

# Revisions on the cMYP Costing and Financing Tool

Version 2.5

March 2011

The purpose of this note is to highlight the background, rational and specific changes made between Version 1.3 (December 2005) of the cMYP Costing and Financing Tool and Versions 2.2 - 2.5 (last update, March 2011).

## Background :

In late 2005, WHO and UNICEF, together with GAVI Alliance partners, developed guidelines for developing a comprehensive Multi-Year Plan (cMYP) for immunization to support countries in improving their planning for immunization. Through the GIVS initiative and framework, the cMYP process marks current efforts to streamline immunization planning process at national level into a single comprehensive and costed plan.

In December 2005, the cMYP costing and financing tool version 1.3 was made available to help undertake the costing and financing of a cMYP. This tool was developed to help countries that did not already have a system in place, estimate the past costs and financing of immunization, and to make projections of future costs, future resources requirements, future financing needs to achieve programme objectives, and analyse the corresponding financing gaps.

## Need for Revisions in 2009 :

By 2009, quite a lot of experience had been gained on the use of Version 1.3 of the cMYP costing and financing tool. Between 2006 to 2008, lots of feedback was gained from:

- Over 50 low and lower middle income countries having used Version 1.3
- Numerous regional cMYP training workshops and peer-review workshops
- Technical assistance provided to countries
- The GAVI Alliance through the Independent Review Committee that reviewed cMYPs
- The global WHO analysis of cMYPs and development of an online database

In addition, since it's development in 2005, there were other reasons for needing to make revisions to the cMYP costing and financing tool.

- The reference prices of vaccines and injection supplies had changed and needed updating even though these inputs are user defined.
- Harmonization with other tools
  - New tools were developed for immunization and in particular the WHO Vaccine and Logistics Forecasting tool<sup>1</sup>. These tools are being used by many countries and better estimate the vaccine and logistics needs for a 5 year plan.

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<sup>1</sup> [http://www.who.int/immunization\\_delivery/systems\\_policy/logistics/en/index2.html](http://www.who.int/immunization_delivery/systems_policy/logistics/en/index2.html)

- In 2008, the Partnership for Maternal and Child Health (PMNCH) Initiative undertook a review of costing tools for health MDGs <sup>2</sup>. The recommendations of this report was a call for better harmonization of tools used in health.
- Harmonization with policy changes
  - Since 2005, there has been an increasing focus on improving immunization coverage by targeting age groups beyond 1 year of age. In addition some new vaccines require administration beyond infants.
  - The GAVI Alliance has decided on supporting pneumococcal and rotavirus vaccines that are currently in presentations that Version 1.3 of the tool are unable to calculate adequately (pre-filled syringe...)
  - The GAVI Alliance policy on co-financing was not well integrated in the cMYP costing and financing tool.

## Process for Revisions

The process for revisions of the cMYP tool was based on various feedback and inputs collected. It started with notes that the cMYP tool developer had compiled between 2006 to 2008, and was complemented with inputs that were formally requested within the WHO's Department for Immunization Vaccines and Biologicals (IVB); experts/tool users in WHO Regional Office; and consultants/prime users of Version 1.3 of the cMYP costing tool.

A great deal of feedback was received by the end of 2009 and although interesting ideas were put forward, it was not possible to address all of them. Some filtering was required to group feedback into those that were:

- Actionable and desirable
- Desirable but not actionable. For instance, some feedback was received on improvement in features of the tool that were not technically possible to do.
- Already included in the tool. That is, some feedback addressed issues that the tool could already handle but the users were unfamiliar as to how the particular feature worked.

There were other considerations that helped filter some of the feedback to manageable revisions. These are listed below.

- No change in the tool that changed the costing methodology
- No change in the tool that significantly changed the relevance of the "user manual"
- No change in the tool that altered the process of data extraction for the cMYP financing database

## Main Revisions Made in 2009

Based on the process for revisions, the following 7 main elements of Version 1.3 of the cMYP costing and financing tool were updated and revised.

