officer Program Managers Lab Manager	SALARY PER YEAR (local currency) 721,419,94 420,828.22 2,284,497,34 844,675,74 420,828.22 541,064,70 420,828.22 721,419,94 721,419,94 420,828.22 1,683,313.88 2,885,680,79 3,1226,153,77	SALARY PER YEAR (US\$) 7,100.59 4,442.01 22,485.21 8,284.21 4,422.01 5,325.44 4,422.01 7,100.59 7,100.59 4,442.01 16,558.05 28,402.37 30,769.23	(US\$) 710.06 414.20 2,248.52 414.20 532.54 414.20 730.06 710.06 414.20 1,656.81 2,840.24 3,076.92	(US\$) 7,810.65 4,556.21 24,733,73 4,556.21 5,857.98 4,556.21 7,810.65 7,810.65 4,556.21 18,224.86 31,242.61 33,846.15	WEEK 40	WORKED PER YEAR 48	HOUR WORKED 4.07 2.37 12.88 4.75 2.37 3.05 2.37 4.07 4.07 4.07 4.07 9.49 16.27 17.63			
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PERSONNEL TYPE (MOH) Nurse Courselor Doctor Clinical Officer Nurse assistant Driver Philebotomist Lab technologist Data Clerk Admin Officer Assistant Research Officer Program Managers Lab Manager Lab Manager HC - Auxillany/Attendant HC - General Physician	SALARY PER YEAR (local currency) 721,419.94 420,828.22 2,284,497,34 841,675,74 420,828.22 541,064,70 420,828.22 721,419.94 721,419.94 420,828.22 1,663,313.88 2,885,680,79 3,3126,153,77 483,819.20 744,321.60	SALARY PER YEAR (US\$) 7,100.59 4,442.01 22,485.21 4,442.01 5,325.44 4,442.01 7,100.59 7,100.59 4,442.01 16,568.05 28,402.37 30,0769.23 4,762.00 7,326.00	(US\$) 710.06 414.20 2,248.52 828.42 414.20 730.06 710.06 710.06 414.20 710.06 744.55 81 2,840.24 3,076.92 476.20 732.60	(US\$) 7,810.65 4,556.21 2,4,733.73 9,112.63 4,556.21 5,857.98 4,556.21 7,810.65 7,810.65 7,810.65 7,810.65 3,1242.61 33,248.65 31,242.61 33,248.55 5,238.20	WEEK 40	WORKED PER 48	HOUR WORKED 4.07 12.88 4.75 2.37 3.05 2.37 4.07 4.07 4.07 4.07 17.63 9.49 16.27 17.63 2.73 2.73			
Narse Courselor Doctor Clinical Officer Nurse assistant Driver Philobotmist Lab technologist Data Clerk Admin Officer Assistant Research Officer Program Managers Lab Manager HC - Audilary/Attendant HC - General Physician HC - Lab Technican	SALARY PER YEAR (local currency) 721,419,94 420,288.22 2,284,497,34 841,675,74 420,888.22 420,888.22 721,419,94 721,419,94 420,288.22 1,469,313.88 2,885,560.79 3,122,6153,77 438,319,20 744,321,60 50,2412.00	SALARY PER YEAR (US\$) 7,100.59 4,4142.01 22,485.21 8,284.21 4,142.01 7,100.59 7,100.59 4,142.01 16,568.05 28,402.37 30,0763.23 4,762.00 7,326.00 4,945.00	(US\$) 710.06 414.20 2.248.52 414.20 532.54 414.20 710.06 414.20 1.655.81 2.840.24 3.076.52 475.20 772.60 494.50	(US\$) 7,810.65 4,556.21 24,733,73 4,556.21 5,857.98 4,556.21 7,810.65 7,810.65 4,556.21 18,224.86 31,242.486631,242.486 31,242.486	WEEK 40	WORKED PER YEAR 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48	HOUR 4.07 2.37 12.88 4.75 2.37 3.05 2.37 4.07 4.07 4.07 4.07 2.37 9.49 16.27 17.63 2.73 2.73 2.73 4.20			
PERSONNEL TYPE (MOH) Nurse Courselor Doctor Colineal Officer Nurse assistant Driver Phiebotomist Lab technologist Dota Clerk Admin Officer Admin Officer Program Managers Lab Manager HC - Autiliary/Attendant HC - General Physician HC - Lab Techniclan HC - Nurse Midwife	SALARY PER YEAR (local currency) 721,419,54 420,828,22 2,284,497,34 420,828,22 541,064,70 420,828,22 721,419,94 721,419,94 721,419,94 721,419,94 721,419,94 420,828,22 1,683,313,88 2,885,60,79 3,126,153,77 433,819,20 744,321,60 500,412,00 500,412,00	SALARY PER YEAR (US\$) 7,100.59 4,4142.01 22,485.21 4,442.01 5,325,44 4,442.01 7,100.59 7,100.59 7,100.59 4,1442.01 16,568.05 28,402.37 30,769.23 4,762.00 7,7326.00 4,945.00 5,311.00	(US\$) 710.06 414.20 2.248.52 828.42 414.20 730.06 710.06 414.20 710.06 414.20 710.06 414.20 710.06 414.20 710.06 414.20 710.06 414.20 712.66 81 2.840.24 3.076.22 476.20 732.60 494.50 531.10	(US\$) 7,810.65 4,556.21 24,733.73 9,112.63 4,556.21 7,810.65 7,810.65 4,556.21 18,224.86 31,242.48631,242.486 31,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,242.486 31,242.48631,24631,	WEEK 40	WORKED PER YEAR YEAR 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48	HOUR WORED 4.07 2.37 12.88 4.75 2.37 3.05 2.37 4.07 4.07 4.07 4.07 1.7.63 2.73 2.73 2.73 4.23 2.37 1.23 2.37 4.07 2.37 1.23 2.37 3.05 2.37 2.37 2.37 2.37 2.37 2.33 2.35 2.3			