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<sup>2</sup> [http://www.who.int/pmnch/topics/economics/costing\\_tools/en/index.html](http://www.who.int/pmnch/topics/economics/costing_tools/en/index.html)

1. Updating of the reference prices of vaccines and injection supplies
2. Ensuring that the tool can accommodate for immunizations beyond 1 year of age and special target populations (adults, adolescents, nomads, outbreaks...)
3. Expanding the new vaccine section given the vaccine pipeline (25 vaccines for routine and 10 for campaigns)
4. Linking the cMYP tool with the EPI Logistics Forecasting tool. The idea being that the output from the EPI Logistics Forecasting tool can be directly entered into the cMYP one.
5. Bringing into the "Data Entry" sheet some of the results from the "Calculation" sheet - especially for demographic projections
6. Allowing the costing to separate between fix site delivery, outreach and mobile strategies for service delivery
7. Including specific tables for GAVI related to co-financing

## **Main Revisions Made in 2010**

1. Updating of the reference prices of vaccines and injection supplies as April 2010;
2. Ensuring that Routine Immunization indicators are clearly presented in the "Gaps and Indicators" sheet;
3. Ensuring that underused vaccine costs are included in the calculation of the funding gaps;
4. Including other transportation costs in the total cost calculations;
5. Correcting calculation formulas of replacement year for vehicles and cold chain equipment.

## **Main Revisions Made in 2011**

1. Updating of the reference prices of vaccines and injection supplies as February 2011;
2. Updating estimated unit cost per infant for surveillance;
3. Revising calculations of vaccine buffer in first year introduction and subsequent annual adjustments;
4. Modifying the worksheet on Government Co-financing to take account of the revised GAVI Co-financing policy.

## **Description of Specific Changes**

The specific changes made between Version 1.3 and Versions 2.2-2.5 of the cMYP costing and financing tool are described below.

### **"1. Data Entry" Worksheet**

#### **Section 0: Demographic Information**

Table 0.0 was revised to offer the possibility to include demographic information for other immunization target groups. These can be entered either as a % of the

total population or the absolute numbers or a combination of both. Once the information is entered in Table 0.0, the results of the demographic forecasting are presented in the table 0.2 below.

## 0. - Demographic Information

### 0.0 - Demographic Forecast Information and Results

Year of last population census		(or year of best estimate)			
Total population (census year)		(or best estimate)			
	<b>Baseline</b>	<b>Future Years</b>			
<b>Routine Immunization</b>					
Population (% growth)					
Births (% total population)					
Infant Mortality Rate (per 1,000 live births)					
Pregnant women (as a factor of births)					
Childbearing age women (CBAW) (% of total population)					
Other target group (enter value in % of total population)					
Specify (ex: Adolescents)					
Specify (ex: Schools)					
Specify (ex: Special risk groups)					

### 0.2 - Results Table for Routine Immunization

Population					
Births					
Surviving Infants					
Fully Immunized Children (proxy)					
Pregnant women					
Child Bearing Age Women					
Other target group (enter value in % of total population)					
Specify (ex: Adolescents)					
Specify (ex: Schools)					
Specify (ex: Special risk groups)					

## Section 1: Vaccines & Injection Supplies

1. Tables 1.0 was added to this section of the "1.Data Entry" sheet. This table allows for countries that have used the WHO EPI Logistics Forecasting Tool to simply paste the forecasting of vaccines and injection supplies into the cMYP tool. By selecting the option button to "Y", then the data can be pasted into tables 1.0. If the EPI Logistics Forecasting Tool was not used, then Tables 1.1 to Tables 1.4 need to be used to estimated the needs for vaccines and injection supplies.

## 1. - Vaccines & Injection Supplies

The simplest way to estimate the vaccine needs for multi-year planning and those for injection supplies is to base it on the WHO vaccine forecasting methods and tools  
Click on the following hyperlinks for more information

[Estimating vaccine needs for multi year planning](#)  
[Five-year forecasting tool \[xls 3.46Mb\]](#)

Has the WHO vaccine forecasting tool been used ?

N

If Y then copy the costing results in the tables 1.0 below and go straight to GAVI awarded vaccines in sheet "8. Co-Financing", then you need to enter  
If N estimate the cost of vaccines and injection supplies using tables 1.1 to

### 1.0 - Cost of vaccines and Injection Supplies from the WHO Vaccine Forecasting Tool

	National and Intermediate Level					
	\$	\$	\$	\$	\$	\$
<b>Routine Immunization</b>						
<b>Cost of Vaccines</b>						
Traditional vaccines (BCG; OPV; Measles; TT; DTP)						
Underused vaccines (YF; Rubella, HepB; Hib; DTPcombo)						
New vaccines (Rota, Pneumo, HPV...)						
<b>Cost of Injection Supplies</b>						
Traditional vaccines (BCG; OPV; Measles; TT; DTP)						
Underused vaccines (YF; Rubella, HepB; Hib; DTPcombo)						
New vaccines (Rota, Pneumo, HPV...)						
<b>Supplemental Immunization</b>						
<b>Total Cost</b>	\$	\$	\$	\$	\$	\$
Ex: Polio (Specify Campaign in Table 0.0)						
Vaccines						
Injection Supplies						
Ex: Measles (Specify Campaign in Table 0.0)						
Vaccines						
Injection Supplies						
Specify Campaign in Table 0.0						
Vaccines						
Injection Supplies						
Specify Campaign in Table 0.0						
Vaccines						

2. Table 1.1 is a new table. It is intended to capture expenditures on vaccines and injection supplies for the baseline year and harmonized with the EPI Logistics Forecasting Tool.
3. Table 1.3 is the revised version of Table 1.2. The main changes are
  - a. More lines have been created to include more vaccines - up to 25 different vaccines or combination of vaccines. Vaccines can now be listed in any order the countries sees fit. The possibilities of different campaigns has been increased from 5 to 10. This has repercussions on Table 1.4 and Table 5.1.
  - b. The columns of the table have been changed and the information needed is entered by selecting the appropriate answer in the drop-down list of each cell. Column B is to allow to select the target population group that is relevant for a vaccine. Note that population groups listed in Table 0.0 will be listed as an option in this column. Column C is to select the vaccine classification in terms of traditional, underused and new vaccines. The costing results will separate the cost by the same vaccine classification. Column D is to specify the doses in the schedule (choice between 1 to 4). Column E is the type of administration of the vaccine (ID= intradermal; SC= sub-cutaneous; IM=intramuscular; or Oral). Column F is the presentation of the vaccine whether liquid, lyophilized or both. Column G is the vial size. Column H is the type of mixing syringe for vaccines that need reconstitution. Note that some injection devices are classified as normal (norm) or with a retractable needled (RN). Column I is a choice for Yes or No whether the vaccine comes in a pre-filled device (ex: Uniject). Finally Columns J-H are used to enter the price of

vaccines for the 5 projected years. Note that a "VaccinePrices" spreadsheet has reference prices.

### Section 3: Vehicles & Transport Costs

A recurrent comment made on the tool is that in many countries, especially in West Africa, there are 3 main strategies for service delivery: Fix site delivery, outreach services and through mobile teams. Concerns were expressed that using the % time of health worker doing outreach (from Table 2.2) was not accurate enough and that the % time using vehicles for outreach and mobile teams should be used instead. As such the value for % time spend using vehicles have been included (as shown below) to more accurately reflect the costs by strategy.

Note that this changes Graph 3 in the "6. Graph" sheet of the tool.

3. - Vehicles & Transport Costs	
Entering information in local currency ?	N
Inflation rate on price of vehicles	2%
Fuel Price per Litre ( )	
Inflation rate on price of fuel	2%
Vehicle maintenance as a % of fuel costs	15%
Average useful life year of vehicles (ULY)	5
Average % time of vehicles for outreach strategy	30%
Average % time of vehicles for mobile strategy	20%

### Section 4: Cold Chain Equipment, Maintenance & Overheads

Tables 4.0 was added to this section of the "1. Data Entry" sheet. This table allows for countries that have used the WHO EPI Logistics Forecasting Tool to simply paste the forecasting of their needs for cold chain equipment (including maintenance and overheads) into the cMYP tool. By selecting the option button to "Y", then the data can be pasted into tables 4.0. If the EPI Logistics Forecasting Tool was not used, then Tables 4.1 to Tables 4.3 need to be used to estimated the needs for cold chain equipment, maintenance and overheads.