PERSONNEL TYPE (MOH) Nurse Courselor Doctor Clinical Officer Nurse assistant Driver Philebotomist Lab technologist Data Clerk Admin Officer Program Managers Lab Manager HC - Autiliary/Attendant HC - General Physician HC - Nurse/Midufe HC - Nurse/Midufe	SALARY PER YEAR (local currency) 721,419,94 420,828,22 2,284,497,34 841,675,74 420,828,22 541,064,70 420,828,22 721,419,94 420,828,22 1,683,313,88 2,885,680,79 3,126,153,77 483,819,20 744,321,60 539,597,60 837,387,20	SALARY PER YEAR (US\$) 7,100.59 4,142.01 22,485.21 4,142.01 5,325.44 4,142.01 7,100.59 7,100.59 4,142.01 16,568.05 28,402.37 30,769.23 4,762.00 7,325.00 4,342.01 5,311.00 8,242.00	(US\$) 710.06 414.20 2.248.52 828.42 414.20 532.54 414.20 710.06 414.20 1.655.81 2.840.20 710.65 414.20 1.655.81 2.840.20 712.60	(US\$) 7,810.65 4,556.21 5,562.21 5,567.39 4,556.21 7,810.65 7,810.65 4,556.21 18,224.86 31,242.61 33,846.15 5,238.20 8,058.60 5,439.50 5,439.50	WEEK 40	WORKED PER YEAR 448 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448	HOUR WORKED 4.0.7 2.37 12.88 4.75 2.37 3.05 2.37 4.07 4.07 4.07 2.37 4.07 4.07 2.37 1.63 1.627 1.763 2.73 4.20 2.73 4.20 3.04			
PERSONNEL TYPE (MOH) Nurse Counselor Counselor Doctor Clinkal Officer Nurse assistant Driver Philebotomist Lab technologist Data Clerk Admin Officer Rogram Managers Lab Manager Lab Managers Lab Managers Lab Manager HC - Audilary/Attendant HC - Lab Technician HC - Lab Technician HC - Auditruian HC - Posterrician HC - Auditruian	SALARY PER YEAR (local currency) 721,419,94 420,828,22 2,284,497,34 440,828,22 541,064,70 420,828,22 721,419,94 721,419,94 420,828,22 1,489,313,88 2,885,660,79 3,122,6153,77 483,819,20 744,321,60 500,241,200 539,597,60 837,387,20 837,387,20	SALARY PER YEAR (US\$) 7,100.59 4,142.01 22,485.21 4,142.01 5,325.44 4,142.01 7,100.59 7,100.59 7,100.59 4,142.01 16,558.05 28,402.37 30,765.23 4,762.00 4,945.00 5,311.00 8,242.00 8,242.00	(US\$) 710.06 414.20 2.248.52 414.20 532.54 414.20 710.06 414.20 710.06 414.20 1.656.81 2.840.24 3.0765.92 476.20 494.50 533.10 824.20 824.20	(US\$) 7,810.65 4,556.21 2,4,733,73 9,112.63 4,556.21 7,810.65 7,810.65 7,810.65 4,556.21 18,224.86 31,242.486 31,242.486 31,242.65 5,238.20 5,238.20 5,238.20 8,058.60 5,439.50 5,842.10 9,066.20	WEEK 40	WORKED PER YEAR 48 48	HOUR WORKED 4.07 2.37 12.88 4.75 2.37 3.05 2.37 4.07 4.07 4.07 4.07 4.07 4.07 10.627 17.63 2.73 2.73 2.73 4.20 2.88 3.04 4.20			
Narse Courselor Courselor Doctor Clinical Officer Nurse assistant Driver Philebotomist Lab technologist Data Clerk Admin Officer Program Managers Lab Manager HC - Audilary/Attendant HC - General Physician HC - Sutser/Midwlfe HC - Sutser/Midwlfe HC - Sutser/Midwlfe HC - Sutser/Midwlfe	SALARY PER YEAR (local currency) 721,419,94 420,828,22 2,284,497,34 841,675,74 420,828,22 541,064,70 420,828,22 721,419,94 420,828,22 1,683,313,88 2,885,680,79 3,126,153,77 483,819,20 744,321,60 539,597,60 837,387,20	SALARY PER YEAR (US\$) 7,100.59 4,142.01 22,485.21 4,142.01 5,325.44 4,142.01 7,100.59 7,100.59 4,142.01 16,566.05 28,402.37 30,0769.23 4,762.00 7,325.60 4,342.01 5,311.00 8,242.00 8,242.00	(US\$) 710.06 414.20 2.248.52 828.42 414.20 532.54 414.20 710.06 414.20 1.655.81 2.840.20 710.65 414.20 1.655.81 2.840.20 712.60	(USS) 7,810.65 4,556.21 24,733.73 9.112.63 4,556.21 5,857.98 4,556.21 7,810.65 7,810.65 4,556.21 18,224.86 31,242.61 33,846.15 5,238.20 5,238.20 5,538.20 5,548.210 9,066.20 5,548.210	WEEK 40	WORKED PER YEAR 448 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448 48 448	HOUR WORKED 4.0.7 2.37 12.88 4.75 2.37 3.05 2.37 4.07 4.07 4.07 2.37 4.07 4.07 2.37 1.63 1.627 1.763 2.73 4.20 2.73 4.20 3.04			