## 6. - Program Activities, Other Recurrent Costs and Surveillance

Entering information in local currency ?	N	(Select N for \$ Prices)
Forecasting inflation rate	3%	(Recommended value is 2%. Note that this is a US\$ inflation rate. Do not t

Using simplified costing table 6.0 only	Y	(If N use the detailed tables 6.1 to 6.2 below)
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### 6.0 -Total Spending and Future Budget Needs for Program Activities and Other Recurrent Costs

Program Activities and Other Recurrent Costs	Expenditure	Future Budget Needs				
	2008	2010	2011	2012	2013	2014
	\$	\$	\$	\$	\$	\$
Short-term training						
IEC/social mobilization						
Disease surveillance						
Programme management						
Other routine recurrent costs						
Other (specify)						
Other (specify)						
Other (specify)						
Other (specify)						
Other (specify)						

As such, Table 6.0 was added to this section of the "1. Data Entry" sheet. There is a "Y" and "N" option to decide on whether a simplified costing approach is used (i.e. Table 6.0) or the more detailed costing approach is taken (i.e. Table 6.1 and 6.2) as was the case in Version 1.3 of the cMYP Costing and Financing Tool. If the option to use Table 6.0 is selected, countries must fill out the table with broad costing and budget figures for short term Training, IEC/Social Mobilization, Disease Surveillance; Programme Management; and other recurrent costs/activities.

To help complete Table 6.0 a feature was added to compute the needs based on a unit amount per infant in the birth cohort (births). This table is placed on the right of Table 6.0. The ides of this table is to budget amounts based on a specific amount per child in the birth cohort. Reference unit costs per infant have been added to the table and are based on the average unit cost per infant in 45 countries. Countries should use their own values when possible.

In 2011 the estimated value of surveillance cost per infant has been updated by taking account needs to strengthen Invasive Bacterial Disease (IBD) surveillance sites and rotavirus surveillance sites.

## **"2. Calculations" Worksheet**

The revisions made in the worksheet were the following:

1. Other transportation costs are included in the total cost calculations
2. Formulas to calculated replacement year for vehicles and cold chain equipment are corrected
3. Routine Immunization baseline indicators are presented in two separated columns with and without shared costs, respectively. Whereas in the Gap&Financing worksheet baseline indicators are calculated by excluding shared costs.

Baseline Indicators ( )		0
Total Immunization Expenditures		\$0
Campaigns		\$0
Routine Immunization only		\$0
per capita		
per DTP child		
% Vaccines and supplies		
% Government funding		
% Total Health Expenditures		
% Gov. Health Expenditures		
% GDP		
Total Shared Costs Specific Costs		\$0
% Shared health systems cost		
TOTAL		\$0

Indicators with shared costs included:

Version 2.5 includes a revision of calculations of vaccine buffer and annual incremental adjustment.

Ex: BCG Vaccine		Formula	0	1	2	3	4
A	Births	= [2.4]	0	0	0	0	0
B	Coverage Target	= [3.1]	0%	0%	0%	0%	0%
C	Target Children	A * B	0	0	0	0	0
D	Doses in Schedule	= [6.1.a]	1	1	1	1	1
E	Target Children x Doses	C * D	0	0	0	0	0
F	Wastage Target	= [4.1]	0%	0%	0%	0%	0%
G	Wastage Factor	1/(1 - F)	1.00	1.00	1.00	1.00	1.00
I	Buffer and Incremental Adj	25%	0	0	0	0	0
H	Total Doses (incl. Wastage)	E * G	0	0	0	0	0
J	Total Doses Needed	H + I	0	0	0	0	0
K	Total Vaccine Cost	J * [6.1.g]	\$0	\$0	\$0	\$0	\$0
<b>AD Syringes</b>							
L	Oral	Administration					
M	N	Prefilled device					
N	AD Syringes (+ waste)	E * 1.11	0	0	0	0	0
N2	Buffer Stock	25%					
O	Price of AD Syringes	\$	\$0.069	\$0.069	\$0.069	\$0.069	\$0.069
P	Total Cost of AD Syringes	N * [6.17]	\$0	\$0	\$0	\$0	\$0
<b>Mixing Syringes</b>							
Q	Liquid	Lyophilized					
R	10	Vial Size					
S	Mixing Syringes (+ waste)	H*1.11/ [6.1.b]	0	0	0	0	0
T	None	Mix Syr Type	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
U	Total Cost of Mixing Syringes	S * [6.18]	\$0	\$0	\$0	\$0	\$0

### **"3. Costing" Worksheet**

The revisions made in the worksheet were the following:

1. Bring up Costing Table 3 and place as the second costing table.
2. Simplify the detailed costing table that provided quantities and costs to only show the details for vaccines, injection equipment and logistics.

### **"5. Gaps & Financing " Worksheet**

Routine Immunization baseline indicators are calculated by excluding shared costs. Some users were confused by the table that included (as option) shared costs in Routine Immunization indicators.

## **"8. Co-Financing" Worksheet**

Version 2.5 includes the revised "Co-Financing" worksheet to facilitate countries to calculate their GAVI Co-Financing requirements according to the revision of the related GAVI policy approved in December 2010.

The instructions on how to do this are presented below.

### **Instructions**

Countries that are GAVI Alliance eligible and that have been approved for support to new and underused vaccine introduction since 2008, are required to co-finance the cost of the vaccines provided by GAVI. More details on the GAVI co-financing policy are found on the following links :

[www.gavialliance.org/support/how/guidelines](http://www.gavialliance.org/support/how/guidelines)

This update calculation base GAVI Alliance Board Meeting, 30 November – 1 December 2010

The cMYP calculation of the government co-financing amounts for GAVI awarded vaccines is done simply through the following 5 steps:

**Step 1:** Select the GAVI grouping your country belongs too. Refer to the above links if you are not sure what grouping your country falls under.

**Step 2:** In the two columns of the table that provides the vaccination schedule (as per the "1. Data Entry" sheet Table 1.5), you should (a) select which vaccines are GAVI supported, and (b) enter the year of introduction of the vaccine. In other words, the year from which the co-financing requirement begins.

#### **Calculation of the GAVI Vaccine Co-Financing Amounts for the cMYP**

GAVI Country Grouping (Select)

Vaccines in the Schedule	GAVI Supported	Year of Co-Financing
<b>Routine Immunization</b>	<b>Select</b>	<b>Enter full starting year</b>
Ex: BCG	N/A	Year
BCG	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year
	N/A	Year

**Step 3:** Specify whether "Yes" or "No" (Y/N) you set on the minimum GAVI co-financing levels or your own co-financing levels. The latter being higher than the minimum GAVI requirement.

**Step 4:** Low income countries: depending on your answer to Step 3, either check if the co-financing levels in the first rows of tables are correct, or enter your own co-financing levels using the second row of the table. Intermediate countries have to set current (or expected first year) co-financing levels. Graduating countries have to enter 2016 or 2017 projected prices, depending on vaccine introduction year.

**Step 5:** Review results provided below and insert Government Co-financing amounts in worksheet "4. Financing"

**Results - Government Co-Financing Amounts for the cMYP**

Co-Financing Levels to Apply

GAVI supported Vaccines	Vaccine	Classification	\$	\$	\$	\$	\$
1							
2							
3							
4							
5							

Vaccine Doses to Apply Co-Financing Levels

GAVI supported Vaccines	Vaccine	Classification	Doses	Doses	Doses	Doses	Doses
1							
2							
3							
4							
5							

Government Co-Financing Amounts

GAVI supported Vaccines	Vaccine	Classification	\$	\$	\$	\$	\$
1							
2							
3							
4							
5							

**"VaccinePrices" Worksheet**

In the previous version 1.3 of the cMYP, there was an automated function to select the appropriate vaccine price depending on the relevant cMYP years. However, this function worked well for countries developing new cMYPs up until the year 2008, but needed to be amended for countries that would develop a new cMYP in following years. As an alternative to this automated function, a "VaccinePrices" worksheet was inserted into the cMYP tool. This sheet provides reference prices for vaccines and injection supplies based on the latest information available: Version 2.5 reports prices updated as February 2011 provided by UNCEF Supply Division. Countries should be sure to have the latest information at hand and have access to the latest vaccine prices through the vaccine arrival reports.

## Annex 1 - Revised formulas in Version 2.5

### DATA ENTRY worksheet

Cell	Original formula	New formula	Notes
I921	\$ 0.80	\$ 1.0	To include additional \$0.20 per infant estimated to strengthen Invasive Bacterial Disease (IBD) surveillance sites and Rotavirus surveillance sites