The user must input all the various health and related personnel involved in either VL monitoring or EID testing along with their annual salaries (in local currency). The other columns will be calculated out automatically.

		VL Costing Tool FINA					pstegman@futuresins	titute.org		
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REAGENTS	UNIT COST	NUMBER OF TESTS	NUMBER USED	UNIT COST PER TEST						
	(US\$)	COVERED	PER TEST	(US\$)						
Cobas Ampliprep/Cobas Taqman kits (quantitative) (pack of 48)	523.00	48	1.000							
Cobas Ampliprep/Cobas Taqman kits (qualitative) (pack of 48)	444.73	48	1.000	9.27						
Sample preparation kit (mSample Preparation System DNA) (1 kit = 96 tests)	288.00	96	1.000	3.00						
Amplification kit (Abbott RealTime HIV-1 Qualitative Amplification Reagent Kit) (1 kit =										
96 tests)	686.00	96	1.000	7.15						
Control kit (Abbott RealTime HIV-1 Qualitative Control Kit) (1 kit covers 1128 tests and										
has 12 positive and 12 negative controls)	230.00	1128	1.000	0.20						
HIV-1 Quant RNA Test kit (unit of 1)	676.00	96	0.010	7.04						
Specimen Pre-Extraction kit (SPEX) (box of 50)	288.00		1.042	6.00						
bbott Control Kit, Calibrator & Quant Amplification RNA Reagent Kit (unit of 1)	230.00	96	0.010	2.40						
bbott Calibrator & Quant Amplification RNA Reagent Kit (unit of 1)	230.00 288.00	96 96	0.010	2.40						
ample Preparation Reagent RNA (box of 50)	288.00	96	0.010	5.00						
PIMA Cartridge (pack of 100)	090.34	100								
Other	0.00		21000							
Other	0.00			0.00						
	0.00 UNIT COST	NUMBER OF TESTS	NUMBER USED							
Iter		NUMBER OF TESTS COVERED		0.00						
ITEM	UNIT COST (US\$) 7.89	COVERED 25	NUMBER USED PER TEST 4.000	0.00 UNIT COST PER TEST						
ITEM	UNIT COST (US\$) 7.89 2.96	COVERED 25 45	NUMBER USED PER TEST 4.000 0.044	0.00 UNIT COST PER TEST (US\$)						
ITEM Illoves (powder free) x 100 gloves harps container (2L plastic) harps container (SL carton)	UNIT COST (US\$) 7.89 2.96 1.18	COVERED 25 45 100	NUMBER USED PER TEST 4.000 0.044 0.050	0.00 UNIT COST PER TEST (US\$) 0.32 0.07 0.01						
ITEM Sloves (powder free) x 100 gloves harps container (2L plastic) harps container (5L carton) cucutainer medic (19-23 gauge) (box of 100)	UNIT COST (US\$) 7.89 2.96 1.18 27.61	COVERED 25 45 100 100	NUMBER USED PER TEST 4.000 0.044 0.050 1.000	0.00 UNIT COST PER TEST (US\$) 0.32 0.07 0.01 0.28						
ITEM Sloves (powder free) x 100 gloves Jharps container (31 plastic) Jharps container (51 carton) /accutainer needles. (19-23 gauge) (box of 100) Jeadel Holders (box of 200)	UNIT COST (US\$) 2.96 1.18 27.61 24.63	COVERED 25 45 100 100 200	NUMBER USED PER TEST 4.000 0.044 0.050 1.000 1.000	0.00 UNIT COST PER TEST (US\$) 0.32 0.07 0.01 0.28 0.12						
ITEM Sloves (powder free) x 100 gloves harps container (3L plastic) harps container (5L carton) leadle holders (box of 200) contiguets (unit of 1)	UNIT COST (US\$) 7.89 2.96 1.18 27.61 24.63 2.96	COVERED 25 45 100 100 200 1000	NUMBER USED PER TEST 0.044 0.050 1.000 1.000 0.001	0.00 UNIT COST PER TEST (US\$) 0.07 0.01 0.28 0.12 0.12						
ITEM illows (powder free) x 100 glowes hanps container (3L plastic) hanps container (5L carton) accuratiene redel: (19-23 gauge) (box of 100) teedle Holders (box of 200) cominguets (unit of 1) folkazard bags; (Red and black) (100 per case)	UNIT COST (US\$) 2.96 1.18 27.61 24.63 2.96 35.00	COVERED 25 45 100 200 1000 2000	NUMBER USED PER TEST 4.000 0.044 0.050 1.000 1.000 0.001 0.005	0.00 UNIT COST PER TEST (US\$) 0.32 0.07 0.01 0.28 0.12 0.00 0.00 0.00						