### CALCULATIONS worksheet

Cell	Original formula	New formula	Notes
E219*	=IF(B209<>"0 Vaccine",IF(VLOOKUP(LEFT(B209,LEN(B209)-8),VaccineName,2)=0,E220,E221),0)	=IF(B209<>"0 Vaccine",IF(VLOOKUP(LEFT(B209,LEN(B209)-8),VaccineName,2)=0,E220,IF(E221<0,0,E221)),0)	To exclude the possibility of decreasing buffer stocks
F219*	=IF(F221=0,F220,F221)	=IF(F221<0,0,IF(F221=0,F220,F221))	To exclude the possibility of decreasing buffer stocks
G219*	=IF(G221=0,G220,G221)	=IF(G221<0,0,IF(G221=0,G220,G221))	To exclude the possibility of decreasing buffer stocks
H219*	=IF(H221=0,H220,H221)	=IF(H221<0,0,IF(H221=0,H220,H221))	To exclude the possibility of decreasing buffer stocks
I219*	=IF(I221=0,I220,I221)	=IF(I221<0,0,IF(I221=0,I220,I221))	To exclude the possibility of decreasing buffer stocks
E221*	=IF(B209 <>"0 Vaccine",IF(VLOOKUP(LEFT(B209,	=IF(B209 <>"0 Vaccine",IF(VLOOKUP(LEFT(B209, (LEN(B209)-	To ensure proper link in the VLOOKUP function

	(LEN(B209)-8),VaccineName,2)=0,0,F221/(1+\$F\$163),0)	8)),VaccineName,2,FALSE)=0,0,F221/(1+\$F\$163),0)	
<b>F221*</b>	=IF(E220=0,0,(F222-E222)*\$F\$177)	=IF(F213=0,0,IF(E220=0,0,(F222-E222)*\$F\$177))	To include possibility of switching to new vaccine formulation
<b>G221*</b>	=IF(F220=0,0,(G222-F222)*\$F\$177)	=IF(G213=0,0,IF(F220=0,0,(G222-F222)*\$F\$177))	To include possibility of switching to new vaccine formulation
<b>H221*</b>	=IF(G220=0,0,(H222-G222)*\$F\$177)	=IF(H213=0,0,IF(G220=0,0,(H222-G222)*\$F\$177))	To include possibility of switching to new vaccine formulation
<b>I221*</b>	=IF(H220=0,0,(I222-H222)*\$F\$177)	=IF(I213=0,0,IF(H220=0,0,(I222-H222)*\$F\$177))	To include possibility of switching to new vaccine formulation
<b>C226*</b>	IM	=+'1. Data Entry'!\$E\$254	To link cell to Data Entry
<b>C227*</b>	N	=+'1. Data Entry'!\$F\$254	To link cell to Data Entry
<b>F1331</b>	=L14630	=+E1331	To link to correct cell
<b>E1332</b>	=(L14628+L14629)*L14630	=(E1329+E1330)*E1331	To link to correct cells
<b>E1338</b>	=L14635*L14636	=E1336*E1337	To link to correct cells
<b>E1340</b>	=(L14628+L14635)/\$E\$110	=(E1329+E1336)/\$E\$110	To link to correct cells
<b>E1344</b>	=L14631+E1338+E1341	=E1332+E1338+E1341	To link to correct cells

\* similar changes have been introduced in all Step 4: Calculation of the Projected Cost of Vaccines and Injection Supplies

## VACCINE PRICES worksheet

Updated vaccine prices as per February 2011.

## Annex 2 - Revised formulas in Version 2.4

### "2. Calculations" Worksheet

Cell	Original formula	New formula	Notes
E256	=IF(B246<>"0 Vaccine",IF(VLOOKUP(LEFT(B246,LEN(B246)-8),VaccineName,2)=0,E257,E258),0)	=IF(B246<>"0 Vaccine",IF(VLOOKUP(LEFT(B246,LEN(B246)-8),VaccineName,2,FALSE)=0,E257,E258),0)	To refer to correct vaccine name
E258	=IF(B246 <>"0 Vaccine",IF(VLOOKUP(LEFT(B246,(LEN(B246)-8)),VaccineName,2)=0,0,F258/(1+\$F\$163)),0)	=IF(B246 <>"0 Vaccine",IF(VLOOKUP(LEFT(B246,(LEN(B246)-8)),VaccineName,2,FALSE)=0,0,F258/(1+\$F\$163)),0)	To refer to correct vaccine name
D2955	=\$D\$2827	=\$D\$2827+SUM(D3549:D3553)	To include other transportation costs
E2955	=\$E\$2827	=\$E\$2827+SUM(E3549:E3553)	To include other transportation costs
F2955	=\$F\$2827	=\$F\$2827+SUM(F3549:F3553)	To include other transportation costs
G2955	=\$G\$2827	=\$G\$2827+SUM(G3549:G3553)	To include other transportation costs
H2955	=\$H\$2827	=\$H\$2827+SUM(H3549:H3553)	To include other transportation costs
I2955	=\$I\$2827	=\$I\$2827+SUM(I3549:I3553)	To include other transportation costs
D3256	=\$F\$7	=\$F\$7+\$D\$2658	To calculate correctly replacement years
E3256	=\$G\$7	=\$G\$7+\$D\$2658	To calculate correctly replacement years
F3256	=\$H\$7	=\$H\$7+\$D\$2658	To calculate correctly replacement years
G3256	=\$I\$7	=\$I\$7+\$D\$2658	To calculate correctly replacement years
H3256	=\$J\$7	=\$J\$7+\$D\$2658	To calculate correctly replacement years
D4059	=\$F\$7	=\$F\$7+\$D\$3562	To calculate correctly replacement years
E4059	=\$G\$7	=\$G\$7+\$D\$3562	To calculate correctly replacement years
F4059	=\$H\$7	=\$H\$7+\$D\$3562	To calculate correctly replacement years

<b>G4059</b>	=I\$7	=I\$7+\$D\$3562	To calculate correctly replacement years
<b>H4059</b>	=J\$7	=J\$7+\$D\$3562	To calculate correctly replacement years
<b>E4848</b>	=D4815	=E3729	To correct reference (total cost of new cold chain equipment bought in baseline year)
<b>F4848</b>	=E4815	=D4815	To correct reference of cold chain costs - not annualized
<b>G4848</b>	=F4815	=E4815	To correct reference of cold chain costs
<b>H4848</b>	=G4815	=F4815	To correct reference of cold chain costs
<b>I4848</b>	=H4815	=G4815	To correct reference of cold chain costs
<b>J4848</b>	=I4815	=H4815	To correct reference of cold chain costs
<b>D5800</b>	=IF('5. Gaps & Indicators'!\$A\$3="Y", SUM('3. Costing'!\$E\$90:\$E\$91),SUM('3. Costing'!\$E\$90:\$E\$91)-'3. Costing'!\$E\$88)	=SUM('3. Costing'!\$E\$90:\$E\$91)-'3. Costing'!\$E\$88	To break link with Y/N option ('5.Gaps & Indicators'!A3) and make more clear baseline summary table
<b>D5805</b>	=IF(\$D\$5802=0,"",('4. Financing'!\$B\$10+'4. Financing'!\$B\$12+'4. Financing'!\$B\$13)/\$D\$5802)	=IF(\$D\$5802=0,"",('4. Financing'!\$B\$10+'4. Financing'!\$B\$11+'4. Financing'!\$B\$12+'4. Financing'!\$B\$13)/\$D\$5802)	To include underused vaccines in the numerator
<b>D5806</b>	=IF('5. Gaps & Indicators'!\$A\$3="Y",('4. Financing'!\$G\$71-'4. Financing'!\$G\$61)/\$D\$5802,('4. Financing'!\$G\$71-'4. Financing'!\$G\$66-'4. Financing'!\$G\$61)/\$D\$5802)	=(('4. Financing'!\$G\$71+'4. Financing'!\$I71-'4. Financing'!\$G\$66-'4. Financing'!\$I66)/\$D\$5802)	To include national and sub-national sources of funding in the numerator and to break the link with Y/N option ('5.Gaps & Indicators'!A3)
<b>D5810</b>	=('3. Costing'!\$E\$88)	=IF('5. Gaps & Indicators'!\$A\$3="Y",'3. Costing'!\$E\$88,0)	To link with Y/N option ('5.Gaps & Indicators'!A3)
<b>D5812</b>	=IF('5. Gaps &	=\$D\$5800+\$D\$5810	To break link with Y/N