ITEM Sloves (powder free) × 100 gloves harps container (2L plastic) harps container (5L catton) catculater needles: (19-23 gauge) (box of 100) keedle holders (box of 200) comquets (unit of 1) slohazard bags. (Ref and black) (100 per case) blohazard containes (unit of 1)	UNIT COST (US\$) 2.96 1.18 27.61 24.63 2.96 35.00 35.89	COVERED 25 45 100 200 1000 2000 20000 96	NUMBER USED PER TEST 4.000 0.044 0.050 1.000 0.010 0.001 0.001 0.001	0.00 UNIT COST PER TEST (USS) 0.32 0.07 0.01 0.28 0.00 0.00 0.00 0.00 0.37						
ITEM Sloves (powder free) x 100 gloves harps container (2L plastic) harps container (SL catton) harps container (SL catton) keedle Holders (box of 200) complasts (unit of 1) Slohazard bags, (Red and black) (100 per case) Slohazard containers (unit of 1) Slohazard containers (unit of 1) Slohazard containers (unit of 1) Slohazard containers (unit of 2)	UNIT COST (US\$) 2.96 1.18 27.61 24.63 2.96 35.00 35.09 2.95 9 2.9.59	COVERED 25 45 100 200 1000 2000 1000 20000 96 960	NUMBER USED PER TEST 4.000 0.044 0.050 1.000 1.000 0.001 0.005 0.010 0.025	0.00 UNIT COST PER TEST (US\$) 0.07 0.01 0.28 0.12 0.00 0.00 0.00 0.00 0.03 0.03						
ITEM Inves (powder free) x 100 gloves harps container (2L plastic) harps container (3L plastic) container (6L carton) eedle holders (box of 200) containet (6H carton) invest (100 per case) initiazed containers (mit et 1) aboratory costs (closposable) (25 per case) aboratory costs (closposable) (25 per case) aboratory costs (closposable) (25 per case)	UNIT COST (US\$) 2.86 2.86 1.18 2.63 2.463 2.86 3.5.00 35.89 2.5.9 2.5.9	COVERED 25 45 100 100 2000 20000 96 950 34800	NUMBER USED PER TEST 4.000 0.044 0.050 1.000 1.000 0.001 0.005 0.010 0.026 0.020	0.00 UNIT COST PER TEST (USS) 0.32 0.07 0.28 0.12 0.00 0.28 0.00 0.37 0.03 0.00 0.0						
ITEM Noves (powder free) x 100 gloves harps container (21: plastic) harps container (51: carton) escelle stolders (box of 200) escelle stolders (box of 200) escelle stolders (box of 200) ioihazard dass; (Red and black) (100 per case) tolhazard containers (unit of 1) ioihazard black (25 per case) aboratory costs (font-disposable) (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard black (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard black (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard black (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard black (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard black (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard black (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard black (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard (25 per case) aboratory costs (font-disposable) (Unit of 1) Ioihazard (25 per case) Ioihazard (UNIT COST (US\$) 2.96 1.18 2.265 2.265 3.500 3.5.89 22.59 2.5.00 19.72	COVERED 25 45 100 100 2000 2000 20000 20000 96 560 34800 100	NUMBER USED PER TEST 4.000 0.044 0.050 1.000 0.001 0.001 0.001 0.010 0.026 0.000 0.010	0.00 UNIT COST PER TEST (US\$) 0.32 0.07 0.01 0.28 0.12 0.00 0.00 0.00 0.00 0.00 0.03 0.0						
ITEM Inves (powder free) x 100 gloves harps container (21, plantic) harps container (81, carton) eedde holders (box of 200) eedde holders (box of 200) invigants (unit of 1, 100 per case) inbinaard dogas, (Red and black) (100 per case) inbinaard (ordinare) (unit of 1) aboratory coats (cinocabpeable) (Unit of 1) DTA tubes, (Aml from BD) (box of 100) localor subs (box of 100)	UNIT COST (US\$) 2.96 1.18 2.761 2.463 3.500 3.589 2.259 2.500 1.9.72 1.000	205 25 300 200 200 2000 96 34800 34800 100	NUMBER USED PER TEST 4.000 0.044 0.050 1.000 0.010 0.025 0.010 0.025 0.010 0.025 0.010 0.025 0.000 1.000 1.000	0.00 UNIT COST PER TEST (US\$) 0.32 0.07 0.28 0.02 0.00 0.37 0.03 0.00 0.37 0.03 0.00 0.37 0.03 0.00 0.37 0.03 0.00 0.0						
ITEM Noves (powder free) x 100 glows harps container (21, plastic) harps container (35, carton) estelle kilders (box of 200) estelle kilders (box of 200) estelle kilders (box of 200) iohazad bags, (Red and black) (100 per case) iohazad ogs, (Red and black) (100 per case) babratory costs (disposable) (25 per case) aboratory costs (disposable) (25 per case) aboratory costs (box disposable) (101 of 1) To A tabes, (And free B0) (box of 100) clored swass (box of 100) clored swass (box of 100)	UNIT COST (US5) 7.89 2.96 1.18 2.261 2.261 2.261 3.500 3.589 2.500 3.589 2.500 3.589 2.500 3.972 1.000 4.100	205 25 100 100 200 2000 96 96 960 34800 100 100 2000 500	NUMBER USED PER TEST 4 0000 0.044 1.000 0.050 0.005 0.010 0.005 0.010 0.025 0.000 1.000 1.000	0.00 UNIT COST PER TEST (USS) 0.07 0.01 0.28 0.02 0.02 0.02 0.03 0.0						
ITEM Slowes [powder free] > 100 glowes Anarge container (2L plastic] Anarge container (3L plasti	UNIT COST (US\$) 7,89 2,66 1,18 2,2,61 2,2,61 3,5,00 3,3,69 2,5,50 19,72 10,00 14,00 0,01 0,01	205 25 30 300 300 300 300 34800 100 300 34800 100 300 300 300 300 300 300 300 300 3	NUMBER USED PER TST 4.000 0.044 0.055 1.000 1.000 0.000 0.000 1.000 1.000 1.000 1.000 1.000 1.000	0.00 UNIT COST PER TEST (US\$) 0.32 0.07 0.01 0.28 0.00 0.32 0.00 0.37 0.03 0.00 0.37 0.03 0.00 0.37 0.03 0.00 0.37 0.03						
ITEM Sloves (powder free) x 100 gloves harps container (2L plastic) harps container (SL cattor) harps container (S	UNIT COST (US5) 7.89 2.96 1.18 2.261 2.261 3.500 3.3589 2.959 2.550 19.72 10.00 19.72 10.00 0.10 0.10 0.10	25 25 45 100 2000 2000 96 960 34600 100 100 100 100 100	NUMBER USD PER TEST 0.644 0.650 1.000 0.001 0.005 0.010 0.025 0.000 1.000 1.000 0.000 0.000 0.000 0.000 0.000	0.00 UNIT COST PER TEST (USS) 0.27 0.07 0.01 0.28 0.29 0.20 0.00						
ITEM Silves (powder free) × 100 gloves Subars container (2.1 plastic) Subars container (2.1 plastic) Accuration readfles, (19-2 gagge) (box of 100) Accuration readfles, (19-2 gagge) (box of 100) Commignet (umit of 1) Silvatard containers (unit of 1) Silvatard cont	UNIT COST (US\$) 7,89 2,66 1,18 2,2,61 2,2,61 3,5,00 3,3,69 2,5,50 19,72 10,00 14,00 0,01 0,01	205 25 30 300 300 300 300 34800 100 300 34800 100 300 300 300 300 300 300 300 300 3	NUMBER USED PER TST 4.000 0.044 0.055 1.000 1.000 0.000 0.000 1.000 1.000 1.000 1.000 1.000 1.000	0.00 UNIT COST PER TEST (US5) 0.32 0.07 0.01 0.28 0.00 0.32 0.00 0.37 0.03 0.00 0.37 0.03 0.00 0.37 0.03 0.00 0.37 0.03						
	UNIT COST (US5) 7.89 2.96 1.18 2.261 2.261 3.500 3.3589 2.959 2.550 19.72 10.00 19.72 10.00 0.10 0.10 0.10	25 25 45 100 2000 2000 96 960 34600 100 100 100 100 100	NUMBER USD PER TEST 0.644 0.650 1.000 0.001 0.005 0.010 0.025 0.000 1.000 1.000 0.000 0.000 0.000 0.000 0.000	0.00 UNIT COST PER TEST (USS) 0.27 0.07 0.01 0.28 0.29 0.20 0.00						