	Indicators!\$A\$3="Y", \$D\$5800,\$D\$5800+\$D\$5810)		option ('5.Gaps & Indicators'!A3)
<b>E5803</b>	-	=IF(\$D\$5802=0,"",(\$D\$5802+\$D\$5810)/2. Calculations!\$F\$182)	To calculate indicators with shared costs included
<b>E5804</b>	-	=IF(\$D\$5802=0,"",(\$D\$5802+\$D\$5810)/\$F\$205)	To calculate indicators with shared costs included
<b>E5805</b>	-	=IF(\$D\$5812=0,"",('4. Financing!\$B\$10+'4. Financing!\$B\$11+'4. Financing!\$B\$12+'4. Financing!\$B\$13)/(\$D\$5802+\$D\$5810))	To calculate indicators with shared costs included
<b>E5806</b>	-	=('4. Financing!\$G\$71-'4. Financing!\$G\$61)/(\$D\$5802+\$D\$5810)	To calculate indicators with shared costs included
<b>E5807</b>	-	=IF(\$E\$5723=0,"",(\$D\$5802+\$D\$5810)/\$E\$5723)	To calculate indicators with shared costs included
<b>E5808</b>	-	=IF(\$E\$5724=0,"",(\$D\$5802+\$D\$5810)/\$E\$5724)	To calculate indicators with shared costs included
<b>E5809</b>	-	=IF(\$E\$5722=0,"",(\$D\$5802+\$D\$5810)/\$E\$5722)	To calculate indicators with shared costs included

### "3. Costing" Worksheet

Cell	Original formula	New formula	Notes
<b>E50</b>	=IF(\$A\$19="Y",'2. Calculations!\$G\$5281,'2. Calculations!\$E\$5281)	=IF(\$A\$19="Y",'2. Calculations!\$G\$5281,'2. Calculations!\$E\$5280)	To align reference with depreciation option

### "5. Gap & Financing" Worksheet

Cell	Original formula	New formula	Notes
<b>E76</b>	=IF(\$D\$73="Y",'4. Financing!\$B\$155+'4. Financing!\$B\$157+'4. Financing!\$B\$158)-('4. Financing!\$C\$155+'4.	=IF(\$D\$73="Y",'4. Financing!\$B\$155+'4. Financing!\$B\$156+'4. Financing!\$B\$157+'4. Financing!\$B\$158)-('4.	To include underused vaccines in composition of funding gaps

	Financing!C157+4. Financing!C158),(4. Financing!E155+4. Financing!E157+4. Financing!E158))	Financing!C155+4. Financing!C156+4. Financing!C157+4. Financing!C158),(4. Financing!E155+4. Financing!E156+4. Financing!E157+4. Financing!E158))	
<b>F76</b>	=IF(\$D\$73="Y",('4. Financing!B229+4. Financing!B231+4. Financing!B232)-(4. Financing!C229+4. Financing!C231+4. Financing!C232),(4. Financing!E229+4. Financing!E231+4. Financing!E232))	==IF(\$D\$73="Y",('4. Financing!B229+4. Financing!B230+4. Financing!B231+4. Financing!B232)-(4. Financing!C229+4. Financing!C230+4. Financing!C231+4. Financing!C232),(4. Financing!E229+4. Financing!E230+4. Financing!E231+4. Financing!E232))	To include underused vaccines in composition of funding gaps
<b>G76</b>	=IF(\$D\$73="Y",('4. Financing!B303+4. Financing!B305+4. Financing!B306)-(4. Financing!C303+4. Financing!C305+4. Financing!C306),(4. Financing!E303+4. Financing!E305+4. Financing!E306))	=IF(\$D\$73="Y",('4. Financing!B303+4. Financing!B304+4. Financing!B305+4. Financing!B306)-(4. Financing!C303+4. Financing!C304+4. Financing!C305+4. Financing!C306),(4. Financing!E303+4. Financing!E304+4. Financing!E305+4. Financing!E306))	To include underused vaccines in composition of funding gaps
<b>H76</b>	=IF(\$D\$73="Y",('4. Financing!B377+4. Financing!B379+4. Financing!B380)-(4. Financing!C377+4. Financing!C379+4. Financing!C380),(4. Financing!E377+4. Financing!E379+4. Financing!E380))	=IF(\$D\$73="Y",('4. Financing!B377+4. Financing!B378+4. Financing!B379+4. Financing!B380)-(4. Financing!C377+4. Financing!C378+4. Financing!C379+4. Financing!C380),(4. Financing!E377+4. Financing!E378+4. Financing!E379+4.	To include underused vaccines in composition of funding gaps

		Financing!E380))	
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