From a drop-down list the user should select all the consumables used in either VL monitoring or EID testing. Selections will be entered along with their unit cost (these can be modified based on circumstances and purchasing variabilities). The user will have to determine how many tests are covered by each consumable given the basic unit of each, and the number used per test. The unit cost per test is calculated out automatically. The user should input the equipment that are used, the proportion of that equipment's operations that are used for testing, and their costs.

4. VL MONITORING AND EID TESTING SUB-PROCESSES

The next four tabs in the tool, labeled "Blood Sample & Packing," "Centrifuge," "Running Machine," and "Quality Assurance," are for inputting the specific costs related to the following:

<u>Human resources</u>: On the sheet for each sub-process, the User should use the first input table under "Staff Unit Cost Calculation" to enter the amount of time each staff cadre spends to complete related tasks for each of the testing platforms being used. These entries are converted to their corresponding cost in the subsequent table.



<u>Equipment and machine costs</u>: In the first table under "Equipment and Machine Unit Cost Calculation", the User should enter the number of tests (both VL monitoring and EID) conducted annually. The User then selects equipment items from the drop-down lists that appear in the cells in column B. This will pull equipment and costs from the Unit Costs page, and transfer the unit cost per test in the table below.

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rkbook Views Show	Zoom	andon you raines.	Window		Macros							
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	SUMMARY - C	OST PER TEST: RUN	INING MACHINE									
TEST TYPE	HR	EQUIPMENT	CONSUMABLES	REAGENTS	OTHER	TOTALS						
bbott M2000 RealTime HIV-1 Assay	\$ 0.0	1 \$ 0.04	\$ 1.64	\$ 16.15	\$ -	\$ 17.84						
oche C8800 Analyzer	\$ -	\$ -			\$-	\$ -						
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<u>Consumables:</u> In the first table under "Consumables Unit Cost Calculation", the User should select from the drop-down lists in column B all the consumable items used in the sub-process. For each item selected, the corresponding number consumed per day is automatically entered for each of the testing platforms. The costs for each item, pulled from the Unit Costs page, is entered into the cost table below. Please note that for the "Running Machine" and "Quality Assurance" tabs, there is an additional section where, based on the testing platform selected, the cost of the reagents consumed is automatically input.

<u>Other costs:</u> Users can enter other costs as needed in this section, in order to be able to capture other types of costs that may not have been contemplated by the spreadsheet designers.



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Specimen Pre-Extraction kit (SPEX) (box of 50)	259.02	Specimen Pre-Extraction kit (SPEX) (box of 50) \$	1,491.96						
Sample preparation kit (mSample Preparation System DN/	248.66	Sample preparation kit (mSample Preparation System DI \$	745.98						
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Sample Preparation Reagent RNA (box of 50)	2.59	Sample Preparation Reagent RNA (box of 50)	745.98						
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5. TRAINING

Users must enter details about all training activities that have been conducted over the period under review. Specific entries need to be made for the content or subject of the training; the level where the training took place (international, regional, central); the number of participants; how many of the testing platforms were covered in this training; and the estimated cost per participant for each training event.

In the "Staff Unit Cost Calculation" section, the User should enter all the various staff cadres that were trained in the training events listed in the previous section and the amount of time (in minutes) they were engaged in the training. This will automatically calculate and enter the cost for that time in the subsequent table.

The "Other Costs" table can be used to enter any other costs as needed, in order to be able to capture other types of costs that may not reasonably fit in the data input tables in other sections.



6. TRANSPORTATION

The next tab is for inputting all data related to transportation. This sheet is divided into two main data capture sections. The first section focuses on data collected and entered for the public sector, when the system used for transporting samples is established and maintained by the Ministry of Health or other government apparatus. The second section is to be used when the transportation system is managed privately.

The costing of the transportation system can be set up in one of three ways. The first would reflect the costs of a system run and managed wholly by the public sector. A second configuration would cost inputs only from a privately managed and operated transportation system. A third possibility would be a mix of both public and private costs.

The first section (public sector/MOH) basically follows the same breakdown as data input tables in the sub-process tabs in this tool. The user first enters the personnel involved in the transportation of samples and the time that they devote to this activity. The personnel selections available in the drop-down list are the same as in every drop-down list for the public-sector. "Driver" can be selected (or other person who may partly be responsible for transport). Private sector personnel involved in the transportation of samples was much more specific and restricted, and the drop-down list reflects this. The cost for this time is then automatically calculated and entered in the subsequent table. The user then enters the types of vehicles used in the transportation system, their cost, the number of samples transported and number of platforms served, the estimated useful life, and the time that each vehicle is devoted to transporting lab samples for each of the testing platforms included in the review. The cost of the vehicles in the public sector would be added to the cost of other equipment. Also, any other equipment and consumables used in the transportation process are selected from the drop-down lists in column B of the subsequent tables. The unit cost per test for each of these items is then automatically calculated and entered into their accompanying cost tables.

In the second section (addressing private sector, outsourced involvement), the user starts by entering the various personnel involved in the transportation process and the amount of time, in minutes, that they devote to this activity. The cost of that time is automatically calculated and entered in the subsequent table. If there are any vehicle costs related to this mode of transportation, they are to be entered in the vehicles table, as in the public sector section above. Also, as above, any other equipment and consumables used in the transportation process are selected from the drop-down lists in column B of the subsequent tables. The unit cost per test for each of these items is then automatically calculated and entered into their accompanying cost tables.

If the third, mixed transportation configuration is adopted, then the results sheet should add together the costs for both public and private inputs for HR, equipment and vehicles, and consumables, to present a comprehensive picture of the transport costs.



7. CAPITAL AND OVERHEADS

The last white tab is devoted to capital costs and overheads. The initial table in this sheet calculates capital costs according to the space occupied by labs and lab-related facilities as a proportion of total facility space. The user selects the type of facility from the drop-down list in column B and this generates estimates of space for lab and lab-related spaces and their associated costs.

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eferal Hospital	175,000	0.001840000	0.000171429	-	0.000171429	0.000200000	0.000377143	0.000880000	-	-	0.0036		1,146.60
ference Laboratory	5,246	-		-	-	-	0.044033549	0.052039649	0.012390393	0.006290507	0.1148		1,083.60
gional/Provincial/County Hospital	52,900	0.005746692	0.000661626	-	0.000798677	-	0.001190926	-	-		0.0084	444.25	799.65
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	(Local currency)	(US\$)	(Local currency)	(UD\$)									
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ference Laboratory					4								
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strict Health Center	4.02	\$ 0.04	0.41	\$ 0.00									
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						& Overheads		4					

In the next table, the user enters data on the utility costs devoted to lab and lab-related services. Again, the user selects the type of facility in column B. Based on the selection, the tool will automatically enter the estimated costs for electricity and water by dividing the total utility cost for the facility by the same ratio of total facility size to the size of labs and lab-related facilities. The final table adds oversight and supervisory costs to overheads. Here the user selects, in column B, the various personnel cadres that have a supervisory role and enters the time each staff devotes to supervisory activities. The costs for that time will be automatically calculated and entered in the subsequent table. The final table for "Other Costs" can be used to enter any other costs as needed, in order to be able to capture other types of costs that may not reasonably fit in the data input tables in other sections.



8. **RESULTS TABLES AND GRAPHS**

The blue tab at the end of the tool shows results tables and generic graphs derived from the data in each of the tool's sections. They can be used to examine the cost and human resource implications of current viral load monitoring and EID testing practices. The first set of tables and graphs are generated automatically and projected into the future based on the results of the target population that was selected in the "Set Up" page. The first table presents the *total number of tests by test type*, followed by the *total viral load costs*, and the *total costs by cost type* through to 2025.

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The final set of tables and graphs address the Full-Time Equivalent (FTE) staffing needs based on test type and projected need. These are not generated automatically, as staffing types and the amounts of time each cadre may devote to VL monitoring and EID testing may vary from country to country and are, therefore, manually entered into the tool. The first table presents the FTEs by test type. Here, the user must sum all the time each individual staff cadre invests in VL monitoring or EID testing (presented in minutes in each of the sub-process pages); divide that number by 60 to achieve time in hours; multiply this by the total annual number of tests undertaken by that specific testing platform; divide this by 48 (the number of working weeks); and divide this by 40 (the number of working hours a week). For Phlebotomist, for example, the Excel formula would look like this:

=(((('Blood sample & packaging'!C27+Centrifuge!C27)/60)*'Set up'!D18)/48)/40



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FTEs required per test	Abbott M2000	Abbott M2000	TagMan HIV-1	TagMan HIV-1							50		■Lat	b Manag
	RealTime HIV-1 Assay	RealTime HIV-1 Assay	Monitor Test v1.5 48	Monitor Test v1.5 48	Other	Other	Other	Other	Other	Other	40		Res	skt ant search
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e Assistant	2.0	2.0	1.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	10			
botomist	10.1	10.1	9.1	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0		■Na Ass	irse sistant
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The second table and graph presents the total FTEs for all test types, projected through 2025. The user must calculate this out using a similar approach to the table above. First, as above, the user must sum all the time each staff cadre devotes to VL monitoring or EID testing and divide this by 60 to arrive at total staff time in hours. To this, the user must multiply the total number of tests in a specific year. Again, this all must then be divided by 48 (the number of working weeks in a year), and 40 (the number of working hours in a week). Once again, for a Phlebotomist, the Excel formula would look like this:

=(((SUM('Blood sample & packaging'!\$C\$27:\$F\$27,Centrifuge!\$C\$27:\$F\$27)/60)*SUM('Set up'!D18:D21)/48)/40)

The formula above, would provide you with the total FTEs required in the base year (2015). To project the need into the future, the user would have to replace the input: *SUM('Set up'!D18:D21) above with the sum of all test undertaken in all subsequent years. These figures can be found in the first table on the "Results Tables and Graphs" page, B4:L7. This would allow the user to present staffing needs into the future to 2025.



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A	В	с	D	E	F	G	н	1	J	к	L
Total tests by type		_	_	-		- 1					
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Conventional testing/monitoring	1,730,428	1,738,901	1,739,021	1,732,085	1,724,129	1,718,791	1,716,674	1,714,918	1,713,808	1,714,142	1,716,276
Abbott M2000 RealTime HIV-1 Assay	46,500	46,728	46,731	46,544	46,331	46,187	46,130	46,083	46,053	46,062	46,120
Abbott M2000 RealTime HIV-1 Assay	46,500	46,728	46,731	46,544	46,331	46,187	46,130	46,083	46,053	46,062	46,120
TaqMan HIV-1 Monitor Test v1.5 48	42,000	42,206	42,208	42,040	41,847	41,717	41,666	41,623	41,597	41,605	41,656
FaqMan HIV-1 Monitor Test v1.5 48	42,000	42,206	42,208	42,040	41,847	41,717	41,666	41,623	41,597	41,605	41,656
TOTALS	1,907,428	1,916,767	1,916,900	1,909,254	1,900,485	1,894,600	1,892,267	1,890,331	1,889,108	1,889,476	1,891,828
Total viral load cost	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Abbott M2000 RealTime HIV-1 Assay	1,631,260	1,639,247	1,639,361	1,632,822	1,625,323	1,620,290	1,618,294	1,616,639	1,615,593	1,615,908	1,617,919
Abbott M2000 RealTime HIV-1 Assay	1,631,260	1,639,247	1,639,361	1,632,822	1,625,323	1,620,290	1,618,294	1,616,639	1,615,593	1,615,908	1,617,919
TaqMan HIV-1 Monitor Test v1.5 48	1,820,380	1,829,292	1,829,419	1,822,122	1,813,754	1,808,137	1,805,911	1,804,063	1,802,896	1,803,247	1,805,492
FaqMan HIV-1 Monitor Test v1.5 48	1,820,380	1,829,292	1,829,419	1,822,122	1,813,754	1,808,137	1,805,911	1,804,063	1,802,896	1,803,247	1,805,492
Total costs by cost ty	pe										
TYPE 1											
Abbott M2000 RealTime HIV-1 Assay											
HR	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
HK Equipment	1.19	1.19	1.19	0.67	1.18	0.66	0.66	1.18	1.17	1.17	1.18
cquipment Consumables	1.19	1.19	1.19	1.19	1.18	1.18	1.18	1.18	1.17	1.1/	1.18
Reagents	12.52	12.58	12.58	12.53	12.47	12.43	12.42	12.40	12.39	12.40	12.41
Capital Costs	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Dverheads	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
TOTALS	33.28	33.44	33.45	33.31	33.16	33.06	33.02	32.99	32.97	32.97	33.02
UTALS	55.20	55.44	33.43	55.51	55.10	33.00	55.02	52.99	52.97	52.97	55.02
TYPE 2											
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9. BACKGROUND DATA

After the "Results Tables and Graphs" tab, the tool includes three gold tabs that each contain specific data vital to the overall performance of the tool. Generally, to simplify the use of the tool, and to avoid confusion, these tabs or hidden. It is advised that the contents of these tabs only be modified by those with some knowledge of the workings of Excel. The first of these tabs is the "Drop-down Master List", which contains all the entries for the drop-down lists included in the tool, such as countries and currencies, consumables, testing equipment, etc. Most of these lists can modified to accommodate the specifics of any country's context.

The second gold tab, "Selected Populations," contains the population data from Spectrum that provides the preloaded values for the target population the user selects in the "Set Up" page. These numbers can be updated when country Spectrum files are revised annually and released through UNIADS. The current "Selected Populations" tab is populated with figures from 2015.

The final gold tab, "Health Facilities," contains data that it used to calculate the capital and overhead costs for health facilities contained in the study. This data must be sourced from relevant offices and personnel in the public and/or private sector (depending on the scope of the VL monitoring and EID testing strategy). In the pilot study of this tool, data from Kenya are included and can be used as a representational guide for other users to enter their own data. Where actual costs are not known, for example capital costs for buildings, commercial equivalents may be used. The size of all labs and labrelated spaces may be roughly measured to estimate their size. Overall size of the facility, if actual square feet/meters of useable floor space is not known or cannot be found, can be estimated from perimeter measurements. Utility costs per facility may be available, or may have to be estimated using



facility size as a guide. These values are then entered in this sheet for use in the "Capital Costs and Overheads" sheet.







BOLD THINKERS DRIVING REAL-WORLD IMPACT